Ska rating

Good practice measures for retail

Ska Retail 1.0

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Acknowledgments

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RICS is committed to the continuous development and improvement of the Ska Rating system and would like to hear further feedback on these measures at any stage. Please email any comments to ska@rics.org

Contents

The good practice measures for retail are arranged by issue alphabetically and within each issue by Ska rank from highest to lowest.

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Alternative contents list

The good practice measures for retail are ordered by Ska rank from highest to lowest.

Lighting controllability front-of-house

Ska retail

Criteria

Time controls are installed which have the capability to:

- switch off display lighting after main trading hours for cleaning, restocking, etc.;
- reduce lighting levels after main trading hours where there is no separate display lighting; and
- switch to window display lighting only out-of-hours.

For window displays:

Time controls are installed which have the capability to:

- switch off window display and exterior lighting when there is no longer significant pedestrian traffic outside (e.g. late evening); or
- ensure that window display lights are always turned off during daylight hours.

Or:

Daylight controls are installed which have the capability to:

- automatically alter lighting levels in accordance with natural daylight levels for all window areas including window displays.

Scoping

This measure applies if new light fittings and/or controls are being installed, modified or replaced in retail front-of-house areas.

Assessment

At design stage: check specifications and drawings.

At handover stage: check as-built drawings, and/or carry out a site visit to check the controls that have been installed and their locations.

At occupancy stage: if controls have been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and controls have not been changed or added, this measure will be achieved by default.

Rationale

Good practice dictates that retail front-of-house lighting should be controlled by timeswitch.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

D49

ID

1

Rank

Ska Retail

Version **1.0 2012**

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Lighting levels can be reduced after trading hours and should be switched off completely out-of-hours. The window display lighting can also be turned off when pedestrian traffic is significantly reduced. The lighting should be controlled on timeclock so it does not rely on occupants to switch it off.

Guidance

See E01 Lighting controls.

When installing controls consider doing the following:

- install display lighting on separate circuits so it can be controlled separately;
- separately control luminaires, or rows of luminaires, to reduce lighting levels during restocking and cleaning;
- separately control window display lighting and exterior lighting; and
- use timing so lights are automatically switched off when not required.

BNCL09: Retail display lighting - an overview, Market Transformation Programme, Defra, 2008

Selecting lighting controls, BRE Digest 498, BRE, 2006

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Energy and CO_2

Issue

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ID

1

Rank

Ska Retail

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Lighting controllability back-of-house

Ska retail

Criteria

- Lights are automatically controlled for the presence of occupancy or daylight wherever possible.
- Lights are provided with manual on/off switches and absence detectors to switch the lights off for less frequently occupied areas (toilets, storerooms, etc.).
- Time controls to turn off lighting out-of-hours, where appropriate.

Scoping

This measure applies if new lighting is being installed or existing controls are being replaced.

The criteria apply to lighting in the retail back-of-house areas.

Assessment

At design stage: check specifications and drawings.

At handover stage: check as-built drawings, and/or carry out a site visit to check the controls that have been installed and their locations.

At occupancy stage: if controls have been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and controls have not been changed or added, this measure will be achieved by default.

Rationale

Good practice dictates that retail back-of-house lighting should be controlled by occupancy controls to reduce reliance on occupants switching off lighting when not required.

Guidance

See E01 Lighting controls.

When installing controls consider the following:

- use of absence detectors to switch lights off after a pre-determined time; and
- use of timing so that lights are automatically switched off out-of-hours.

BNCL09: Retail display lighting - an overview, Market Transformation Programme, Defra, 2008

Selecting lighting controls, BRE Digest 498, BRE, 2006

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Energy and CO_2

Issue

D50

ID

2

Rank

Ska Retail

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Lighting controls

Criteria

Lighting controls comply with the Energy Technology List criteria (ETL criteria).

Scoping

This measure applies if new lighting controls are being installed.

Assessment

At design stage: check written specifications/contracts state this equipment must comply with the ETL criteria. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer, the model number and the specifications; check the specifications match the ETL criteria.

At occupancy stage: if lighting controls have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and lighting controls have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient lighting controls. Lights are often left on when not needed. Equally, people will often turn on all the lights in a room or building when they are only occupying a small section of it.

Good lighting control ensures that lights are only on when needed. It is easy to fit products to existing buildings or lighting systems, and they can help significantly reduce the amount of energy being used.

Guidance

Individual products and manufacturers of lighting controls are not listed on the ETL website. Individual products qualify for an Enhanced Capital Allowance (ECA) if they meet the criteria set out in the Energy Technology List. The criteria can be found by searching the ETL catalogue.

Lighting technology overview, CTV021, Carbon Trust, 2007.

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Energy and CO_2

Issue

E01

ID

3

Rank

Ska Retail

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Energy efficient lamps

Criteria

All internal and external lamps comply with the Energy Technology List criteria (ETL criteria).

Scoping

This measure applies if new internal or external lamps are being installed. This includes all signage lighting.

There may be occasional instances where existing light fittings cannot take energy efficient lamps. This measure must still remain in scope even though it cannot be achieved. This is because the aim of the assessment is to encourage more sustainable behaviour. In this instance the most sustainable behaviour would be to upgrade the light fittings.

Assessment

At design stage: check written specifications/contracts state this equipment must comply with the ETL criteria. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer, the model number and the specifications; check the specifications match the ETL criteria.

At occupancy stage: if lamps have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and lamps have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient lamps.

Guidance

Individual products and manufacturers of lamps are not listed on the ETL website. Individual products can qualify for an Enhanced Capital Allowance (ECA) if they meet the criteria set out in the Energy Technology List. The criteria can be found by searching the ETL catalogue.

To assess whether lamps meet the criteria download the criteria documents for 'high efficiency lighting units' and 'white light emitting diode units'. The lamps being installed must meet the criteria relating to lamps within these two documents.

If both lamps and fittings are being installed then the lighting installer should be able to provide the documentation required by the Inland Revenue that confirms the products meet the ETL criteria.

Lighting technology overview, CTV021, Carbon Trust, 2007.

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Energy and CO_2

Issue

E02

ID

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Rank

Ska Retail

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Energy efficient light fittings

Criteria

All internal and external light fittings (luminaires) comply with the Energy Technology List criteria (ETL criteria).

Scoping

This measure applies if new internal or external light fittings are being installed. This includes all signage lighting.

Assessment

At design stage: check written specifications/contracts state this equipment must comply with the ETL criteria. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer, the model number and the specifications; check the specifications match the ETL criteria.

At occupancy stage: if light fittings have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the fittings have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient light fittings.

Guidance

Individual products and manufacturers of light fittings are not listed on the ETL website. Individual products qualify for an Enhanced Capital Allowance (ECA) if they meet the criteria set out in the Energy Technology List. The criteria can be found by searching the ETL catalogue.

The ETL combines lamps and light fittings into a single category. The Inland Revenue will only provide a tax allowance for the combined lamp and fitting. In a fit-out it is possible to replace lamps without replacing the entire fitting so there are two separate Ska Retail measures for lamps and fittings.

To assess whether fittings meet the criteria download the criteria documents for 'high efficiency lighting units' and 'white light-emitting diode units'. The fittings being installed must meet the criteria relating to fittings within these two documents.

If both lamps and fittings are being installed then the lighting installer should be able to provide the documentation required by the Inland Revenue that confirms that the products meet the ETL criteria.

Lighting technology overview, CTV021, Carbon Trust, 2007.

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Energy and CO_2

Issue

ID E04

Rank 7

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Customer entrance

Ska retail

Criteria

Customer entrances should meet one of the following criteria:

- no overdoor heaters/air curtains and implement a closed door policy;
- use overdoor heaters/air curtains that only use heat from a VRF system or rejected heat (from cash machines etc.) and automatically controlled to switch off out-of-hours and to moderate temperature;
- an entrance lobby and/or a revolving door with no overdoor heaters/air curtains;
- sensor-controlled automatic rapid-opening/closing doors; or
- in shopping centres where the entrance opens onto the mall, there should be no overdoor heaters or air curtains.

Scoping

This measure applies if customer entrances, overdoor heaters and/or air curtains are being installed, upgraded or replaced.

Assessment

At design stage: review specification documents/clauses.

At handover stage: carry out a site visit or review as-built drawings to ensure that the system has been has been installed as designed.

At occupancy stage: The customer entrance should be reviewed to assess whether it meets the criteria.

Rationale

Overdoor heaters/air curtains use significant amounts of energy, so ideally they should not be used. Where they are specified they should be connected to a VRF system or other source of rejected heat to save energy.

Operating with a closed door policy can save over 30% of electricity use for lighting and heating in a store according to a recent case study[1].

Guidance

Air curtain Guide, HEVAC.

BSRIA Application Guide 2/97, Air curtains – commercial applications, BSRIA, 1997.

Close the door campaign

[1] Interim Report on the Energy Appraisal of Retail Units: Assessing the effect of open doors on energy consumption and thermal comfort, University of Cambridge, 2010

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Issue

D52

ID

8

Rank

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Energy efficient heat pumps

Criteria

Heat pumps are on the *Energy Technology List* (ETL).

Scoping

This measure applies if new heat pumps (split units) are being installed.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the ETL. If the model and manufacturer have already been specified then carry out handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer and the model number; check it is on the ETL.

At occupancy stage: if heat pumps have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the heat pumps have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient heat pumps.

Guidance

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient heat pumps. Visit www.eca.gov.uk/etl

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Energy and CO_2

Issue

E05

ID

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Rank

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Pipework insulation

Criteria

The insulation complies with the *Energy Technology List* criteria (ETL criteria).

Scoping

This measure applies if pipework or pipework insulation are being installed.

Assessment

At design stage: check written specifications state the pipework insulation is based on BS 5422:2009. The specification should show the thickness of insulation required for all pipe installations based on BS 5422:2009.

At handover stage: obtain written confirmation from the installer that the pipework insulation has been fitted in compliance with BS 5422:2009 and the insulation thicknesses match those in the design specification.

At occupancy stage: if pipework insulation has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and pipework insulation has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to decrease energy loss as a result of inadequate pipework insulation.

Guidance

The *Energy Technology List* criteria for pipework insulation are based on compliance with BS 5422:2009 (*Method for specifying thermal insulating materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range –40°C to +700°C*, BSI, 2009).

This specifies the various thicknesses of insulation required for different circumstances so it is impossible to list individual products on the Energy Technology Product List. The enhanced capital allowance for pipework insulation can be claimed if the installer confirms that it has been fitted in compliance with BS 5422:2009.

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Issue

E07

ID

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Rank

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HVAC zone controls

Criteria

Heating, ventilation and air conditioning (HVAC) zone controls are on the *Energy Technology List* (ETL).

Scoping

This measure applies if these systems are being upgraded or replaced.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the ETL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer and the model number; check it is on the ETL.

At occupancy stage: if HVAC zone controls have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the controls have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient HVAC zone controls.

Guidance

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient HVAC zone controls. Visit www.eca.gov.uk/etl

Heating, ventilation and air conditioning (HVAC) technology overview, CTV003, Carbon Trust, 2006.

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ID E06

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Energy efficient HVAC

Heating, ventilation and air conditioning (HVAC) system components listed below are on the Energy Technology List (ETL):

- boiler equipment;
- heat pumps;
- HVAC zone controls;
- refrigeration equipment; and
- air-to-air heat exchangers.

Note: The criteria apply only to those components that are in scope.

Scoping

This measure applies if any one of the components listed above is being installed, upgraded or replaced.

Note: Heat pumps, HVAC zone controls and boilers are good practice measures in their own right. For this measure it is necessary for all the listed components of the HVAC system that are being upgraded to meet the ETL criteria.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the ETL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer and the model number; check it is on the ETL.

At occupancy stage: if the equipment has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the equipment has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the installation of energy efficient HVAC systems.

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Issue

D03

ID

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Rank

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Guidance

See E05 Energy efficient heat pumps, E06 HVAC zone controls, E11 Efficient boilers.

The Inland Revenue maintains an *Energy Technology List* (ETL) of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient HVAC systems. The following components are not on the ETL and therefore do not fall within the scope of this measure: fan coil units, VAV boxes, and air-handling units. Visit www.eca.gov.uk/etl

Heating, ventilation and air conditioning (HVAC) technology overview, CTV003, Carbon Trust, 2006.

Including air-to-air heat exchangers on the list covers the process of recovering energy from air expelled into the atmosphere, and using it as supply air. This means not as much energy is needed to heat the supply air, so less is used and emissions are reduced. Various devices can be used, including plate heat exchangers, thermal wheels, run-around coils, heat-pipe generators and regenerators.

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Issue

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Rank

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Energy efficient boilers

Criteria

Boilers are on the *Energy Technology List* (ETL).

Scoping

This measure applies if new boilers are installed.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the ETL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the equipment manufacturer and the model number; check it is on the ETL.

At occupancy stage: if boilers have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the boilers have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to provide an energy efficient boiler.

Guidance

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient boilers. Visit www.eca.gov.uk/etl

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Issue

E11

ID

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Rank

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Energy efficient kitchen ventilation

Ska retail

Criteria

Design and refurbish kitchen ventilation and extraction systems in accordance with the guidance set out in CIBSE TM50, *Energy efficiency in commercial kitchens*.

Scoping

This measure applies to a commercial kitchen if the ventilation and extraction systems are being installed, upgraded or replaced.

Assessment

At design stage: review specification documents/clauses to confirm that the system is designed in accordance with the guidance provided in CIBSE TM50.

At handover stage: carry out a site visit or review as-built drawings to ensure the system has been installed as designed.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to encourage the installation of energy efficient kitchen ventilation and extraction systems.

Guidance

The definition of a 'commercial kitchen' is any space used for food preparation by professional caterers. This includes restaurants, cafes, coffee shops, staff canteens, etc.

This measure applies where any of the following items are installed, upgraded or replaced:

- fans;
- ventilation controls;
- heat recovery equipment;
- ventilation grease removal systems; and
- ductwork.

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D51

ID

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Rank

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TM50, *Energy efficiency in commercial kitchens* guidance includes the following suggestions:

- Automate extraction systems via Building Management Systems to ensure extraction is on only when the kitchen is operational.
- Use the Thermal Convection Method for determining the specific extract flow rate for a kitchen canopy or ventilated ceiling.
- Provide a dedicated air handling unit to supply air to the kitchen.
- Provide an interlock between supply air and extract air.
- Use ultraviolet light filtration to eliminate grease and allow the use of heat recovery.
- Group appliances according to heat and fume production.
- Split canopy to allow high extract rates for specific section.
- Use variable Air Volume extract systems.
- Use sensors to moderate ventilation according to: energy input to cooking appliances or fume/heat output.
- Ensure HVAC air supply to kitchens is not heated, or is only heated if the incoming air is much less than 16°C.

DW172*, Specification for Kitchen Ventilation Systems – the recommended Thermal Convection Method*, *HVCA, 2005*

TM50, *Energy efficiency in commercial kitchens*, CIBSE, 2009

Energy efficient DHW

Criteria

Gas-fuelled domestic hot water (DHW) systems are on the Energy Technology List (ETL).

Electricity-fuelled domestic hot water (DHW) systems have a standing heat loss better than that specified in table 5 of BS EN 15450:2007:

nominal volume l	max. heat loss kWh/24h	nominal volume l	max. heat loss kWh/24h
30	0,75	600	3,8
50	0,90	700	4,1
80	1,1	800	4,3
100	1,3	900	4,5
120	1,4	1000	4,7
150	1,6	1100	4,8
200	2,1	1200	4,9
300	2,6	1300	5,0
400	3,1	1500	5,1
500	3,5	2000	5,2

Scoping

This measure applies if DHW systems are being upgraded or replaced.

Note: This measure only includes dedicated DHW heaters. If DHW is supplied from the system that provides space heating, then it will be covered by the selection of space heating equipment (see E11 Energy efficient boilers). This measure excludes electric heaters that have a storage capacity of less than 30 litres.

Assessment

At design stage: check written specifications/contracts state that gas-fuelled equipment must be sourced for the ETL or that electricity-fuelled equipment must have a standing heat loss better than that specified in the table above. If the model and manufacturer have already been specified then carry out the handover stage assessment.

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At handover stage: obtain the name of the manufacturer of the equipment and the model number. Check that gas-fuelled equipment is on the ETL or that electricity-fuelled equipment has a standing heat loss better than that specified in the table above.

At occupancy stage: if the DHW system has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the DHW system has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient DHW systems.

Guidance

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient DHW systems. DHW systems can be found under the category 'boiler equipment' or 'solar thermal systems'. Visit www.eca.gov.uk/etl

Heating systems in buildings. Design of heat pump heating systems, BS EN 15450:2007, BSI, 2007.

Sub-metering for commercial kitchens

Ska retail

Criteria

Automatic monitoring and targeting (AMT) equipment is installed. AMT equipment comprises meters, an automatic meter reading device and analytical software. The meter component is installed for each energy use. Meters must be installed to measure the following:

- total gas demand for the commercial kitchen area;
- total electricity demand for the commercial kitchen area; and
- electrical/gas demand of major individual energy consuming pieces of kitchen equipment such as dishwashers, cooking hobs, cooking ovens and walk-in cold storage.

Scoping

This measure applies to the fit-out of a commercial kitchen or any fit-out that includes a commercial kitchen.

Assessment

At design stage: review mechanical and electrical specifications, or the electrical schematic, to ensure that the appropriate metering and sub-metering is specified.

At handover stage: check meters have been installed and meet the specification by reviewing O&Ms, reviewing as-built schematics or invoices, or a site inspection. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is covered by the maintenance schedule.

At occupancy stage: check the AMT system is operational by reviewing the output from the BMS or by a site inspection of the meters. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is being undertaken. If meters have been added during the first year of occupation, carry out the handover stage assessment.

Rationale

Monitoring energy usage allows the tenant to identify areas of high consumption. This assists in the development of a carbon management strategy that could provide environmental and economic benefits.

Although this measure only covers the meters, the measure cannot be achieved unless a full AMT system is installed, as the benefits from metering are not achieved unless the data from them can be analysed.

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Issue

E25

ID

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Rank

Ska Retail

Version **1.0 2012**

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Guidance

A 'commercial kitchen' is any space used for food preparation by professional caterers. This will include restaurants, cafes, coffee shops, staff canteens, etc.

This measure is not in scope for tea points, which are food preparation spaces provided for staff to prepare drinks and food for themselves.

Building Energy Metering: a guide to energy sub-metering in non-domestic buildings, CIBSE, 2006.

The Carbon Reduction Commitment – a guide for landlords and tenants, British Council for Offices, 2009.

TM50:2009 *Energy efficiency in commercial kitchens*. CIBSE. 2009.

TM39:2009 *Building Energy Metering*. CIBSE. 2009.

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Issue

E25

ID

37

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Electricity sub-metering

Criteria

Automatic monitoring and targeting (AMT) equipment is installed. AMT equipment comprises meters, an automatic meter reading device and analytical software. The meter component is installed for each electricity energy use. This requires separate meters for all the following items:

- lighting;
  - a minimum of one sub-meter per floor and per tenancy area within a floor;
  - for retail spaces, separate sub-meters must also be provided for display and background lighting.
- small power – a minimum of one sub-meter per floor and per tenancy area within a floor;
- humidification;
- fans (major fans only);
- lifts;
- escalators;
- chiller cabinets;
- cooling, space heating, domestic hot water (if they are powered by electricity) – a minimum of one sub-meter per floor and per tenancy area within a floor; and
- any other major energy consuming items, excluding catering equipment/plant.

Scoping

This measure applies if the electrical supply system is being installed or modified or if meters are being connected to the existing system.

Assessment

At design stage: review mechanical and electrical specifications or electrical schematic to ensure that the appropriate metering and sub-metering is specified.

At handover stage: check meters have been installed and meet the specification by reviewing O&Ms, as-built schematics or invoices, or by a site inspection. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is covered within the maintenance schedule.

At occupancy stage: check the AMT system is operational by reviewing the output from the BMS or by a site inspection of the meters. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is being undertaken. If meters have been added during the first year of occupation, repeat the handover stage assessment.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

E09

ID

41

Rank

Ska Retail

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Rationale

Monitoring energy usage allows the tenant to identify areas of high consumption. This assists in the development of a carbon management strategy that could provide environmental and economic benefits.

Although this measure only covers the meters, the measure cannot be achieved unless a full AMT system is installed, as the benefits from metering are not achieved unless the data from them can be analysed.

Guidance

An example of another major energy consuming item is a heat pump.

Catering equipment is excluded from this measure as it is covered by a separate measure E25 'Sub-metering for commercial kitchens'.

Building Energy Metering, CIBSE TM39, 2009.

The Carbon Reduction Commitment – *a guide for landlords and tenants*, British Council for Offices, 2009.

Better Metering Toolkit

Ska retail

Fit-out Benchmark & Assessment Tool

Energy and CO_2

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E09

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Ska Retail

Version **1.0 2012**

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Thermal sub-metering

Criteria

Automatic monitoring and targeting (AMT) equipment is installed. AMT equipment comprises meters, an automatic meter reading device and analytical software.

The meter component is installed for each floor and each tenancy area within a floor for space heating and cooling, and domestic hot water.

Scoping

This measure applies if the heating/cooling supply system is being installed or modified or if meters are being connected to the existing system.

It applies only where heating and cooling, and domestic hot water is either:

- generated from a centralised system and supplied to each floor/tenancy area as heat (hot air or hot water); or
- generated directly for the floor from a non-electric source (e.g. gas).

Assessment

At design stage: review mechanical and electrical specifications or electrical schematic to ensure that the appropriate metering and sub-metering is specified.

At handover stage: check meters have been installed and meet the specification by reviewing O&Ms, as-built schematics or invoices, or by a site inspection. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is covered within the maintenance schedule.

At occupancy stage: check the AMT system is operational by reviewing the output from the BMS or by a site inspection of the meters. If meters have been added during the first year of occupation, carry out the handover stage assessment. Ensure that the annual calibration of sub-meters by the manufacturer or supplier is being undertaken. If meters have been added during the first year of occupation, repeat the handover stage assessment.

Rationale

Monitoring energy usage allows the tenant to identify areas of high consumption. This assists in the development of a carbon management strategy that could provide environmental and economic benefits.

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Version **1.0 2012**

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Although this measure only covers the meters, the measure cannot be achieved unless a full AMT system is installed, as the benefits from metering are not achieved unless the data from them can be analysed.

Guidance

The above requirements exceed those set out in Part L2 of the Building Regulations.

Building Energy Metering, CIBSE TM39, 2009.

Energy efficiency in buildings, Guide F, CIBSE, 2004.

Better Metering Toolkit

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Rank

Ska Retail

Version **1.0 2012**

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Energy efficient commercial service cabinets

Criteria

If new, the commercial service cabinet must be on the *Energy Technology List* (ETL).

If reconditioned, the commercial service cabinet must have had at least one of the following energy efficient measures fitted as part of the reconditioning process:

- new lighting;
- new compressors;
- new solid doors; or
- additional insulation.

Scoping

This measure applies to all commercial service cabinets that are being installed. This includes cabinets that are funded and supplied by a drinks supplier.

Assessment

At design stage: check written specifications/contracts state that this equipment must meet the criteria.

At handover stage: if new cabinets have been installed, obtain the name of the equipment manufacturer, the model number and the specifications; check it is on the ETL. If reconditioned cabinets have been installed, get evidence from the supplier about the measures that have been fitted as part of the reconditioning process.

At occupancy stage: if service cabinets have been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the service cabinets have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient commercial service cabinets.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

E26

ID

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Rank

Ska Retail

Version **1.0 2012**

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Guidance

A commercial service cabinet is the name given to any refrigerated spaces with a solid door used for storing food and drink.

Any units with a glass door are known as refrigerated display cabinets.

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of energy efficient commercial service cabinets. Visit http://etl.decc.gov.uk/etl/default.htm

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Energy and CO_2

Issue

E26

ID

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Rank

Ska Retail

Version **1.0 2012**

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Component AMT

Criteria

Automatic monitoring and targeting (AMT) equipment complies with all the qualifying standards within the *Energy Technology List* criteria (ETL criteria).

Scoping

This measure applies if new AMT equipment is being installed or individual components in an existing system are being replaced.

Assessment

At design stage: check written specifications/contracts state this equipment must comply with the ETL criteria. If the product and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the name of the component and the product specification; check it complies with the ETL criteria.

At occupancy stage: if AMT components have been changed or added then carry out the handover stage assessment. Ensure evidence is provided to demonstrate the constructive use of monitoring and targeting data; this may include the implementation of energy saving policies and installation of energy saving technologies, both based on data retrieved from the AMT equipment.

Rationale

A complete component-based AMT system comprises a meter (or meters), a meter reading system and analytical software.

The aim is to monitor the system performance as a consequence of using component-based AMT equipment. AMT equipment helps to save energy by identifying energy wastage and ensuring the long-term effectiveness of other energy saving investment measures.

At occupancy stage the tenant should provide evidence that the output from the AMT system is being regularly reviewed and actions taken to reduce energy use, where appropriate.

Guidance

The Inland Revenue maintains an *Energy Technology List* of systems that are eligible for 100% capital allowances. Visit www.eca.gov.uk/etl

Component-based AMT equipment is not on the Energy Technology List (ETL).

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If a business wishes to claim an ECA on an AMT system the components must meet the criteria set out in the Energy Technology List and independent certification must be obtained from the Department for Energy and Climate Change (DECC).

Independent certification from DECC is not required to achieve this measure.

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Fit-out Benchmark & Assessment Tool

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Issue

E10

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Rank

Ska Retail

Version 1.0 2012

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Display glazing

Criteria

First fit-out (new build): all display glazing must comply with criterion 3 in Part L2A.

Refurbishment fit-out (as defined by Part L2B): all display glazing must be upgraded such that at least one of the following four criteria is met:

- the solar gain per unit floor area averaged over the period 0630 to1630 GMT is not greater than 25 W/m^2 when the building is subject to solar irradiances detailed in CIBSE Design Guide A;
- the expected solar load is reduced by at least 20% compared to the glazing that is being replaced;
- the effective g-value is no worse than 0.3; or
- the zone will reduce the solar gain and hence the space cooling demand.

Section 5.1 of TM 37 gives guidance on calculating solar gains, and Sections 4.4 and 4.5 give guidance on the effective g-value.

Scoping

This measure is in scope where any display glazing is changed as part of the fit-out. It is not applicable where the display window is not subject to solar irradiation, e.g. a display window that opens onto an enclosed shopping mall.

Assessment

At design stage: review the glazing specification and/or calculations to ensure that the design of all display glazing meets the requirements of the criteria.

At handover stage: check that the glazing specified at the design stage has been installed and meets the requirements of the criteria by reviewing O&Ms, reviewing invoices, or by a site inspection.

At occupancy stage: if the glazing has been changed then repeat the handover stage assessment. If this measure was achieved at handover stage and the glazing has not been changed or added, this measure will be achieved by default.

Rationale

The purpose of this measure is to encourage actions to be taken to limit solar gains through display windows to reasonable levels during the summer period, in order to reduce the need for air conditioning systems or reduce the installed capacity required.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

D67

ID

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Rank

Ska Retail

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Guidance

Section 5.1 of CIBSE's TM37 guide *Design for improved solar shading control*, gives guidance on calculating solar gains. Sections 4.4 and 4.5 of the same document give guidance on the effective g-value of glazing.

TM37 *Design for improved solar shading control.* CIBSE. 2006.

Criterion 3 of Part L2A (2010) of the Building Regulations contains guidance on limiting the effects of solar gains in summer, in new buildings and Part L2B (2010) contains guidance for existing buildings.

Building Regulations Part L2A (2010). HM Government. 2010.

Building Regulations Part L2B (2010). HM Government. 2010.

CIBSE Guide A-*Environmental Design*. CIBSE. 2006.

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Energy and CO_2

Issue

D67

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Rank

Ska Retail

Version **1.0 2012**

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Electrical management

Criteria

An electrical management survey/review is undertaken by a suitably qualified electrical engineer in accordance with the recommended survey techniques in the Carbon Trust's *Voltage Management - An introduction to technology and techniques* publication. A report must be produced by the electrical engineer providing results from the survey and calculations, also in accordance with the Carbon Trust's publication, to illustrate the potential for energy savings through the implementation of electrical management measures. The report must recommend appropriate electrical management measures where there is potential for energy savings. All recommendations made within the report must be installed as part of the fit-out.

Scoping

This measure will only be in scope where the client decides to review the electrical management.

Assessment

At design stage: review the electrical management report to ensure that it meets the criteria. Review drawings and specifications provided to confirm that all recommendations within the report are included within the design.

At handover stage: ensure that all electrical management measures recommended within the report have been installed by reviewing the O&Ms, as-built schematics or invoices, or by a site inspection.

At occupancy stage: review records to ensure that all electrical management measures have been maintained to manufacturers requirements.

Rationale

Undertaking an electrical management survey allows the tenant to identify areas where the use of electrical management measures can be implemented to achieve energy savings. The aim of this measure is to encourage tenants to carry out an appropriate survey to determine the extent of potential energy savings for a fit-out. Where there is potential to save energy, this measure encourages the implementation of electrical management measures to achieve these savings.

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Guidance

There are a number of electrical management techniques including voltage optimisation, voltage stabilisation, voltage regulation, voltage power optimisation, voltage reduction and current optimisation. The scope of the Carbon Trust's publication on voltage management does not cover current optimisation, however, where the suitably qualified electrical engineer undertaking the electrical management survey deems this as an appropriate measure that has the potential to produce energy savings within the fit-out, it should be covered by the electrical management report.

Voltage Management – an introduction to technology and techniques (CTG045). Carbon Trust. 2011.

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Issue

D53

ID

67

Rank

Ska Retail

Version **1.0 2012**

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Reduce fit-out energy use

Criteria

All energy use on site is metered, records are kept and the site manager regularly reviews consumption figures.

Scoping

This measure applies to all fit-outs.

The criteria apply to both electricity and other fuels used on site, such as diesel for a generator.

Assessment

At design stage: obtain commitment from the design team that the fit-out contractor will meter and keep records of energy use.

At handover stage: review the records of energy usage.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to encourage the monitoring of energy consumption during the construction process, so that construction staff are aware of energy usage and are encouraged to make reductions.

Collection of this data will enable benchmarking and provide targets for energy reduction in future fit-out projects.

Guidance

Where fit-out work is undertaken during evenings and nights to enable stores to operate as normal during the day, or where works are being undertaken during operating hours in a sectioned-off area of the retail store, the monitoring of fit-out energy use will still be required. It is up to the contractor to determine the best method of monitoring fit-out energy use where the meters for fit-out equipment are the same as those used to meter the shop floor during the day. One possibility is that the contractor could take meter readings at the time they start work in the evenings and when they finish. If the fit-out is being carried out during the day, then a temporary meter may be required.

For a general overview of why energy management on site is required refer to the document *Achieving sustainability on construction procurement*.

The construction industry key performance indicators are published each year by Constructing Excellence using performance data collected from across the UK construction sector by the Department for Business Enterprise and Regulatory Reform (formerly DTI). These include benchmarks for energy use. Refer to www.constructingexcellence.org.uk for more information.

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Issue

P01

ID

69

Rank

Ska Retail

Version **1.0 2012**

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External signage

Criteria

Any external signage should not be dependent on artificial lighting during daylight hours.

Scoping

This measure is in scope where any external signage is being installed as part of the fit-out.

Assessment

At design stage: review all specification documents/clauses to check compliance with criteria

At handover stage: carry out a site visit or review as-built drawings to ensure that the external signage has been installed as designed.

At occupancy stage: the external signage should be reviewed to assess whether it meets the criteria.

Rationale

The design of external signage which does not rely on artificial lighting during daylight hours is encouraged to reduce unnecessary energy use.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

D65

ID

71

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Energy modelling

Criteria

Energy modelling is undertaken for the fit-out using energy modelling software selected and applied in accordance with CIBSE AM11 *Building Energy and Environmental Modelling*. A full dynamic thermal analysis must be undertaken at the detailed design stage. A report must be produced, based on the findings of the modelling exercise, which highlights the most appropriate passive design measure(s) for the fit-out: this report must show that the proposed measures save energy and meet thermal comfort requirements. At least one of the recommended measures must be implemented.

Scoping

This measure is only in scope if the client decides to undertake energy modelling.

Assessment

At design stage: review the energy modelling report to ensure that it meets the criteria. Review drawings and specifications provided to confirm that at least one of the passive design measures recommended within the report is included within the design.

At handover stage: ensure that at least one of the passive design measures recommended within the report is installed by reviewing the O&Ms, as-built schematics or invoices, or by a site inspection.

At occupancy stage: if this measure was achieved at handover stage, this measure will be achieved by default at this stage.

Rationale

The use of energy modelling during the design stage is encouraged to identify the most appropriate passive design measures for the fit-out, helping to reduce the energy demand of the space. Examples of passive measures are insulation and window films.

Guidance

The modelling must cover whole space being fitted-out.

Thermal comfort levels are defined in CIBSE Guide A *Environmental Design.* This measure is not in scope if the design team installs passive energy measures but does not carry out energy modelling. This is because retail units can suffer from overheating, so the addition of insulation could increase energy use (through increased cooling demand) rather than reducing energy use.

CIBSE AM11: Building *energy and environmental modelling*. CIBSE. 1998.

CIBSE Guide A *Environmental Design,* 7th edition, Issue 2, CIBSE, 2007.

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Energy and CO_2

Issue

D66

ID

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Rank

Ska Retail

Version **1.0 2012**

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Energy efficient hand-dryers

Criteria

All electrically-operated hand-dryers either:

- meet all the following criteria:
  - energy consumption is below or equal to 8A (at 230V);
  - nominal power output is below or equal to 1600W;
  - drying time is below 15 seconds;
  - equipment motor speed is at least 20,000 rpm;
  - standby power is below or equal to 3W; and
  - are sensor activated; or
- have been awarded a carbon reduction label by The Carbon Trust.

Scoping

This measure applies if electrical hand-dryers are being installed or replaced.

Assessment

At design stage: check written specifications/contracts state this equipment must comply with the criteria. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check the installed equipment.

At occupancy stage: if hand-dryers have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the hand-dryers have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of energy efficient hand-dryers.

Guidance

Individual products and manufacturers of hand-dryers are not listed on the ETL website.

Carbon Reduction Label

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

E24

ID

99

Rank

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Version 1.0 2012

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If you would like to comment on this measure please email ska@rics.org

Although there is no conclusive evidence to support electric hand-dryers over paper towels some insight on both can be found at various sources including:

- Tree hugger hand-dryer v paper towels;
- European Tissue Symposium hosted LCAs; and
- a Westminster University Study.

Ska retail

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

E24

ID

99

Rank

Ska Retail

Version **1.0 2012**

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Energy efficient lifts

Criteria

Lifts are designed in accordance with energy efficiency guidance in CIBSE Guide D, 2010 (in particular Section 13.10.1).

Scoping

This measure applies to any lifts that are being installed, upgraded or replaced.

Assessment

At design stage: review the lift report to ensure that all lifts have been designed in accordance with the criteria. Check that the report includes a transport analysis study and that the most appropriate energy efficiency measures have been selected and are included within the lift design.

At handover stage: check as-built drawings and/or carry out a site visit to confirm that the lifts specified at the design stage have been installed.

At occupancy stage: if the equipment has been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the equipment has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the installation of energy efficient lifts.

Guidance

The following issues are particularly applicable to retail environments and should be taken into account when designing energy efficient vertical transportation systems.

- The lifts operate in a stand-by condition during off-peak periods. For example, the power side of the lift controller and other operating equipment such as lift-car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time.
- The lift car uses energy efficient lighting and display lighting i.e. an average lamp efficacy, across all fittings in the car, of >55 lamp lumens/circuit watt. Lighting switches off after the lift has been idle for a prescribed length of time.
- The lift uses a drive controller capable of variable-speed, variable-voltage, variable-frequency (VVVF) control of the drive motor.
- Select lift speeds that are appropriate to the task, e.g. use slower speeds for goods lifts.

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Energy and CO_2

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D54

ID

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- Replace older drives with energy efficient motors.
- Select an energy efficient drive for the lift and consider regeneration systems where the energy can be used on site or passed back to the utility company. Note: regeneration systems are generally considered effective when there are three storeys or more. Variable voltage, variable frequency systems can be considered.
- Recover waste heat from lift motor rooms if the lifts are used intensely. Typically the heat generated into the machine space from an electric traction lift is 30% and from a hydraulic lift is 50%.
- In some multiple-lift installations, it may be advantageous to omit the parking feature, where idle lifts are directed to specific floors.
- Consider the possibility of shutting-down some lifts whenever there is little demand. This avoids more lifts being in service than are required and also eliminates the controller standby consumption.
- Consider reducing car lighting and ventilation when passengers are not being carried.

CIBSE Guide D, *Transportation systems in buildings*. 2010

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Energy and CO_2

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Rank

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Energy efficient escalators

Ska retail

Criteria

Escalators are designed in accordance with energy efficiency guidance in CIBSE Guide D, 2010 (in particular, Section 13.10.2).

Scoping

This measure applies to any escalators that are being installed, upgraded or replaced.

Assessment

At design stage: review the escalator report to ensure that all escalators have been designed in accordance with the criteria. Check that the report includes a transport analysis study and that the most appropriate energy-efficiency measures have been selected and are included within the escalator design.

At handover stage: check as-built drawings and/or carry out a site visit to check the escalators that have been installed and their locations.

At occupancy stage: if the equipment has been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the equipment has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the installation of energy efficient escalators.

Guidance

The following measures should be considered when designing energy efficient escalators.

- Install control systems to:
  - delay starting escalators for as long as is practicable at the beginning of the working day;
  - stop some escalators, when convenient, after peak periods; and
  - stop some escalators, when convenient, after normal working hours.
- Use auto start-up, or programme escalators to ensure they operate only when there is a demand.
- Use variable speed escalators.

CIBSE Guide D, *Transportation systems in buildings*. 2010.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

D55

ID

107

Rank

Ska Retail

Version **1.0 2012**

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If you would like to comment on this measure please email ska@rics.org

Display Energy Certificates (DECs)

Criteria

A DEC is issued for the portion of the building that was fitted out and an advisory report provided. The certificate is issued by an energy assessor who is accredited to produce display energy certificates for this type of building.

Scoping

This measure applies to all occupancy assessments.

Assessment

This measure can only be assessed after a minimum of one year's occupation.

At occupancy stage: check the DEC has been carried out.

Rationale

The aim is to encourage the occupant to reduce energy consumption. The display energy certificate measures the energy performance of a building (or part of a building) based on actual energy consumption as recorded annually by meters. It provides an Operational Rating (OR), a numerical indicator of the actual annual carbon dioxide emissions from the building, and shows this on a scale of A to G with A being the best performing building.

At present a DEC is only legally required for public buildings with a floor area greater than 1,000m^2. DECs remain voluntary for all other buildings and therefore this is a valid good practice measure under the Ska Retail principles. The target set for this measure is based on the 2009 analysis of DECs produced for government buildings.

An advisory report provides recommendations as to how the energy performance can be improved. A DEC is valid for one year and an advisory report is valid for seven years.

Guidance

Improving the energy efficiency of our buildings: A guide to Display Energy Certificates and advisory reports for public buildings, Communities and Local Government, May 2008.

Fit-out Benchmark & Assessment Tool

Energy and CO_2

Issue

P09

ID

111

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Hardwoods

Criteria

100% of hardwood is from at least one of the following sources:

- is reclaimed; or
- where new hardwood is used, is supplied with a Chain of Custody (CoC) from one of the following forest certification schemes only:
  - Forest Stewardship Council (FSC);
  - Programme for the Endorsement of Forest Certification (PEFC);
  - Sustainable Forestry Initiative (SFI); or
  - Canadian Standards Association (CSA).

Scoping

This measure applies if hardwood is specified or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria.

At handover stage: check invoices for all timber and timber products. All invoices for new timber and timber products must detail the quantity and type of product purchased and state the CoC number for the final handler of the product prior to it being installed on site.

Where a CoC number is missing for the final step in the timber handling chain, comprehensive Category B evidence will be acceptable to claim 'sustainable timber' is used on the project but not to publicly claim that a certified product has been purchased. Note that if it is intended for the project to be certified independently by FSC, Category B evidence will not be accepted.

At occupancy stage: if hardwood has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and hardwood has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the use of unmanaged hardwoods in construction/fit-outs, and consequently to reduce the environmental impact of forestry by ensuring timber originates from sustainable sources.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M05

ID

9

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Ideally timber and timber products should be sourced from the nearest forest, as this reduces the CO_2 emissions associated with transport. For UK-sourced timber it can either be certified by one of the above schemes or by the UK Woodland Assurance Standard (UKWAS). This is the UK certification scheme that is recognised by both FSC and PEFC.

Guidance

The extent of Category B evidence required to demonstrate sustainable timber use throughout the fit-out will need to be determined on a case by case basis. The maximum evidence required will consist of three completed checklists:

1. Supply chain information
2. Forest source information of legality
3. Forest source information on sustainability

Note that only checklist 1 needs to be completed if Chain of Custody certification is available at any given stage of the supply chain. The supply chain information needs to be completed from the point at which Chain of Custody certification is no longer available.

The checklists and additional advice and free training are available through the Central Point of Expertise on Timber (CPET)

CPET offer free advice and one-day training workshops to assist in the understanding of sustainable timber requirements. The CPET helpline can be accessed by phoning 01865 243 766 or by emailing cpet@proforest.net

Forest Stewardship Council (FSC)

Programme for the Endorsement of Forest Certification (PEFC)

Sustainable Forestry Initiative (SFI)

Canadian Standards Association (CSA)

UK Woodland Assurance Standard (UKWAS)

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M05

ID

9

Rank

Ska Retail

Version **1.0 2012**

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Timber

Criteria

100% of timber used is from at least one of the following sources:

- is reclaimed;
- is recycled; or
- where new timber is used, is supplied with a Chain of Custody (CoC) from one of the following forest certification schemes only:
  - Forest Stewardship Council (FSC);
  - Programme for the Endorsement of Forest Certification (PEFC);
  - Sustainable Forestry Initiative (SFI);
  - Canadian Standards Association (CSA).

Scoping

This measure applies if timber is specified or installed. This includes hardwoods, softwoods, joinery, timber panel products (e.g. MDF, plywood), composite timber, wood veneers in permanent installations and temporary site timber.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria.

At handover stage: check invoices for all timber and timber products. All invoices for new timber and timber products must detail the quantity and type of product purchased and state the CoC number for the final handler of the product prior to it being installed on site.

Where a CoC number is missing for the final step in the timber handling chain, comprehensive Category B evidence will be acceptable to claim 'sustainable timber' is used on the project but not to publicly claim that a certified product has been purchased. Note that if it is intended for the project to be certified independently by FSC, Category B evidence will not be accepted.

At occupancy stage: if timber has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and timber has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the use of unmanaged timber in construction/fit-outs, and consequently to reduce the environmental impact of forestry by ensuring timber originates from sustainable sources. Sourcing reclaimed timber is the most sustainable option.

Fit-out Benchmark & Assessment Tool

Materials

Issue

D20

ID

17

Rank

Ska Retail

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If you would like to comment on this measure please email ska@rics.org

Ideally timber and timber products should be sourced from the nearest forest, as this reduces the CO_2 emissions associated with transport. For UK-sourced timber it can either be certified by one of the above schemes or by the UK Woodland Assurance Standard (UKWAS). This is the UK certification scheme that is recognised by both FSC and PEFC.

The primary uses of timber in a fit-out are likely to be: wall panelling, flooring, partitions/screens, furniture, and concealed timber framing/structure.

Guidance

The extent of Category B evidence required to demonstrate sustainable timber use throughout the fit-out will need to be determined on a case by case basis. The maximum evidence required will consist of three completed checklists:

1. Supply chain information
2. Forest source information of legality
3. Forest source information on sustainability

Note that only checklist 1 needs to be completed if Chain of Custody certification is available at any given stage of the supply chain. The supply chain information needs to be completed from the point at which Chain of Custody certification is no longer available.

The checklists and additional advice and free training are available through the Central Point of Expertise on Timber (CPET)

CPET offer free advice and one-day training workshops to assist in the understanding of sustainable timber requirements. The CPET helpline can be accessed by phoning 01865 243 766 or by emailing cpet@proforest.net

Forest Stewardship Council (FSC)

Programme for the Endorsement of Forest Certification (PEFC)

Sustainable Forestry Initiative (SFI)

Canadian Standards Association (CSA)

UK Woodland Assurance Standard (UKWAS)

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

D20

ID

17

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Countertops

Criteria

All countertops must meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content;
- if new, are manufactured from rapidly renewable agricultural materials; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if countertops for sales purposes are specified or installed. It applies to both procurement routes: ordered through then supplied by the main contractor or a subcontractor of the fit-out; or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products in response to the criteria, or provide a statement of retention/reuse of existing equipment.

At occupancy stage: if the countertops have been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the countertops have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials, which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M27

ID

35

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

Choosing construction products: Guide to the recycled content of mainstream construction products, Reference guide, GB Version 4.1, WRAP, June 2008.

Worktops can now be made from a variety of materials with high sustainability credentials as detailed below:

- FSC/PEFC/SFI/CSA timber products;
- rapidly renewable products;
- 80%+ recycled glass products; and
- worktops made from 100% recycled coffee cups/yoghurt pots.

Rapidly renewable materials are those agricultural products that have a harvest cycle of less than 10 years, such as bamboo, hemp, cork and straw.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M27

ID

35

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Shopfitting display equipment

Criteria

All shopfitting display equipment should meet at least one of the following criteria:

- is reused;
- if new, is manufactured with 15% recycled content; or
- has been assessed using the BRE LIST tool to evaluate the LCA (life cycle assessment) and for every product specified & installed, the one with the lowest ecopoints (CO_2 per unit) has been selected.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if any of the following shopfitting display equipment is specified or installed:

- free standing displays (gondolas, open shelves, display cabinets and display cases);
- parasite displays (those hanging off other displays); or
- shelf and counter displays.

It applies to both procurement routes: ordered through then supplied by the main contractor or a subcontractor of the fit-out; or supplied by the occupant/tenant.

Note: electrical and electronic display equipment is not covered by this measure.

Assessment

At design stage: check specifications explicitly reference at least one of the above the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products in response to the criteria, or provide a statement of retention/reuse of existing equipment.

At occupancy stage: if the shopfitting display equipment has been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the equipment has not been changed or added, this measure will be achieved by default.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M25

ID

39

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Rationale

Often shopfitting display equipment is over-engineered for the lifespan of use, as retailers commonly update the equipment every 3–5 years (BRE LIST). Manufacturers do not advertise or market their products based upon their environmental credentials. The aim of this Good Practice Measure is to encourage the design teams to select products with a lower embedded lifetime environmental impact.

Guidance

BRE Press: Information Paper, IP 1/11. *LIST (Low Impact Shopfiting Tool) for designing greener shopfitting display equipment*. Dated March 2011.

Choosing construction products: Guide to the recycled content of mainstream construction products, Reference guide, GB Version 4.1, WRAP, June 2008. This document confirmed that galvanised steel products have a recycled content of 15% which represents good practice.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M25

ID

39

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Joinery

Criteria

100% of timber used in the joinery for the fit-out is from at least one of the following sources:

- is reclaimed; or
- where new timber is used, is supplied with a Chain of Custody (CoC) from one of the following forest certification schemes only:
  - Forest Stewardship Council (FSC);
  - Programme for the Endorsement of Forest Certification (PEFC);
  - Sustainable Forestry Initiative (SFI); or
  - Canadian Standards Association (CSA).

Scoping

This measure applies if joinery is specified or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria.

At handover stage: check invoices for all timber and timber products. All invoices for new timber and timber products must detail the quantity and type of product purchased and state the CoC number for the final handler of the product prior to it being installed on site.

Where a CoC number is missing for the final step in the timber handling chain, comprehensive Category B evidence will be acceptable to claim 'sustainable timber' is used on the project but not to publicly claim that a certified product has been purchased. Note that if it is intended for the project to be certified independently by FSC, Category B evidence will not be accepted.

At occupancy stage: if joinery has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and joinery has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the use of unmanaged joinery in construction/fit-outs, and consequently to reduce the environmental impact of forestry by ensuring timber originates from sustainable sources.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M06

ID

44

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Ideally timber and timber products should be sourced from the nearest forest, as this reduces the CO_2 emissions associated with transport. For UK-sourced timber it can either be certified by one of the above schemes or by the UK Woodland Assurance Standard (UKWAS). This is the UK certification scheme that is recognised by both FSC and PEFC.

Guidance

The extent of Category B evidence required to demonstrate sustainable timber use throughout the fit-out will need to be determined on a case by case basis. The maximum evidence required will consist of three completed checklists:

1. Supply chain information
2. Forest source information of legality
3. Forest source information on sustainability

Note that only checklist 1 needs to be completed if Chain of Custody certification is available at any given stage of the supply chain. The supply chain information needs to be completed from the point at which Chain of Custody certification is no longer available.

The checklists and additional advice and free training are available through the Central Point of Expertise on Timber (CPET)

CPET offer free advice and one-day training workshops to assist in the understanding of sustainable timber requirements. The CPET helpline can be accessed by phoning 01865 243 766 or by emailing cpet@proforest.net

Forest Stewardship Council (FSC)

Programme for the Endorsement of Forest Certification (PEFC)

Sustainable Forestry Initiative (SFI)

Canadian Standards Association (CSA)

UK Woodland Assurance Standard (UKWAS)

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M06

ID

44

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Suspended ceilings

Criteria

All suspended ceiling tiles meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 50% recycled content;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if the tiles or planks in suspended ceilings are specified, replaced, refurbished or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria.

At occupancy stage: if suspended ceilings have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and suspended ceilings have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection.

Guidance

The target for the recycled content of suspended ceilings is based on WRAP's stated good practice for mineral ceiling tiles. This measure has been designed to encourage the selection of products that are capable of having a high recycled content. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M10

ID

49

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

It is recognised that the grid and tiles are specified and warranted as a system. However the grid component of the system has been excluded from the assessment as the vast majority of grids in suspended ceiling systems are made from steel or aluminium and these already contain a relatively high proportion of recycled content. There is insufficient evidence to favour one over the other as both metals hold their value and there is a good market for scrap: neither needs to be sent to landfill. Therefore suspended ceiling systems are differentiated by the tile rather than the grid.

The term *recycled content* includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006

The Cradle to Cradle^{CM} program lists all the products that have been certified.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M10

ID

49

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Hard flooring

Criteria

All hard floor coverings meet at least one of the following criteria:

- are reused;
- if new, are manufactured with 25% recycled content;
- have an A or A+ rating in BRE's The *Green Guide to Specification* for the retail scheme;
- have an A or A+ rating in BRE's *Green Book Live* database for the retail scheme;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate; or
- are supplied with an environmental product declaration (other than that written for the *Green Book Live*), written in accordance with ISO 14025 standards.

And:

- if timber, meet the criteria of good practice measure D20 Timber.

Scoping

This measure applies if hard flooring is specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing hard flooring.

At occupancy stage: if hard flooring has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and hard flooring has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M11

ID

50

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The elimination of hard floor coverings by simply sealing concrete floors is the most sustainable option. If however floor coverings are required for aesthetic, comfort or acoustic reasons reuse of existing hard floor coverings either from the stripping out of existing floors on site or from the purchase of second-hand floor coverings is the preferred option.

The target for the recycled content of hard flooring is based on the targets set for hard flooring by WRAP and can be met by selecting an increased recycled content version of a range of flooring products including tiles, linoleum, rubber and resin bonded tiles. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

The Green Guide to Specification, BRE.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M11

ID

50

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Soft flooring

Criteria

All soft floor coverings, including underlay where applicable, meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 50% recycled content;
- have an A or A+ rating in BRE's *The Green Guide to Specification* for the retail scheme;
- have an A or A+ rating in BRE's *Green Book Live* database for the retail scheme;
- are manufactured from 50% renewable and natural products, e.g. wool, natural rubber, hessian;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate; or
- are supplied with an environmental product declaration (other than that written for the *Green Book Live*), written in accordance with ISO 14025 standards.

Scoping

This measure applies if soft floor coverings (carpet, vinyl, linoleum, rubber, synthetic thermoplastic) are specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing soft flooring.

At occupancy stage: if soft floor coverings have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and soft floor coverings have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M12

ID

51

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The reuse of existing soft floor coverings either from the stripping out of existing floors on site or from the purchase of second hand floor coverings, is the most sustainable source.

The target for the recycled content of soft flooring is based on the target set for generic carpet tiles by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

BRE's *The Green Guide to Specification* provides a set of generic make-ups for this product. Find the makeup of the product and see if it matches any of the generic make-up's: if it does it gets a rating based on this generic make-up. If it does not match a generic make-up then check with the manufacturer to see if they have paid to have their product assessed by the BRE under this scheme. If so you can find their product listed in BRE's *Green Book Live* database.

On the *Green Book Live* website, select 'environmental profiles'. Select by section, e.g. partitions are classified as 'internal walls', or select by manufacturer. If you select 'internal walls' it will bring up a list of products. Against each product select the 'more...' text and this will bring up a screen showing the rating that the product has received from the BRE.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006.

ISO 14044:2006.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M12

ID

51

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Paints

Criteria

All paints meet at least one of the following criteria:

- have been awarded the EU Ecolabel;
- are manufactured with at least 90% recycled content; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Scoping

This measure applies if paint is specified or used.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria.

At occupancy stage: if paint has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and paint has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification.*

Guidance

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

EU legislation 2004/42/CE

Fit-out Benchmark & Assessment Tool

Materials

Issue

M14

ID

54

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Kitchen fittings

Ska retail

Criteria

Non-timber material in all kitchen fittings for tea points, including cupboards and carcass (framework) meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Note: if the only non-timber material is the laminate finish then this is currently excluded from the assessment.

And:

- if containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Non-timber material in all kitchen fittings for commercial kitchens, including cupboards, worktops, workbenches, canopies and shelving, meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 60% recycled content; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if kitchen fittings are installed in tea points and/or commercial kitchens.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing kitchen fittings.

At occupancy stage: if kitchen fittings have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and kitchen fittings have not been changed or added, this measure will be achieved by default.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M18

ID

55

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

A "commercial kitchen" is any space used for food preparation by professional caterers. This will include restaurants, cafes, coffee shops, staff canteens etc.

A "tea point" is a food preparation space provided for staff to prepare drinks and food for themselves. Any equipment installed in it will be of "domestic" scale.

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

Example of how to assess a kitchen fitting containing a timber as well as other materials

If a kitchen fitting is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above. In this example the manufacturer could demonstrate that the steel used in the kitchen fitting contains 80% recycled steel.

Choosing construction products: Guide to the recycled content of mainstream construction products, Reference guide, GB Version 4.1, WRAP, June 2008.

International Stainless Steel Forum. Dated 2006

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M18

ID

55

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

WC cubicle

Criteria

All WC cubicles must meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 70% recycled content; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if WC cubicles are specified, upgraded (including repair) or installed. It applies to both procurement routes: ordered through then supplied by the main contractor or a subcontractor of the fit-out; or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products in response to the criteria, or provide a statement of retention/reuse of existing equipment.

At occupancy stage: if the WC cubicles have been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the equipment has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials, which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M28

ID

59

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

Example of how to assess a cubicle containing timber as well as other materials:

If a cubicle is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes (FSC/PEFC/SFI/CSA) or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above. In this example the manufacturer could demonstrate that the steel used in the cubicle contains 80% recycled steel.

Note: this measure is in scope if existing cubicles are repaired rather than replaced with a new cubicle. It is considered more sustainable to repair a cubicle than replace it with a new one. The measure is automatically met because repairs to existing cubicles are classified under "reuse"

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M28

ID

59

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Insulation

Criteria

All insulation materials (thermal and acoustic) meet at least one of the following criteria:

- if new, are manufactured with at least 50% recycled content;
- if new, are manufactured from at least 50% renewable material, e.g. hemp, flax, newspaper, wool;
- if new, are manufactured with a combination of at least 50% recycled content or 50% renewable material, e.g. hemp, flax, newspaper, wool;
- have an A or A+ rating in BRE's *The Green Guide* to Specification for the retail scheme;
- have an A or A+ rating in BRE's *Green Book Live* database for the retail scheme; or
- are supplied with an environmental product declaration (other than that written for the *Green Book Live*), written in accordance with ISO 14025 standards.

Scoping

This measure applies if insulation (thermal or acoustic) is specified or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria.

At handover stage: check insulation materials used based on delivery notes and/or records of materials found during site visits.

At occupancy stage: if insulation has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and insulation has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification.*

Fit-out Benchmark & Assessment Tool

Materials

Issue

M04

ID

60

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

There is a separate good practice measure addressing the global warming potentials relating to insulation materials (see D22 Low-GWP insulation).

Guidance

The target for the recycled content is based on the target set for mineral (rock) wool by WRAP. WRAP indicates that some insulants, such as EPS, will not be able to meet this target. This measure has been designed to encourage the selection of products that are a capable of having a high recycled content. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

Note: it has been suggested that basalt (the material used to make mineral wool) could be considered a renewable material as the rock source is replenished by volcanic activity, and is a very common material. However, at this stage Ska Retail does not deem this acceptable as a definition for a "renewable" material. This is because the rock is not replenished at the site from which it is extracted.

BRE's *The Green Guide to Specification* provides a set of generic make-ups for this product. Find the makeup of the product and see if it matches any of the generic make-up's: if it does it gets a rating based on this generic make-up. If it does not match a generic make-up then check with the manufacturer to see if they have paid to have their product assessed by the BRE under this scheme. If so you can find their product listed in BRE's Green Book Live database.

On the *Green Book Live* website, select 'environmental profiles'. Select by section, e.g. partitions are classified as 'internal walls', or select by manufacturer. If you select 'internal walls' it will bring up a list of products. Against each product select the 'more...' text and this will bring up a screen showing the rating that the product has received from the BRE.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

Chairs

Criteria

All task and visitor chairs meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- have been awarded the EU Ecolabel.

And:

- if timber or containing timber elements, the timber meets the criteria of good practice measure D20 Timber.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if task or visitor chairs are specified or installed.

It applies for both procurement routes: ordered and supplied through the main contractor or a subcontractor of the fit-out or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing chairs.

At occupancy stage: if chairs have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and chairs have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of products and materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of

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environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

Example of how to assess a chair containing a timber as well as other materials

If a chair is 80% timber and 20% fabric, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 20% of the product, in this case fabric, will need to meet one of the criteria listed above.

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

The Cradle to Cradle^{CM} program lists all the products that have been certified and it can be found at http://c2c.mbdc.com/c2c/list.php?order=type.

Hard wall covering

Criteria

All wall coverings meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 70% recycled content and recyclable content, measured by mass (excluding wall tiles);
- if a new wall tile (ceramic, glass, clay, stone, porcelain), are manufactured with at least 50% recycled content and recyclable content, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if timber, meet the criteria of good practice measure D20 Timber.

Scoping

This measure applies if wall coverings are specified or installed.

Note: Wallpapers (both paper and vinyl) and paints are covered by good practice measures M16 and M14 respectively. This good practice measure covers all other products, such as tiles, wood, metal, etc.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing wall coverings.

At occupancy stage: if wall coverings have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and wall coverings have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

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Guidance

The reuse of existing hard wall coverings either from the stripping out of existing walls on site or from the purchase of second hand wall coverings is the most sustainable source.

The target for the recycled content of hard wall coverings is based on the target set for products, such as composite timber products, by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

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Wall covering

Criteria

All wall coverings meet at least one of the following criteria:

- if new, are manufactured with at least 80% recycled content;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- where paper-based wallpaper is specified, meet the criteria of D20 Timber.

Scoping

This measure applies if wallpaper is specified or installed.

The criteria apply to paper, vinyl, woven and non-woven fibre backed wall coverings.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing wall coverings.

At occupancy stage: if wallpaper has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and wallpaper has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

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Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006

Useful information about more sustainable types of wall covering can be found in the following publications:

Anink, D. et al, *Handbook of sustainable building: An environmental preference method for selection for materials for use in construction and refurbishment*, James and James Ltd, 1996.

Woolley, T. et al, *Green Building Handbook, Volume 1*, Taylor and Francis, 1997.

Woolley, T. et al, *Green Building Handbook, Volume 2*, Taylor and Francis, 2000.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

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Glazed partitions

Criteria

All glazed partitions meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 10% recycled content;
- have an A or A+ rating in BRE's *The Green Guide to Specification* for the retail scheme;
- have an A or A+ rating in BRE's *Green Book Live* database for the retail scheme;
- are supplied with an environmental product declaration (other than that written for the *Green Book Live*), written in accordance with ISO 14025 standards; or
- are re-locatable (see guidance for definition).

Scoping

This measure applies if glazed partitions are specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing glazed partitions.

At occupancy stage: if additional glazed partitions have been installed during the first year of occupation carry out the same check as for the handover stage. Otherwise, if this measure was achieved at handover stage it will be achieved by default at occupancy stage.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

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Guidance

A re-locatable or reusable system can be removed and relocated without substantial repair; it should be capable of reinstallation within a tolerance of ± 10mm of the original installed height.

Note: demountable partitions cannot be taken down without damaging or destroying some or all of the components, and therefore do not meet Ska criteria.

The target for the recycled content of glazed partitions is based on the target set by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

BRE's *The Green Guide to Specification* provides a set of generic make-ups for this product. Find the makeup of the product and see if it matches any of the generic make-ups: if it does it gets a rating based on this generic make-up. If it does not match a generic make-up then check with the manufacturer to see if they have paid to have their product assessed by the BRE under this scheme. If so you can find their product listed in BRE's *Green Book Live* database.

On the *Green Book Live* website, select 'environmental profiles'. Select by section, e.g. partitions are classified as 'internal walls', or select by manufacturer. If you select 'internal walls' it will bring up a list of products. Against each product select the 'more...' text and this will bring up a screen showing the rating that the product has received from the BRE.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006

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Partitions

Criteria

All partitions meet at least one of the following criteria:

- are reused;
- if new, the panels are manufactured with at least 90% recycled content;
- have an A or A+ rating in BRE's *The Green Guide to Specification* for the retail scheme;
- have an A or A+ rating in BRE's *Green Book Live* database for the retail scheme;
- are supplied with an environmental product declaration (other than that written for the *Green Book Live*), written in accordance with ISO 14025 standards; or
- are re-locatable (see guidance for definition).

And:

- if timber or containing timber elements, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if partitions are specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing partitions.

At occupancy stage: if partitions have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and partitions have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

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If you would like to comment on this measure please email ska@rics.org

Guidance

A re-locatable or reusable system can be removed and relocated without substantial repair; it should be capable of reinstallation within a tolerance of ± 10mm of the original installed height.

Note: demountable partitions cannot be taken down without damaging or destroying some or all of the components; and therefore do not meet Ska criteria.

Example of how to assess a partition containing timber as well as other materials

If a partition is 10% timber and 90% plasterboard, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 90% of the product, in this case plasterboard, will need to meet one of the criteria listed above.

The target for the recycled content of partitions is based on the target set for chipboard partitions by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

BRE's *The Green Guide to Specification* provides a set of generic make-ups for this product. Find the makeup of the product and see if it matches any of the generic make-ups: if it does it gets a rating based on this generic make-up. If it does not match a generic make-up then check with the manufacturer to see if they have paid to have their product assessed by the BRE under this scheme. If so you can find their product listed in BRE's *Green Book Live* database.

On the *Green Book Live* website, select 'environmental profiles'. Select by section, e.g. partitions are classified as 'internal walls', or select by manufacturer. If you select 'internal walls' it will bring up a list of products. Against each product select the 'more...' text and this will bring up a screen showing the rating that the product has received from the BRE.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

ISO 14025:2006

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Storage units

Criteria

All storage units meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- have been awarded the EU Ecolabel.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if storage units are installed in any space, including those used in retail back of house.

It applies for both procurement routes: ordered and supplied through the main contractor or a subcontractor of the fit-out or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing storage units.

At occupancy stage: if storage units have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and storage units have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing,

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transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

Example of how to assess a workstation or table containing a timber as well as other materials

If a storage unit is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above. In this example the manufacturer could demonstrate that the steel used in the storage unit contains 80% recycled steel.

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

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Doors

Criteria

All doors, including frames, meet at least one of the following criteria:

- are re-used;
- if new, are manufactured with (or a combination of both):
  - composite materials that have at least 80% recycled content; or
  - metal components that follow WRAP's *Choosing construction products* guide (see guidance):
    - steel section 60%
    - stainless steel 75%
    - copper sheet 60%
    - aluminium extrusion 44%
    - aluminium sheet 73%; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

And:

- if containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if doors are specified or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing doors.

At occupancy stage: if doors have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and doors have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing,

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transport, and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification.*

Guidance

The term recycled content includes both post-consumer waste and secondary materials, defined as a waste by-product from a different industry. Processing waste recycled in-house should not be included in the recycled content calculations for the product.

Example of how to assess a door containing a timber as well as other materials

If a door is 90% timber and 10% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 10% of the product, in this case steel, will need to meet one of the criteria listed above.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

Choosing construction products: Guide to the recycled content of mainstream construction products, Reference guide, GB Version 4.1, WRAP, June 2008. This provides further details and types of metals and their recycled content.

ISO 14025:2006

Workstations and tables

Criteria

All workstations and tables meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- have been awarded the EU Ecolabel.

And:

- if containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if workstations or tables are specified or installed.

It applies for both procurement routes: ordered and supplied through the main contractor or a subcontractor of the fit-out or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing workstations and tables.

At occupancy stage: if workstations or tables have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and workstations or tables have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing,

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transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

Example of how to assess a workstation or table containing a timber as well as other materials

If a desk is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above. In this example the manufacturer could demonstrate that the steel used in the desk contains 80% recycled steel.

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

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Other loose ancillary furniture items

Ska retail

Criteria

All other furniture meets at least one of the following criteria:

- is reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- is supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- has been awarded the EU Ecolabel.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if furniture not covered by good practice measures M19, M20 and M21 is specified, retained, modified, replaced or installed.

It applies for both procurement routes: ordered and supplied through the main contractor or a subcontractor of the fit-out or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing furniture.

At occupancy stage: if furniture has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and furniture has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA

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takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Guidance

Example of how to assess a furniture item containing a timber as well as other materials

If an item is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above. In this example the manufacturer could demonstrate that the steel used in the piece of furniture contains 80% recycled steel.

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006.

The Cradle to Cradle[CM] program lists all the products that have been certified.

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Blockwork

Criteria

All blocks used meet at least one of the following criteria:

- are reclaimed;
- if new, are manufactured with a recycled content based on the targets shown in the table below;
- are unfired clay blocks; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Minimum recycled content for new blocks:

Block type	%
Dense block	93%
Lightweight block	93%
Aerated block	65%
Foamed glass block	65%

Note: If the blocks are sourced from outside the UK then regardless of whether or not they meet the above criteria they may not be considered as meeting the requirements of this measure. This is because the impact of transport needs to be considered; for example, importing reclaimed blockwork from China is not considered sustainable. The assessor has to use their judgment in applying this rule.

Scoping

This measure applies if blockwork is specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing blockwork.

At occupancy stage: if blockwork has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and blockwork has not been changed or added, this measure will be achieved by default.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M01

ID

83

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Rationale

The aim is to reduce the embedded lifetime environmental impacts of these materials. An environmental product declaration is a measurement of the lifetime environmental impact of a product. However, at this point in time there are very few products that have one of these labels.

Guidance

The targets for the recycled content of new blockwork are based on the targets set by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

Morton, T., *Feat of clay*, article in *Materials World*, January 2006 – the article discusses the use of unfired clay blocks for sustainable construction.

Bricks

Criteria

All bricks used meet at least one of the following criteria:

- are reclaimed;
- if new, are manufactured with at least 30% recycled content;
- are unfired; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Note: If the bricks are sourced from outside the UK then regardless of whether or not they meet the above criteria they may not be considered as meeting the requirements of this measure. This is because the impact of transport needs to be considered; for example, importing reclaimed bricks from China is not considered sustainable. The assessor has to use their judgment in applying this rule.

Scoping

This measure applies if bricks are specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing bricks.

At occupancy stage: if bricks have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and bricks have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials. An environmental product declaration is a measurement of the lifetime environmental impact of a product. However, at this point in time there are very few products that have one of these labels.

Reclaimed and unfired bricks use much less energy in manufacture than other types of bricks. However, the distance over which bricks are transported needs to be taken into account due to their weight.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M02

ID

88

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The target for the recycled content of new bricks is based on the targets set by WRAP**.** See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

Morton, T., *Feat of clay*, article in *Materials World*, January 2006 – the article discusses the use of unfired clay blocks for sustainable construction.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M02

ID

88

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Polishes and varnishes

Criteria

All polishes and varnishes meet at least one of the following criteria:

- are water based;
- have been awarded the EU Ecolabel; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Note: Although a selection above does not affect the assessment outcome, the criteria are presented in order of perceived highest sustainable impact.

Scoping

This measure applies if polishes or varnishes are specified or used.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria.

At handover stage: check materials used based on delivery notes and/or records of materials found during site visits.

At occupancy stage: if polishes and varnishes have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and polishes and varnishes have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification.*

Guidance

Information on the EU Ecolabel scheme can be found on the EUROPA portal site of the European Union.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

National Non-Food Crop Centre – the UK's national centre for renewable fuels, materials and technologies.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M15

ID

90

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Screed

Criteria

All screeds used, e.g. for floor repairs, replacement, build-up or levelling, meet at least one of the following criteria:

- if new, are manufactured with at least 50% recycled content;
- if new, are sourced from a certified manufacturer with a BES 6001:2008 'Good' Performance Rating; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Scoping

This measure applies if screed is specified or installed.

Assessment

At design stage: check specifications explicitly reference the criteria or specify a product that meets the criteria. For BES 6001:2008 collate the certification documentation.

At handover stage: collate manufacturers' data for installed products responding to the criteria.

At occupancy stage: if screed has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and screed has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of these materials. An environmental product declaration is a measurement of the lifetime environmental impact of a product. However, at this point in time there are very few products that have one of these labels.

Guidance

An example of recycled screed is where the sand normally used in screed can be replaced by recycled vitrified or amorphous glass.

The target for the recycled content of new screed is based on the targets set by WRAP. See *Choosing construction products: Guide to the recycled content of mainstream construction products*, Reference guide, GB Version 4.1, WRAP, June 2008.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M03

ID

93

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

Ty-Mawr ecological building materials – contains information about recycled aggregates for screed.

BES 6001:2008 *Responsible Sourcing of Construction Products*. With the Government's increasing focus on sustainable development, many construction companies are recognising the need to prove that their buildings are constructed with sustainability in mind. One element of this is the responsible sourcing of products used in their construction and the onus of proving that is increasingly being passed on to the manufacturers of those construction products.

The BRE standard BES 6001 has been published to enable construction product manufacturers to ensure and then prove that their products have been made with constituent materials that have been responsibly sourced. The standard describes a framework for the organisational governance, supply chain management and environmental and social aspects that must be addressed in order to ensure the responsible sourcing of construction products.

Independent, third party assessment and certification against the requirements of BES 6001 then gives the organisation the ability to prove that an effective system for ensuring responsible sourcing exists and add credibility to any claims made.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M03

ID

93

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Internal signage

Ska retail

Criteria

All internal signage must meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 65% recycled content;
- if new, are manufactured with cardboard or rapidly renewable products; or
- if adhered graphics, are manufactured from a non-pvc product;

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if internal signage for promotions, displays, way finding and adhered graphic products (manifestations) are specified or installed. It applies to both procurement routes: ordered through then supplied by the main contractor or a subcontractor of the fit-out; or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above the criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products in response to the criteria, or provide a statement of retention/reuse of existing equipment.

At occupancy stage: if the signage has been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the signage has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials, which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection.

Guidance

Rapidly renewable products include paper, hemp, cellulose fibre and any material that is based on an annual crop.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M26

ID

94

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

External signage

Criteria

All external signage must meet at least one of the following criteria:

- are reused;
- if new, all components are manufactured with a recycled content of at least:
  - aluminium extrusion – 44%
  - aluminium sheet – 73%
  - steel section – 60%
  - steel sheet – 60%
  - stainless Steel – 75%
  - copper sheet – 60%
  - glass – 10%
  - rapidly renewable products – 100%
  - recycled composite materials – 80%
  - adhered graphics – 100% manufactured from non-pvc products
  - textile – to have the OekoTEX or Ecolabel certification or to be made with rapidly renewable products.
- if new, are manufactured with cardboard or rapidly renewable products;
- if new have a BES6001 'Good' rating or better; or
- if new, have a Cradle-to-Cradle Gold or Platinum certificate.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Scoping

This measure applies if external signage is specified or installed. It applies for both procurement routes: ordered and supplied through the main contractor or a subcontractor of the fit-out or supplied by the occupant/tenant.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M29

ID

95

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

At handover stage: collate manufacturers' data for installed products in response to the criteria, or provide a statement of retention/reuse of existing signage.

At occupancy stage: if the signage has been changed or added then repeat the handover stage assessment. If this measure was achieved at handover stage and the signage has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials, which can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection.

Guidance

Rapidly renewable products include paper, hemp, cellulose fibre and any material that is based on an annual crop.

Eco-label

Oeko-Tex Standard 100

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M29

ID

95

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Window treatments

Criteria

All window treatments meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if new, have a Cradle to Cradle^{CM} Gold or Platinum certificate;
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards; or
- are supplied with environmental product declarations for the materials used.

And:

- if timber or containing timber components, the timber meets the criteria of good practice measure D20 Timber.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if window treatments are specified or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing window treatments.

At occupancy stage: if window treatments have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and window treatments have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M23

ID

96

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

Example of how to assess an item containing a timber as well as other materials

If an item is 60% timber and 40% steel, then all of the timber must be sourced from one of the four schemes FSC/PEFC/SFI/CSA or be reclaimed timber – as defined in good practice measure D20 Timber. The remaining 40% of the product, in this case steel, will need to meet one of the criteria listed above.

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

GreenSpec – a directory of sustainable construction products in the UK.

Further accreditation for textile products can be found on the Oeko-Tex website.

When choosing the type of material for blinds, particularly fabric blinds, the physical and environmental performance qualities of the material, and the wellbeing of the blinds' users should be considered.

The ability to recycle fabric blinds with applied reflective coatings may be limited by the presence of the coating (check details with the specific manufacturer – some manufacturers operate sustainable practices of production and reclamation).

Note that both traditional and high performance fabrics (such as coated fabrics) can be found manufactured from recycled and recyclable material; however the benefit of a recyclable material is only realised if it is diverted from landfill and recycled; manufacturers should therefore be vetted for their reclamation policy.

Steel venetian blinds will be readily recyclable and may include recycled content; however the likelihood of recycling taking place will depend on the value of steel.

Timber blinds should be assessed for sustainability of timber sourcing. Timber blinds can readily be used as an energy source at the end of their useful life.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

The Cradle to Cradle^{CM} program lists all the products that have been certified.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M23

ID

96

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Paper and towel dispensers

Ska retail

Criteria

All paper and towel dispensers meet at least one of the following criteria:

- are reused;
- if new, are manufactured with at least 80% recycled content and recyclable content, designed for deconstruction with components that can be recycled, measured by mass;
- if containing a material covered by other good practice measures, the material meets the criteria of the other measure; or
- are supplied with an environmental product declaration, written in accordance with ISO 14025 standards.

Note: Where recyclable content is identified a confirmed route for recycling into new products of a similar quality must be identified.

Scoping

This measure applies if paper/towel dispensers are specified, retained modified, replaced or installed.

Assessment

At design stage: check specifications explicitly reference at least one of the above criteria or specify a product that meets the criteria.

At handover stage: collate manufacturers' data for installed products responding to the criteria or provide a statement of retention/reuse of existing dispensers.

At occupancy stage: if dispensers have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and dispensers have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the embedded lifetime environmental impacts of materials that can be estimated using life cycle analysis (LCA). LCA takes account of environmental impacts over the lifetime of a product, for example the impact arising from mineral extraction, manufacturing, transport and end-of-life disposal. LCA is the basis of environmental product declarations and environmental preference methods for materials selection, for example BRE's *The Green Guide to Specification*.

Fit-out Benchmark & Assessment Tool

Materials

Issue

M24

ID

97

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

Many suppliers may claim their products contain recyclable components and materials. However, components may be bonded in such a manner to prevent separation and recycling into individual waste streams or local recycling facilities may simply not exist for any given material. Unless a recycling facility can be explicitly identified that is able to reprocess the components and materials at a high level in the value chain, e.g. plastic elements are reprocessed into new furniture and not simply down-cycled into plastic bags or other lower value products, it is not acceptable to claim that a product is recyclable. Some suppliers overcome this issue by offering in house take-back and recycling schemes – although not an essential requirement to achieve this measure, the commitment of a supplier to take-back and recycle their products is an excellent source of evidence to support the claim that a product is recyclable.

In the criteria, the phrase 'at least 80% recycled content and recyclable content' means 80% combined. For example, if 40% of the materials used to make the product are recycled materials and 50% of the product components could be recycled at the end of their life, then this adds up to 90% so it meets the requirements. In theory 100% of the product could be recycled materials and 100% of the product could be recycled at the end of life and this would add up to 200%, which would be well in excess of the target.

Durable and low embodied-energy products should be preferred, with the ability to recycle at their end of use.

The greatest environmental impact of paper dispensers is through the use of consumables, so a conscious reduction of waste by users should be encouraged. The WWF commissioned a paper towel dispenser that visually reminded users of resource depletion.

Further accreditation for textile products can be found on the Oeko-Tex website.

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

GreenSpec – a directory of sustainable construction products in the UK.

ISO 14025:2006

Although there is no conclusive evidence to support electric hand-dryers over paper towels some insight on both can be found at various sources including:

- Tree hugger hand-dryer v paper towels;
- European Tissue Symposium hosted LCAs; and
- a Westminster University Study.

Ska retail

Fit-out Benchmark & Assessment Tool

Materials

Issue

M24

ID

97

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Total recycled materials

Criteria

All the materials that fall within the scope of good practice measures M01 to M29 are:

- reused; or
- meet the requirements for the % recycled content of those good practice measures.

Scoping

This measure applies to all new materials covered by measures M1–M29 and all materials included on the finishes schedule. This measure is in scope as soon as at least one of the measures M1–M29 is in scope.

Assessment

At design stage: check specifications explicitly reference one of the above criteria.

At handover stage: check installed materials and invoices.

At occupancy stage: if any materials have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and materials have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to encourage the use of reclaimed and recycled materials in order to reduce the embedded lifetime environmental impacts of materials.

This is an overarching measure that rewards projects where all materials installed in the fit-out are selected with consideration to their environmental credentials.

Guidance

See individual good practice measures for guidance (M01–M29).

Calculating and declaring recycled content in construction products, 'Rules of Thumb' guide, WRAP.

Fit-out Benchmark & Assessment Tool

Materials

Issue

D21

ID

100

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Materials specification

Criteria

All the materials that fall within the scope of measures M01 to M29 meet the requirements of those measures.

Scoping

This measure applies to all new materials covered by measures M1–M29. This measure is in scope as soon as at least one of the measures M1–M29 is in scope.

Assessment

At design stage: check specifications explicitly reference one of the above criteria.

At handover stage: check installed materials and invoices.

At occupancy stage: if materials have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and materials have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the environmental impact of the production, use of, and disposal of building materials.

This is an overarching measure that rewards projects where all materials installed in the fit-out are selected with consideration to their environmental credentials.

Guidance

See individual good practice measures for guidance (M01–M29).

Fit-out Benchmark & Assessment Tool

Materials

Issue

D19

ID

104

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

CCS registration

Criteria

When the construction period is more than 6 weeks:

- the site is registered with the Considerate Constructors Site Registration Scheme (CCS) and the site achieves best practice with a score of 32 points or above.

When the construction period is less than 6 weeks:

- the contractor is registered with the Considerate Constructors Company Registration Scheme (CCS), and the contractor can demonstrate that over the preceding 12 months it has obtained a company certificate of compliance.

Scoping

This measure applies to all fit-outs.

Assessment

Site registration

At design stage: check there is a contractual commitment to register with the scheme and achieve a score greater than 32.

At handover stage: look at the site monitoring reports to confirm the score achieved by the site and get a copy of the site certificate.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Company registration

At design stage: check there is a contractual commitment to use a contractor who is registered.

At handover stage: get a copy of the company certificate of compliance and ensure that it was issued within the last 12 months.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to promote the management of the construction site in an environmentally and socially responsible manner.

Fit-out Benchmark & Assessment Tool

Other
Issue

D44
ID

15
Rank

Ska Retail
Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

Considerate Constructors Scheme

The key issues that the scheme aims to assess are:

The neighbourhood and general public
Registered sites and companies should do all they can to reduce any negative impact on anyone affected by their work and they should aim to leave a positive impression on their neighbours.

The workforce
Registered sites and companies should do all they can to be a considerate employer. They should provide clean and appropriate facilities for those who work for them. Facilities should be comparable to those provided in any other working environment.

The environment
Registered sites and companies should do all they can to reduce any negative effect they have on the environment. They should work in an environmentally conscious and sustainable manner.

Fees for registration depend on the site size and contractor size. Examples of the fees (as of Jan 2012) are:

- the site registration fee for projects up to £100,000 is £100 plus VAT; and
- the company registration fee for an organisation with an annual turnover of less than £3.5m is £500+VAT per year.

Ska retail

Fit-out Benchmark & Assessment Tool

Issue: **Other**

ID: **D44**

Rank: **15**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

Soft landings framework

Criteria

The client must adopt the soft landings framework as the tool for providing commissioning during the design phase, construction phase and occupancy phase.

Scoping

This measure is in scope when any mechanical, electrical (including automated lighting controls) or public health systems are being installed or modified.

Assessment

At design stage:

- The design brief should show that BSIRA's soft landings framework has been adopted for managing the commissioning of the systems that are being installed.
- Contracts should show that design team members and the contractor have been appointed to carry out the soft landings post-occupancy work.
- Contracts, a letter of appointments or design specifications should confirm that post-occupancy evaluation (POE) services will be undertaken.
- Workshop or meeting minutes should confirm that workshops or meetings have been held to review the performance of the building in regard to the services that are being installed.

At handover stage:

- Plans for handover checks that cover the six-week period post-handover, as well as the pre-handover period.
- Evidence that the facilities manager has been involved during the pre-handover phase.
- Evidence that operational duties for operational management, e.g. of the BMS, have been allocated and fully documented, and training has been provided to these people.
- Commissioning reports.
- Evidence that the aftercare team has been allocated a visible and accessible workspace in the new fit-out space. The size and complexity of the project will determine whether their presence is permanent or at specified hours, and whether one or more people.

At occupancy stage:

- Evidence that suitable aftercare has been provided for the first six to eight weeks of occupation.
- Evidence that after the first weeks of occupation, periodic reviews are being carried out.

Fit-out Benchmark & Assessment Tool

Other
Issue

D56
ID

52
Rank

Ska Retail
Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

- Evidence that the systems have been fine tuned, especially lighting and HVAC, to take account of occupant feedback, weather and occupancy.

Rationale

CIBSE and BSRIA have provided guides for commissioning of mechanical, electrical and public health systems, which provide guidelines for carrying out tasks at specific points in the build process.

BSRIA developed the concept of "soft landings" to extend the commissioning process so that it starts at RIBA stage B and continues for three years after practical completion. The aim is to shift the focus of good practice from adherence to technical outcomes to performance outcomes, i.e. ensuring that the building benefits the occupants.

Guidance

BSRIA provide two guides, referenced below, that detail how to implement the soft landings framework. Appendix E in the pitstopping guide (BG 27/2011), provides an example of a plan and diary of how soft landings should be carried out on a weekly basis.

The Soft Landings Framework: for better briefing, design, handover and building performance in use. BG 4/2009. BSRIA 2009.

Pitstopping. BSRIA's reality-checking process for soft landings. BG 27/2011. Roderic Bunn. BSRIA. 2011. Free to BSRIA members, £30 non-members.

Building user guide

Ska retail

Criteria

A building user guide (BUG) is provided that will inform and guide the tenants/occupants and non-technical building management staff on the operation and environmental performance of the spaces and how to ensure a high environmental operation on a day to day basis.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: there should be a written commitment that a BUG will be produced. The organisation responsible for producing the BUG should have been identified and this work should be within their contract.

At handover stage: review the BUG to ensure that it clearly contains the following:

- design thinking and criteria used on each greener practice/item of the scope;
- information on how to operate and/or maintain each item in the scope of the fit-out, following best practice and the greenest available method. Ensure an environmental life cycle analysis is possible and available to every item in the scope;
- proposals for the latest market greener maintenance services and end of life cycle solutions for disposal of products and materials; and
- a list of purely operational activities that create a positive environmental impact.

At occupancy stage: ensure that the guide is still accessible to all staff. If the occupancy assessment indicates that changes have been made to the floors being assessed, then check that the guide reflects these changes.

Rationale

The aim of the building user guide is to reflect the project scope and provide the design and principal thinking behind every Ska-rated measure and any other good intentions that are unrated but that instil greener practices in the project.

The guide should inform all users and operators of the greener practices applied to the space to enable them to be carried out in the intended and most efficient way.

The guide can be part of the operation and maintenance (O&M) manual but must also have the ability to be separated and issued to staff for information.

Fit-out Benchmark & Assessment Tool

Other

Issue

D45

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Ska Retail

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Guidance

Building Log Books – a user's guide, Good Practice Guide 348, Carbon Trust, 2003.

'Section 6: Providing Information' from *The Building Regulations 2000, Approved Document Part L2A: Conservation of fuel and power in new buildings other than dwellings* (2010 edition).

Edocuments – an accredited CIBSE building log book developer.

Guide L: Sustainability, CIBSE, 2007.

WRAP – the waste and resource action programme.

A suggested list of contents:

- list of updates and annual review dates;
- purpose of the BUG and individual responsibilities;
- key contacts page;
- suppliers and services contact page;
- occupant information;
- overall building/space design and operation principles;
- summary of Ska Retail scope and score;
- summary of areas, occupancy, WC provisions and fire strategy;
- summary of the DDA provisions and Access Statement for the facility;
- principles for the material selections and item specific user operational guidance such as furniture reusing, carpet tile recycling or linoleum cleaning;
- building waste, recycling and reuse monitoring records and targeting strategy;
- commissioning, handover and compliance of services design;
- summary of main building services plant;
- overview of controls/BMS;
- metering, monitoring and targeting strategy;
- building energy performance records;
- maintenance review;
- major alterations;
- results of in-use investigations;
- reference page to other relevant documents; and
- appendix, including relevant certificates and tests.

Ska retail

Fit-out Benchmark & Assessment Tool

Other

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Low-GWP insulation

Ska retail

Criteria

The manufacture and installation of all new insulants only uses products that have a Global Warming Potential (GWP) of less than five.

Scoping

This measure applies if any new insulants (either thermal or acoustic) are used in the building fabric, partitions and building services.

The criteria apply both to products the insulants are manufactured from, and any products, such as blowing agents, used in their manufacture.

Assessment

At design stage: check written specifications/contracts state all insulants must have a GWP of less than five. If the product and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the product and manufacturer from the invoice and check the manufacturer's literature.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the use of materials that cause global warming.

Guidance

Products that do not use a blowing agent and comply with this measure include:

- mineral fibre products such as rock wool, slag wool or glass wool;
- plant/animal fibre products such as sheep's wool, cotton, flax, straw or recycled newspaper; and
- cellular plant derived products such as cork.

For products that use a blowing agent, the name of the blowing agent must be identified and checked to determine its GWP, as these agents can have a high GWP. These types of insulants include:

- cellular plastic products: rigid polyurethane, (PUR/PIR), phenolic, XPS and EPS; and
- cellular mineral products: foamed glass and aerated concrete.

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Examples of blowing agents that have a GWP of less than five are air, CO_2, pentane and isobutene.

GreenSpec – a directory of sustainable construction products in the UK.

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Pollution

Issue

D22

ID

12

Rank

Ska Retail

Version **1.0 2012**

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Low-GWP refrigerants

Criteria

All refrigerants have a Global Warming Potential (GWP) of less than five.

Scoping

This measure applies if any new refrigerants are used in the building services.

Assessment

At design stage: check written specifications/contracts state all refrigerants must have a GWP of less than five. If the product and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: obtain the product and manufacturer of the equipment containing refrigerants from the invoice. Check the manufacturer's literature to determine the refrigerant and check the GWP with the manufacturer or obtain it from CIBSE GN1 (see guidance below).

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the use of materials that cause global warming.

Guidance

CFCs, HCFCs and halons: professional and practical guidance on substances that deplete the ozone layer, GN1, CIBSE, 2000 – contains a list of common refrigerants and their associated GWP.

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Pollution

Issue

D23

ID

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Rank

Ska Retail

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Refrigerant leak prevention

Criteria

Refrigerant systems must be designed to prevent leaks using these standards:

- BS EN378: 2008 *Refrigerating Systems and Heat Pumps: Safety and Environmental Requirements*
- REAL Zero's guidance:
  - *Designing out leaks: design standards and good practices*
  - *Guide to good leak testing*
  - *Leakage matters: the service and maintenance contractor's responsibilities.*

Scoping

This measure applies where any new refrigerant systems are installed or changes are made to an existing system.

It does not apply to systems:

- with a refrigerant charge of under 5kg; or
- where the refrigerant has a GWP of less than five.

Assessment

At design stage: check the written specifications/contracts include the requirements to comply with the criteria.

At handover stage: obtain records to show that all relevant refrigerant systems have been installed and tested in accordance with the criteria. Ensure that indicative examples of where and how the strategy complies with the standards/guidance are provided.

At occupancy stage: check records to ensure that servicing and maintenance is been carried out in accordance with the required British Standard and relevant REAL Zero guidance. Review the occupier's maintenance records to ensure the equipment is being used and maintained correctly and has not been disabled.

Rationale

The aim is to reduce the emission of refrigerants into the atmosphere in the event of a leak. The emission of refrigerants has a four-fold effect:

- Environmental impact – many refrigerants damage the ozone layer and most also contribute to global warming.

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Pollution

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- Higher running costs – leakage of refrigerant reduces efficiency.
- Increased servicing costs.
- Health and safety hazards – if located in confined spaces, exposure levels could potentially be exceeded, leading to suffocation if sufficient loss and displacement of air occurs.

Guidance

BS EN378: 2008 *Refrigerating Systems and Heat Pumps: Safety and Environmental Requirements*. British Standard. 2009.

Designing out leaks: design standards and good practices. REAL Zero. 2009.

Guide to good leak testing. REAL Zero. 2009.

Leakage matters: the service and maintenance contractor's responsibilities. REAL Zero. 2009

Ska retail

Fit-out Benchmark & Assessment Tool

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Refrigerant leak detection

Criteria

Refrigerant leak detection systems are implemented.

For internal plant rooms – a refrigerant leak detection system is specified and installed that uses fixed multi-point gas detectors and samples air in a number of locations.

For rooftop and non-air-tight locations – manual refrigerant leak detection techniques are used, such as portable electronic refrigerant detectors and ultraviolet (UV) indication fluids, with a monthly inspection schedule.

Scoping

This measure applies where refrigerant systems with a refrigerant charge of over 5kg are installed. It does not apply where systems using refrigerants with a GWP of less than five are being installed.

Assessment

At design stage: check written specifications/contracts confirm this equipment will be installed.

At handover stage: obtain the product and manufacturer from the invoice and check the manufacturer's literature.

At occupancy stage: review the occupier's maintenance records to ensure this equipment is being used and maintained correctly and has not been disabled.

Rationale

The aim is to reduce the emissions of refrigerants to the atmosphere in the event of a leak. The emission of refrigerants has a four-fold effect:

- Environmental impact – many refrigerants damage the ozone layer and most also contribute to global warming.
- Higher running costs – leakage of refrigerant reduces efficiency.
- Increased servicing costs.
- Health and safety hazards – if located in confined spaces, exposure levels could potentially be exceeded, leading to suffocation if sufficient loss and displacement of air occurs.

The following types of leak detection will not achieve this measure:

- all CFC/HCFC refrigerants used in rooftop systems; and
- an 'indirect' system that monitors parameters in the refrigeration system (such as pressures, temperatures and liquid levels) and calculates whether a leak is present.

Fit-out Benchmark & Assessment Tool

Pollution
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Guidance

CFCs, HCFCs and halons: professional and practical guidance on substances that deplete the ozone layer, GN1, CIBSE, 2000 – contains a list of common refrigerants and their associated GWP.

Code of practice for refrigerant leak tightness in compliance with the F-gas regulation, British Refrigeration Association, 2007.

Code of practice for the minimisation of refrigerant emissions from refrigerating systems, Institute of Refrigeration, 1995.

Guide 4: R22 Phase Out and F-Gas Regulations, Food & Drink Industry – Refrigeration Efficiency Initiative, Carbon Trust Networks Project, 2007.

Ska retail

Fit-out Benchmark & Assessment Tool

Pollution

Issue

D24

ID

86

Rank

Ska Retail

Version **1.0 2012**

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Refrigerant recovery

Criteria

Refrigerant recovery systems are implemented.

- For fixed multi-point refrigerant leak detection systems – an automated refrigerant leak recovery system is specified and installed. When a leak is detected, the system must have the capacity to automatically evacuate the refrigerant into a separate cylinder, to minimise release of refrigerant emissions to the atmosphere.
- For manual refrigerant leak detection systems – when a leak is manually detected, the system must have the capacity to transfer the refrigerant into a suitable external storage container. The refrigerant should not be purged from the system into the atmosphere.

Scoping

This measure applies only if centralised HVAC systems are installed.

It does not apply when split units or any systems using hydrocarbon and ammonia-based refrigerants with a GWP less than five are being installed.

Assessment

At design stage: check written specifications/contracts confirm this equipment will be installed.

At handover stage: obtain the product and manufacturer from the invoice and check the manufacturer's literature.

At occupancy stage: review the occupier's maintenance records to ensure this equipment is being used and maintained correctly and has not been disabled.

Rationale

The aim is to reduce the emissions of refrigerants to the atmosphere in the event of leakage. It is an offence under sections 33(1)(c) and 34 of the *Environmental Protection Act* 1990 to deliberately or negligently discharge environmentally-damaging substances into the atmosphere.

Once a system has been identified as having a leak it is necessary to remove refrigerant from the section concerned and isolate the leaking component or section of the system. Pumping the system down in order to achieve this is unlikely to be sufficient, recovery of the refrigerant will be necessary. To recover the vapour left in the system, utilisation of recovery machines will be necessary (British Refrigeration Association, 2007).

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During repair, maintenance or decommissioning of refrigerant systems the following recovery options should be employed:

- recover and reuse refrigerant in the original system;
- recover, recycle and reuse by original owner;
- recover, reclaim and reuse by original owner;
- recover, reclaim and make available for reuse by others;
- recover and destroy.

Guidance

Code of practice for refrigerant leak tightness in compliance with the F-gas regulation, British Refrigeration Association, 2007.

Code of practice for the minimisation of refrigerant emissions from refrigerating systems, Institute of Refrigeration, 1995.

Safety code for refrigerating systems utilising group A3 refrigerants, Institute of Refrigeration, 2001.

Reduce light pollution

Criteria

All lighting control motion detector time lags are reduced to a maximum of 10 minutes and lighting lux levels are reduced between the hours of 23.00 and 07.00 in accordance with Table 1 of ILE GN01 (see guidance below).

Scoping

This measure applies if external lighting and signage is specified as part of the fit-out.

Assessment

At design stage: check specifications and drawings.

At handover stage: review as-built drawings and check invoices to ensure that the specified equipment was purchased.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce disturbance from night time light pollution to neighbours.

Guidance

Guidance notes for the reduction of obtrusive light, GN01, The Institution of Lighting Engineers, 2005.

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Pollution

Issue

D26

ID

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Rank

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Limiting plant noise

Ska retail

Criteria

1. Either a noise impact assessment in compliance with BS 4142:1997 is undertaken or the landlord/developer has previously commissioned a noise impact assessment in compliance with BS 4142:1997.
2. Either the report shows that new plant will not create a noise level more than 5dB above existing background noise levels or the report provides recommendations for acoustic insulation to ensure that any new installed plant will not create a noise level more than 5dB above existing background noise levels.
3. The installed plant and/or acoustic insulation needs to meet the requirements of the report.

Scoping

This measure applies if new plant is being installed that will generate external noise.

Assessment

At design stage: ensure a noise impact assessment has been carried out (either by the project or previously). Obtain a copy of the report and check that it meets the criteria. Check the drawings and/or specifications to ensure that the proposed plant and proposed attenuation measures meet the requirements.

At handover stage: confirm with as-built drawings and a site visit that there have been no changes to the building since the impact assessment was undertaken. Also check that the installed plant and/or acoustic insulation meets the report's recommendations.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the impact of operational noise from new plant on the surrounding environment.

Guidance

Note: this usually applies to HVAC plant, but would also apply to any other installed plant that generates external noise.

Method for rating industrial noise affecting mixed residential and industrial areas, BS 4142:1997, BSI, 1997.

Sound insulation and noise reduction for buildings. Code of practice,

BS 8233:1999, BSI, 1999.

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Pollution

Issue

D25

ID

105

Rank

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NO_X emissions

Ska retail

Criteria

NO_X emissions from space heating and domestic hot water should be less than 40 mg/kWh. These are dry NO_X emissions measured at 0% excess O_2, using the test standards defined in BS EN 483:1999+A4:207.

Scoping

This is in scope when new space heating and/or domestic hot water systems are installed.

Small 'point of use' electric heaters are excluded, i.e. heaters in a tea point or WC.

Assessment

At design stage: check that written specifications and/or contracts state that the above requirements will be met.

At handover stage: check manufacturer's technical datasheets and invoices to confirm the NO_X emissions of the heaters that have been installed.

At occupancy stage: check that the heater has not been replaced with another heater. Check maintenance records to ensure that the heater has been serviced according to the manufacturer's requirements and so is operating at maximum efficiency.

Rationale

NO_X emissions from heating systems cause external pollution and affect people's health. Many gas boilers are now being designed to minimise NO_X emissions and there are models on the market that produce less than 30mg/kWh.

Guidance

Any system powered by grid electricity (e.g. air source heat pumps, ground source heat pumps or combined heat and power (CHP) systems) will not meet the requirements of this measure; but it will still be in scope (unless it is a point of use heater). This is because NO_X emissions associated with power stations are in excess of 700mg/kWh.

If more than one heater is installed, then each heater must meet the requirements of this measure before the measure can be awarded.

European Standard BS EN 483:1999+A4:207 incorporating corrigendum June 2006. *Gas fired central heating boilers – Type C Boilers of nominal heat output not exceeding 70kW*.

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Pollution

Issue

D58

ID

108

Rank

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Cycle parking

Criteria

Office space:
One cycle space per 350m^2 of floor space is provided.

Retail space:
The number of cycle spaces provided should be as shown below:

Land use category	Location		Number of cycle spaces
A1	Shops	Food retail	• Out of town: 1/350m^{2*} • Town centre/local shopping centre: 1/125m^{2*}
		Nonfood retail	• Out of town: 1/500m^{2*} • Town centre/local shopping centre: 1/300m^{2*}
		Garden centre	• 1/300m^{2*}
A2	Financial and professional services	Offices, business and professional	• 1/125m^{2*}
A3		Pubs, wine bars	• 1/100m^{2*}
		Fast food takeaway	• 1/50m^{2*}
		Restaurants, cafes	• 1/20 spaces for staff + 1/20 spaces for visitors.

*Minimum two spaces

**All areas are based upon Sales Floor Area (SFA) - The part of a retail store in which merchandise is displayed and sales are made.

Notes for both office and retail:

1. Secure, lockable cycle racks should be provided.
2. When carrying out the calculation the number must be rounded up, i.e. if there is 450m^2 of floor space then two cycle spaces must be provided.

Scoping

This measure applies if there is tenant core/external space (including existing parking) with suitable access.

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Transport

Issue

D41

ID

14

Rank

Ska Retail

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Assessment

At design stage: check specifications and drawings.

At handover stage: check as-built drawings and carry out a site visit.

At occupancy stage: if cycle racks have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the cycle racks have not been changed or reduced in number, this measure will be achieved by default.

Rationale

The aim is to encourage staff to cycle to work and for restaurants/cafes to provide cycle parking facilities for customers.

Guidance

Ideally cycle spaces should be covered as well as being secure. Design guidelines can be found in *Cycle parking, Sustrans information sheet* FF37.

Sustans produce an information sheet called *Active travel in the workplace: Planning for an active workforce*, which provides additional information.

Transport for London's *Workplace cycle parking guide*: Appendix 2: Cycle parking standards for new developments.

Definition of the different land use categories relevant to the number of cycle racks:

A1 Shops - shops, retail warehouses, hairdressers, undertakers, travel and ticket agencies, post offices (but not sorting offices), pet shops, sandwich bars, showrooms, domestic hire shops, dry cleaners, funeral directors and internet cafes.

A2 Financial and professional services - financial services such as banks and building societies, professional services (other than health and medical services) including estate and employment agencies and betting offices.

A3 Restaurants and cafés - for the sale of food and drink for consumption on the premises including restaurants, snack bars and cafes.

Ska retail

Fit-out Benchmark & Assessment Tool

Transport

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Shower facilities

Ska retail

Criteria

For staff numbers up to 100, one shower is provided. For every additional 100 staff (or part thereof), another shower is provided. All showers must be available for use by all staff.

Scoping

This measure applies if there is sufficient tenant core/washroom space with suitable access.

This measure is always in scope for the following types of retail unit:

- restaurants, with commercial kitchens;
- car showroom with maintenance facilities;
- garden centre (units with manual labour or occupants that create dirt); and
- other facilities where staff are involved in hot, malodorous, grimy or manual activities.

Assessment

At design stage: check specifications explicitly reference the criteria.

At handover stage: carry out a site visit.

At occupancy stage: if showers have been added then repeat the design and handover stage assessments. If this measure was achieved at handover stage and the showers have not been changed or reduced in number, it will be achieved by default.

Rationale

The aim is to encourage staff to cycle to work by providing showers so that staff can freshen up after their cycle ride.

Showers are also required for retail spaces where staff need to shower before they leave work due to the nature of their work. Note: this is more of a well-being issue than a transport issue, but has been included within this measure as only one assessment of the number of showers is required.

Guidance

Active travel in the workplace – What's right for your organisation?, Sustrans, 2008.

A guide for employers – getting your workplace cycle friendly, London Cycling Campaign.

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Transport

Issue

D42

ID

53

Rank

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Version 1.0 2012

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Construction phase CO_2 emissions

Ska retail

Criteria

The principal contractor must develop and implement a site-specific *construction travel plan* prior to the start of construction. This should state the predicted road transport movements according to the design and work plan. The plan should identify ways to reduce these movements.

The principal contractor must monitor all road vehicle movements to and from the site, including:

- delivery of materials and plant to site; and
- movement of waste off site.

The following should be recorded and displayed on site: vehicle distance to and from site, types of vehicle used, and the calculated CO_2 emissions.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: review the site-specific *construction travel plan* prior to commencement on site.

At handover stage: confirm at handover that the recommendations to reduce vehicle movements on site have been carried out and that all vehicle movements are being monitored with spreadsheet outputs and photographic evidence on site notice boards.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

Transport accounts for 10-20% of construction costs. CBI estimate the annual cost of road congestion to the economy is £20 billion. Construction vehicles account for a proportion of this congestion, and construction sites suffer from poor reliability of deliveries.

Reducing site transport is possible and can cut costs. Financial and productivity benefits of adopting a more efficient approach to transport and logistics include:

- reduced fuel and delivery costs;
- increased delivery efficiency and reliability;
- reduced costs for parking; and

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Transport

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D59

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- increased profitability.
- Transport issues can only be addressed if they are accounted for from inception, including the design team and supply chain.

Guidance

Construction Site Transport: The Next Big Thing, 2003, BRE and DTI.. This document outlines a number of ways to minimise vehicle movement, as noted below:

- For sites in urban areas, consider group transport for the workforce, and provide facilities to encourage use of public transport.
- For materials, use local suppliers, share deliveries and arrange with the supplier to send vehicles back full with off-cuts or other waste.
- Offsite construction – leading to reduced waste, reduced workforce and reduced transport – can reduce the number of movements, but may not reduce distances, and larger loads can cause more disturbance to neighbours.
- Where viable, utilise Consolidation Centres (see link below), which can provide an effective supply chain management solution to enable the safe and efficient flow of construction materials and equipment from supplier to the project. The Consolidation Centres concept was specifically developed to serve the materials handling needs of multiple construction sites in busy and challenging environments, such as airports and inner city areas.
- Constructing Excellence

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Transport

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Rank

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Designing out waste

Criteria

The design team must use the WRAPs "Designing out Waste Tool for Buildings" (DoWT-B) to identify opportunities to design out waste in the fit-out and to record the design solutions pursued in reducing material consumption or wastage.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: review the output of the DoWT-B detailing design solutions followed to reduce material consumption or wastage.

At handover stage: confirm at handover, using as-built drawings/ specifications, that the proposed design solutions from the DoWT-B have been implemented for the fit-out.

At occupancy stage: this measure is not assessed. It is achieved by default if it was achieved at handover stage.

Rationale

The construction industry is the UK's largest consumer of natural resources, using over 400 million tonnes of material per annum. The construction industry is also responsible for sending around 9.7 million tonnes of construction, demolition and excavation waste to landfill annually, without any form of recovery or reuse (2009 figures). More efficient use of materials would be a major contribution in reducing the environmental impact of construction, including reducing demand for landfill and the depletion of finite natural resources. It would also contribute to the economic efficiency of the sector and of the UK as a whole.

Guidance

This measure is in scope for all fit-outs as it includes a review of the supply chain and packaging used by material suppliers.

WRAP: *Designing out Waste: a design team guide for buildings*.

The Designing out Waste Tool for Buildings (DoWT-B) is a freely accessible resource.

CD&E Waste: halving construction, demolition and excavation waste to landfill by 2012 compared to 2008. July 2011. Prepared by Katherine Adams on behalf of the Strategic forum for consuction. Report 011 Construction Products Association.

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Issue: **Waste**

ID: **D60**

Rank: **10**

Version: **Ska Retail 1.0 2012**

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If you would like to comment on this measure please email ska@rics.org

Reduce shop-fitting display equipment sent to landfill

Ska retail

Criteria

At least 80% of the shopfitting display equipment is:

- reused;
- recycled; or
- diverted from landfill.

Scoping

This measure applies if any shopfitting display equipment outlined below forms part of the fit-out contract:

- free standing displays (gondolas, open shelves, display cabinets and display cases);
- parasite displays, hanging off other displays; or
- shelf and counter displays.

Electrical and electronic equipment is excluded.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of these products by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that these products were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the amount of shopfitting display equipment sent to landfill, which is highly wasteful in terms of energy and resource use.

Often shopfitting display equipment is over engineered for the lifespan of use, retailers commonly update their shopfitting display equipment every 3–5 years (BRE LIST).

Electrical and electronic display equipment is excluded, as it is covered by the WEEE directive.

Fit-out Benchmark & Assessment Tool

Waste

Issue

D61

ID

11

Rank

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Guidance

Note: A product can be considered to have been reused when it is salvaged and used for its original intended purpose, or when the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Re-use can be broken down into three key areas:

- direct reuse – within the fit-out project or elsewhere within the organisation
- donation – to charities, schools, etc.
- sale – to smaller companies and start up organisations, etc.

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

WRAP – the waste and resource action programme.

BRE Press: Information Paper, IP 1/11. *LIST (low impact shopfiting tool) for designing greener shopfitting display equipment.* Dated March 2011.

Choosing construction products: Guide to the recycled content of mainstream construction products, Reference guide, GB Version 4.1, WRAP, June 2008.

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Fit-out Benchmark & Assessment Tool

Waste

Issue

D61

ID

11

Rank

Ska Retail

Version **1.0 2012**

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Reduce storage units sent to landfill

Criteria

At least 80% of the office storage units are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of existing storage units forms part of the fit-out contract.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of these products by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that these products were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the number of storage units sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Redeployment can be broken down into three key areas:

- reuse – within the fit-out project or elsewhere within the organisation;
- donation – to charities, schools, etc.; or
- sale – to smaller companies and start up organisations, etc.

Fit-out Benchmark & Assessment Tool

Waste

Issue

D17

ID

18

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

There are a number of organisations that specialise in the redeployment of office furniture. Two of the most well known are Green Standards Trust and Green-Works; their websites provide useful information and guidance on this subject.

WRAP – the waste and resource action programme.

Ska retail

Fit-out Benchmark & Assessment Tool

Waste

Issue

D17

ID

18

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Reduce chairs sent to landfill

Ska retail

Criteria

At least 80% of all chairs are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of existing chairs forms part of the fit-out contract.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of these products by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that these products were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the number of chairs sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Reuse can be broken down into three key areas:

- direct reuse – within the fit-out project or elsewhere within the organisation;
- donation – to charities, schools, etc.; or
- sale – to smaller companies and start up organisations, etc.

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

There are a number of organisations that specialise in the redeployment of office furniture. Two of the most well known are Green Standards Trust and Green-Works; their websites provide useful information and guidance on this subject.

WRAP – the waste and resource action programme.

If you would like to comment on this measure please email ska@rics.org

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D16**

Rank: **22**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

Reduce floor finishes sent to landfill

Criteria

At least 80% of all the waste carpet and hard flooring (e.g. ceramic tiles, terrazzo, natural stone and laminate) is:

- reused;
- recycled; or
- diverted from landfill.

At least 50% of all the waste resilient flooring (vinyl, linoleum, rubber, synthetic thermoplastic) is:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of any existing floor finishes forms part of the fit-out contract or if new flooring is being installed.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of all floor finishes (carpets, hard and resilient flooring) by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that the floor finishes were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The *Flooring Resource Efficiency Plan* confirms that '[c]urrently almost 600,000 tonnes of flooring is disposed of each year, of which less than 2% is recycled. A small quantity is incinerated but the vast majority, over 90%, goes to landfill. Most is carpet and the manufacturer's disposal costs are estimated to be in excess of £1 million per year. Total cost to the industry supply chain (including local

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D14**

Rank: **26**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

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authorities) is believed to be in excess of £45 million. Reducing this waste will be of considerable economic benefit to the industry, as well as reducing the impact on the environment.'

Guidance

The sustainable options for removing floor finishes are:

- reuse, either on- or off-site;
- recycle;
- return (lease); or
- energy recovery.

The *Flooring Resource Efficiency Plan* identifies the actions needed to reduce flooring waste and to improve resource efficiency. It confirms the main routes for disposal and details established organisations set up to reuse/ recycle flooring products.

Reduce timber sent to landfill

Criteria

At least 80% of waste timber is:

- reused;
- recycled; or
- diverted from landfill.

Scoping

This measure applies if the removal of existing timber and/or new on-site joinery works form part of the fit-out contract.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of timber by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that the timber was reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

Every year approximately 8–10 million tonnes of wood is produced for disposal in the UK. The aim is to reduce the amount of wood waste sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

RecycleWood – provides a postcode search engine for wood recycling services.

Wood Recyclers' Association – provides a list of member companies. A code of practice is currently being developed for wood recyclers in conjunction with WRAP.

WRAP – the waste and resource action programme.

Fit-out Benchmark & Assessment Tool

Waste

Issue

D11

ID

28

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Reduce ceilings sent to landfill

Ska retail

Criteria

At least 80% of the waste ceilings are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of existing ceilings forms part of the fit-out contract or if new ceilings are being installed.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of ceilings by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that the ceilings were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the amount of ceiling waste sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

It is recognised that there are issues with returning older mineral products back into the mix to make new tiles. Bio-soluble wool was introduced in 2000, but mineral wool produced before this cannot be recycled at the present time. However, this measure covers all ceilings that are stripped out. If the project cannot achieve this measure because non-recyclable mineral wool tiles are being stripped out, then the project should look to achieve the other waste measures.

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

WRAP – the waste and resource action programme.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D13**

Rank: **30**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Reduce workstations and tables sent to landfill

Ska retail

Criteria

At least 80% of the workstations and tables are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of existing workstations and tables forms part of the fit-out contract.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of these products by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that these products were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the number of workstations and tables sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Reuse can be broken down into three key areas:

- direct reuse – within the fit-out project or elsewhere within the organisation;
- donation – to charities, schools, etc.; or
- sale – to smaller companies and start up organisations, etc.

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D15**

Rank: **33**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

There are a number of organisations that specialise in the redeployment of office furniture. Two of the most well known are Green Standards Trust and Green-Works; their websites provide useful information and guidance on this subject.

WRAP – the waste and resource action programme.

Reduce other loose furniture sent to landfill

Criteria

At least 80% of any other loose furniture items (i.e. those items not covered by measures D15, D16, D17) are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of other loose furniture items (not covered by measures D15, D16, D17) forms part of the fit-out contract.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of these products by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that these products were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the number of loose furniture items sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Reuse can be broken down into three key areas:

- direct reuse – within the fit-out project or elsewhere within the organisation;
- donation – to charities, schools, etc.; or
- sale – to smaller companies and start up organisations, etc.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D18**

Rank: **36**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

There are a number of organisations that specialise in the redeployment of office furniture. Two of the most well known are Green Standards Trust and Green-Works; their websites provide useful information and guidance on this subject.

WRAP – the waste and resource action programme.

Ska retail

Fit-out Benchmark & Assessment Tool

Waste

Issue

D18

ID

36

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Reduce partitions sent to landfill

Criteria

At least 80% of the waste partitions are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of existing partitions forms part of the fit-out contract or if partitions are to be installed.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of partitions by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that the partitions were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the amount of partition waste sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

WRAP – the waste and resource action programme.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D12**

Rank: **38**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Reduce doors sent to landfill

Criteria

At least 80% of doors are:

- reused;
- recycled; or
- diverted from landfill.

Note: A product can be considered to have been reused where it is salvaged and used for its original intended purpose or where the majority of component parts of the product are remanufactured into new products without significant reprocessing.

Scoping

This measure applies if the removal of doors forms part of the fit-out contract or if new doors are being installed.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of doors by reusing, recycling or otherwise diverting from landfill.

At handover stage: check waste records to confirm that doors were reused, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the number of doors sent to landfill, which is highly wasteful in terms of energy and resource use.

Guidance

Redeployment can be broken down into three key areas:

- reuse – within the fit-out project or elsewhere within the organisation;
- donation – to charities, schools, etc.; or
- sale – to smaller companies and start up organisations, etc.

Community Recycling Network – a membership organisation supporting not-for-profit and community groups involved in recycling, reuse or waste minimisation projects.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D48**

Rank: **40**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

There are a number of organisations that specialise in the redeployment of office furniture. Two of the most well known are Green Standards Trust and Green-Works; their websites provide useful information and guidance on this subject.

WRAP – the waste and resource action programme.

Ska retail

Fit-out Benchmark & Assessment Tool

Waste

Issue

D48

ID

40

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

Reduce masonry sent to landfill

Ska retail

Criteria

At least 80% of the masonry is:

- reused; or
- recycled.

Scoping

This measure applies if the removal of existing masonry forms part of the fit-out contract or if masonry elements are specified for the fit-out.

Assessment

At design stage: check the waste management documents (as specified in D09) cover the disposal of masonry by reusing or recycling.

At handover stage: check waste records to confirm that the masonry was reused or recycled.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to reduce the amount of demolition and construction waste sent to landfill.

Guidance

Fit-out waste guide, British Land, 2008

WRAP – the waste and resource action programme.

Fit-out Benchmark & Assessment Tool

Waste

Issue

D10

ID

42

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

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Reduce total waste in use

Criteria

Annual total waste generated by the commercial space is less than the figures outlined below:

Type of building	Basis	Mass of waste per staff member/year
Office	Per staff member	80
		Volume of waste per year/m^3
Restaurant	Per cover (dining space)	3.9
Fast food outlet	Per cover (dining space)	3.9
Fast food outlet	Per sale	0.26
Shop unit	Per m^2 sales area	0.39
Departmental stores	Per m^2 sales area	0.52
Small supermarket	Per m^2 sales area	0.52
Large supermarket	Per m^2 sales area	0.78

Scoping

This measure applies to all occupancy stage assessments.

Assessment

This measure can only be assessed after a minimum of one year's occupation as the waste generated has to be measured over a full calendar year (365 days). This is to take account of seasonal variations and occupant behaviour, such as holidays.

At occupancy stage: review the occupier's records for waste disposal for the last year to determine the total mass (kg) or volume (m^3) of the waste arising from the occupation of the office or retail unit (whether sent to landfill or otherwise diverted from landfill).

For offices: divide this by the number of full time equivalent staff.

For retail units: divide this by the m^2 of sales area or by per-cover of dining space for restaurants/fast food outlets.

Rationale

The UK commercial industry produces approximately 40 million tonnes of waste per annum of which approximately 50% is disposed at landfill.

The standard tax per tonne of waste to landfill is increasing annually. This cost will be passed onto the building end user therefore increasing the cost of disposing of waste.

Fit-out Benchmark & Assessment Tool

Waste
Issue

P05
ID

56
Rank

Ska Retail
Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

The aim of this measure is to encourage occupants to reduce the overall amount of operational waste generated by the occupation of the fit-out space.

Guidance

The occupier should have an agreement with a firm that has a waste carriers licence. This firm should be able to provide records to the tenant showing how their waste has been disposed of, i.e. recycled, incinerated or sent to landfill. The figures provided should be of mass and volume of waste generated by the occupier. It is the responsibility of the occupier to select a waste carrier that is capable of providing the level of information required.

The targets set by this good practice measure have been taken from Section 4 'Waste Management Systems' of *Public Health Engineering, Guide G*, CIBSE, 2004.

See also good practice measure P06 Increase recycling of waste in use, which sets targets for how much total waste should be recycled or otherwise diverted from landfill.

WRAP – Waste and Resource Action Programme.

Waste Online – information resource on ways to reduce waste in the workplace.

Recyclable waste storage space

Criteria

An operational waste management strategy has been developed. Space is provided for the storage of recyclable waste generated by the occupant's operations, based on the waste management strategy's recommendations. This space should be:

- adequately sized in line with the operational activities of the occupant and waste collection frequencies;
- accessible to both building occupants and waste collectors; and
- clearly marked as an area for recycled waste.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: review the waste management strategy document to check that the recyclable waste storage space has been sized in line with the occupant's business and waste collection frequency. Check drawings to ensure this area is marked and shown as being specifically for recyclable waste storage.

At handover stage: carry out a site visit to confirm that the area exists and has appropriate signage and sizing.

At occupancy stage: carry out a site visit to confirm that the area exists and is in regular use. It does not have to be the same space as long as the volumes set out at the design stage are being collected at the handover stage. Note that if the design doesn't provide enough space then the occupancy measures – P05 (Reduce total waste in use) and P06 (Increase recycling of waste in use) will be difficult to achieve.

Rationale

Shops generate large amounts of paper, cardboard and plastic material (often used for packaging) as part of their operation and much of this could be recycled. To make recycling schemes more economic, the material needs to be collected quickly and efficiently. This means provision of enough space with appropriate fire protection for storage and with access for collection. A dedicated storage space should be provided for waste, separated into spaces for different material types to increase recycling operational waste rates.

Fit-out Benchmark & Assessment Tool

Issue: **Waste**

ID: **D08**

Rank: **62**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The amount of storage space required for recyclable waste is dependent on the occupant's business. Therefore an occupational waste management strategy is required at the design stage to demonstrate that the space provision is consistent with the volume of operational waste streams generated.

For offices this space could be central or provided on the floor adjacent to workstations.

Restaurant and food stores will require a vessel to compost organic waste or adequate space for storing segregated food waste for collection by an external company to be taken for composting.

Non-food stores producing high volumes of packaging, cardboard, etc. will require a compactor or baler to compress waste.

Where small retail units form part of larger shopping centres or retail parks the shared central facilities that comply with the above requirements can satisfy this measure.

Envirowise

WRAP – the waste and resource action programme.

CIBSE Guide G – Public health engineering. Part 4 – Waste management systems (5 of 13). 2004.

CIBSE Guide L – Sustainability. 2007. Provides the following guidance on 'preparing a waste management strategy':

- Predict waste arisings: examples of typical waste arisings are provided in BS 5906(64) and chapter 4 of CIBSE Guide G.
- Consider relevant legislation: see CIBSE Guide G and BS 5906.
- Consider the composition of waste: chapter 4 of CIBSE Guide G provides information on the breakdown of types of waste arisings.
- Predict potential reduction in waste arisings: through waste reduction schemes, reuse, recycling etc.
- Determine feasibility of recovery options such as composting and energy from waste.
- Calculate the storage, containment and equipment requirements for effective waste management. The following should be considered: volume and composition of waste, frequency of collection and degree of waste segregation required.

Segregation of waste should be dependant on the major waste streams generated by the retail unit. CIBSE Guide G provides recommendations for solid waste disposal equipment:

- Shopping centres – use multiple located static compactor and containers plus wheeled 1 100-litre containers
- Supermarkets – use static compactor and containers
- Department stores – use static compactor and containers
- Restaurants – use catering compactors

SWMP

Criteria

A site waste management plan (SWMP) is prepared and at least 80% of waste (both construction and demolition) produced on site is diverted from landfill. The plan is in line with the voluntary code of practice *Site Waste Management Plans: Guidance for Construction Contractors and Clients* (see guidance below).

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: review the SWMP and check that the plan demonstrates that at least 80% of waste will be diverted from landfill.

At handover stage: review the SWMP and records to confirm that more than 80% of waste was diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

A SWMP is compulsory in England for all construction projects with a value greater than £300,000. This measure requires that a SWMP is provided for all projects regardless of value.

At present the government does not require that a SWMP sets a target for reducing the amount of waste sent to landfill. The purpose of this measure is to set a target ahead of proposed government regulations. In 2007 the government produced a *Waste Strategy for England* that accredited the construction industry as a significant contributor of waste to landfill. The government set the following targets:

- 50% reduction in waste to landfill by 2012; and
- zero waste to landfill by 2020.

Guidance

Site waste covers both demolition waste and construction waste. The strip-out of the existing materials is classified as 'demolition' waste. Where a strip-out forms part of the project, the SWMP should include a section outlining the plan for demolition waste as well as construction waste in line with the criteria.

Fit-out Benchmark & Assessment Tool

Waste

Issue

D09

ID

63

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Site Waste Management Plans: Guidance for Construction Contractors and Clients, DTI, 2004. Additional resources to support the development of SWMPs are available from Constructing Excellence.

The Site Waste Management Plans Regulations 2008

Templates for creating a SWMP are available to download from WRAP.

WRAP's Design out Waste tool for buildings and NetWaste tool can be used to populate the WRAP SWMP template and provides advice on initiatives for reducing waste in design and construction. Both tools are accessible online to registered users; registration is free. Visit nwtool.wrap.org.uk

Ska retail

Fit-out Benchmark & Assessment Tool

Waste

Issue

D09

ID

63

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

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Increase recycling of waste in use

Ska retail

Criteria

At least 80% of all waste arising from occupation is:

- reused;
- recycled; or
- composted or used for anaerobic digestion (applies to food waste only).

Note: Disposal through incineration is not acceptable for the award of this measure.

Scoping

This measure applies to all occupancy stage assessments.

Assessment

This measure can only be assessed after a minimum of one year's occupation as the waste generated has to be measured over a full calendar year (365 days). This is to take account of seasonal variations and occupant behaviour, such as holidays.

At occupancy stage: review the occupier's records for waste disposal for the last year to determine whether more than 80% by mass (tonnes) of the waste arising from the occupation of the office or retail space was either reused, recycled or composted.

Rationale

The UK commercial industry produces approximately 40 million tonnes of waste per annum of which approximately 50% is disposed at landfill.

The standard tax per tonne of waste to landfill is increasing annually. This cost will be passed onto the building end user therefore increasing the cost of disposing of waste.

This measure has the same scope as P05 but rewards the occupier only for reusing and recycling waste. This measure does not reward the occupier for incinerating waste products to recover energy. Studies by WRAP indicate that 60–80% of office waste is paper and recycling rather than incineration is the environmentally-preferable option for paper. Recycling is also the preferred option for other office waste streams.

Fit-out Benchmark & Assessment Tool

Waste
Issue

P06
ID

64
Rank

Ska Retail
Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The occupier should have an agreement with a firm that has a waste carriers licence. This firm should be able to provide records to the tenant showing how their waste has been disposed of, i.e. recycled, incinerated or sent to landfill. The figures provided should be of mass and volume of waste generated by the occupier. It is up to the occupier to select a waste carrier that is capable of providing the level of information required.

WRAP – the Waste and Resource Action Programme.

Waste Online – information resource on ways to reduce waste in the workplace.

Reduce C&D waste sent to landfill

Criteria

At least 80% of all construction and demolition (C&D) waste is:

- reused;
- recycled; or
- diverted from landfill.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: check waste management documents (as specified in D09) cover the disposal of all waste products.

At handover stage: check waste records to confirm that 80% of waste was re-used, recycled or otherwise diverted from landfill.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

This measure covers all construction and demolition (C&D) waste, not just the specified products in other good practice measures. The purpose of this measure is to provide extra incentive to any contractor who manages to divert more than 80% of ALL construction and demolition waste from landfill.

Guidance

CIRIA – provides a database of construction-related recycling sites.

Ecoconstruction – recycled materials for construction.

Freecycle – a website promoting the reuse of materials.

The National Materials Exchange – a free online service facilitating the exchange of materials between construction sites.

WRAP – the waste and resource action programme.

Fit-out Benchmark & Assessment Tool

Waste

Issue

P03

ID

65

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Increase recycled C&D waste

Ska retail

Criteria

At least 80% of all construction and demolition (C&D) waste is:

- reused; or
- recycled.

Note: Disposal through recovery is not acceptable for the award of this measure.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: check waste management documents (as specified in D09) cover the disposal of all waste products.

At handover stage: check waste records to confirm 80% of waste was reused or recycled.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

This measure covers all construction and demolition (C&D) waste, not just the specified products in other good practice measures. The purpose of this measure is to provide extra incentive to any contractor who manages to recycle or reuse more than 80% of ALL construction and demolition waste.

This measure has the same scope as P03 but rewards the contractor only for reusing and recycling waste. This measure does not reward the contractor for incinerating these waste products to recover energy. This is because, although this option is better than sending these products to landfill, energy recovery is not considered best practice for waste streams arising from the office fit-out process.

Guidance

CIRIA – provides a database of construction-related recycling sites.

Ecoconstruction – recycled materials for construction.

Freecycle – a website promoting the reuse of materials.

The National Materials Exchange – a free online service facilitating the exchange of materials between construction sites.

WRAP – the waste and resource action programme.

If you would like to comment on this measure please email ska@rics.org

Fit-out Benchmark & Assessment Tool

Waste

Issue

P04

ID

75

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

Lower flush WCs

Criteria

WCs have an effective flush volume of 4.5 litres or less and are on the *Water Technology List* (WTL).

Scoping

This measure applies if WCs are being installed or replaced or if washrooms containing WCs are being installed or replaced.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL.

At occupancy stage: if WCs have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and WCs have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water use within the fit-out.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit www.eca-water.gov.uk

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Water

Issue

E12

ID

4

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Existing lower flush WCs

Ska retail

Criteria

Existing WCs are retrofitted with WC flushing devices to provide a 20% reduction in the flush volume of the WC (see guidance). These fittings are on the *Water Technology List* (WTL).

Scoping

This measure applies if there are existing washroom facilities containing WCs and the reduction of flush volumes is planned.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL.

At occupancy stage: if flushing devices have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and flushing devices have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water use within the fit-out. Retrofit WC flushing devices are fitted to existing cisterns or WC suites to enable a reduction in the volume of water per flush.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Water

Issue

E23

ID

5

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Low-flow taps

Criteria

Flow rate on taps is limited to 6 litres/minute up to a pressure of 5 bar +/– 0.2 bar and the tap fitting or flow controller is on the *Water Technology List* (WTL).

Note: This measure can be achieved by using a tap that meets the requirements or installing a flow controller to control the flow through the tap.

Scoping

This measure applies if taps are being installed or replaced.

The criteria apply to washroom areas and further ancillary rooms where taps are installed for hand washing. The criteria do not apply to taps installed in commercial kitchens, tea points, cleaner's workrooms or similarly specialised spaces.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL.

At occupancy stage: if taps have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and taps have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water usage within the fit-out.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Issue: **Water**

ID: **E14**

Rank: **16**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Sanitary supply shut-off

Ska retail

Criteria

A control system to isolate the water supply when the washrooms are unoccupied is specified and installed. This usually comprises a solenoid valve and occupancy sensor. The device must be on the *Water Technology List* (WTL).

Scoping

This measure applies if the water supply system is being installed or modified or if a sanitary supply shut-off system is connected to the existing system.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL.

At occupancy stage: if the sanitary supply shut-off system has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the system has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the water loss if minor leaks occur in toilet areas. These minor leaks can result in large water losses but are not always immediately detected.

Control devices can be used to shut off flow at predetermined times or in particular situations, for example when water devices are not in use. They may be timed, condition-sensitive or programmed, or manually controlled at a central unit.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Sanitary supply shut-off systems can be found under 'flow controllers>control devices'. Visit www.eca-water.gov.uk

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the products meet the requirements, rather than just a manufacturer's declaration.

If you would like to comment on this measure please email ska@rics.org

Fit-out Benchmark & Assessment Tool

Water

Issue

E19

ID

31

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

Showers

Criteria

Flow rate to showers is limited to 9 litres/minute up to a pressure of 5 bar +/– 0.2 bar and the flow controller fittings are on the *Water Technology List* (WTL).

Note: This measure can be achieved by using a shower that meets the requirements or installing a flow controller to control the flow through the shower.

Scoping

This measure applies if showers are being installed or replaced.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL.

At occupancy stage: if showers have been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and showers have not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water use within the fit-out.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Issue: **Water**

ID: **E16**

Rank: **45**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Water meter

Criteria

The meter is capable of transmitting information on water use to a central data logger for water management purposes. The meter is on the *Water Technology List* (WTL).

Scoping

This measure applies if the water supply system is being installed or modified or if a water meter is being connected to the existing system.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL, and that it is a pulsed water meter. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL and the meter is capable of transmitting information on water use to a central data logger for water management purposes. Check that all water meters specified at the design stage have been installed.

At occupancy stage: if the water meter has been changed or added then carry out the handover stage assessment. Check that daily meter readings have been taken from the water meters, and that the results are reviewed on a regular basis by senior management.

Rationale

The aim is to reduce water use within the fit-out by providing feedback to occupiers on water use. The measure is in scope if water supply systems are being modified as this presents an opportunity to install a water meter.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the products meet the requirements, rather than just a manufacturer's declaration.

Ska retail

Fit-out Benchmark & Assessment Tool

Water

Issue

E17

ID

47

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Water sub-meters

Criteria

Water sub-meters are installed to specific activity areas within the fit-out space or to individual water consuming plant; the sub-meter is capable of transmitting information on water use to a central data logger for water management purposes; and the meter is on the *Water Technology List* (WTL).

Scoping

This measure applies where:

- the water demand of an individual piece of water-consuming equipment is greater than 10% of the total water demand of the fit-out space; or
- the project has more than one water consuming activity area, such as a commercial kitchen, a spa or a hair salon.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL, and that it specifies a pulsed water meter. If the model and manufacturer have already been specified then carry out the handover stage assessment. Check that the appropriate areas and plant have water sub-meters specified.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is listed on the WTL and the sub-meter is capable of transmitting information on water use to a central data logger for water management purposes. Check that all the water sub-meters specified at design stage have been installed.

At occupancy stage: if the water sub-meter has been changed or added then repeat the handover stage assessment. Check that daily meter readings have been taken from these water sub-meters, and that the results are reviewed on a regular basis by senior management

Rationale

The aim is to reduce water use within the fit-out by providing feedback to occupiers. Reviewing daily consumption presents the opportunity to identify areas where occupant behaviour could be modified to reduce water use.

Fit-out Benchmark & Assessment Tool

Issue: **Water**

ID: **E27**

Rank: **61**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit www.eca-water.gov.uk

Products must be on the *Water Technology List* as Defra regularly tests WTL listed products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the products meet the requirements, beyond just a manufacturer's declaration.

Ska retail

Fit-out Benchmark & Assessment Tool

Water

Issue

E27

ID

61

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Water management software

Criteria

Dedicated 'water use' management software is used for analysing and reporting on water use data and the software is on the *Water Technology List*.

Scoping

This measure applies if the water supply system is being installed or modified or if water management software is added to the existing system.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check the invoices and obtain the name of the equipment manufacturer and the model number; check the model is on the WTL.

At occupancy stage: if water management software has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the software has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce the potable water usage within the fit-out by providing feedback to occupiers on water use. The measure is in scope if water supply systems are being modified as this presents an opportunity to install a water meter and the associated analytical software.

Guidance

Water meters and water management software can identify significant opportunities for water savings by monitoring water usage. This measure requires dedicated water use management software for analysing, reporting and communicating meaningful water management information to achieve water use savings.

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Water

Issue

E18

ID

70

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Leakage detection devices

Criteria

A system that has the ability to warn of water leaks is installed and is on the *Water Technology List* (WTL).

Scoping

This measure applies if the water supply system is being installed or modified or if a detection system is being connected to the existing system.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check the invoices and obtain the name of the equipment manufacturer and the model number; check the model is on the WTL.

At occupancy stage: if the detection system has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the detection system has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water usage within the fit-out by providing feedback to management on potential leaks in the water system. In turn, this will reduce the long-term leaks and subsequent damage to the structure. The measure is in scope if water supply systems are being modified as this presents an opportunity to install a leakage detection system.

Guidance

A leakage detection system is required to cover all mains water for the area of the fit-out.

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Water

Issue

E20

ID

77

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Leakage pressure reducing valve controller

Ska retail

Criteria

A device to analyse, record and control water pressure via the pressure reducing valve is installed and is on the *Water Technology List* (WTL).

Scoping

This measure applies if the water supply system is being installed or modified or if a controller is being connected to the existing system.

Assessment

At design stage: check written specifications/contracts state this equipment must be sourced from the WTL. If the model and manufacturer have already been specified then carry out the handover stage assessment.

At handover stage: check invoices and obtain the name of the equipment manufacturer and the model number; check the model is on the WTL.

At occupancy stage: if the controller has been changed or added then carry out the handover stage assessment. If this measure was achieved at handover stage and the controller has not been changed or added, this measure will be achieved by default.

Rationale

The aim is to reduce water lost through leakage. Pressure reduction is a very effective means of achieving this, particularly at night when demand on the distribution system is lower, which causes water pressure to rise. The measure is in scope if water supply systems are being modified as this presents an opportunity to install a leakage pressure reducing valve controller.

Guidance

The Inland Revenue uses a *Water Technology List* of systems that are eligible for 100% capital allowances. It includes a list of manufacturers of water efficient systems. Leakage pressure reducing valve controllers can be found under 'leakage detection equipment pressure reducing valve controllers'. Visit Business Link

Products must be on the *Water Technology List* as Defra regularly tests WTL listed-products to check they meet the thresholds required by the Enhanced Capital Allowances eligibility criteria. This provides more reliable evidence that the product meets the requirements, rather than just a manufacturer's declaration.

Fit-out Benchmark & Assessment Tool

Issue: **Water**

ID: **E21**

Rank: **87**

Version: **Ska Retail 1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Reduce fit-out water use

Criteria

All water use on site is metered, records are kept and the site manager regularly reviews consumption figures.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: obtain commitment from the design team that the fit-out contractor will meter and keep records of water use.

At handover stage: review the records of water use.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

The aim is to encourage the reduction of water use during the construction process by monitoring water consumption. Active monitoring helps raise awareness of water use among construction staff and therefore encourages them to make reductions.

Collection of this data will enable the contractor to set targets for water reduction in future fit-out projects.

Guidance

For a general overview of why water management on site is required refer to the document *Achieving sustainability on construction procurement*.

The construction industry key performance indicators are published each year by Constructing Excellence using performance data collected from across the UK construction sector by the Department for Business Enterprise and Regulatory Reform (formerly DTI). These include benchmarks for water use.

Fit-out Benchmark & Assessment Tool

Water

Issue

P07

ID

91

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Noise level standards

Criteria

Criteria recommended by the British Standards Institute are to be met. Indoor ambient noise level in unoccupied spaces must fall within the following ranges:

- 35–40dB LAeq,T in meeting rooms;
- 40–50dB LAeq,T in cellular offices;
- 45–50dB LAeq,T in open plan offices;
- 50–55dB LAeq,T sales area, cafeteria, canteen, kitchen;
- 35–45dB LAeq,T staff room (staff breakout space);
- 40–55db LAeq,T restaurant; and
- 40–45db LAeq,T night club, public house.

Where a staff breakout room is being provided (*D62 is in scope*) the reverberation times in this space should meet the standards of Table 1.5 for staff rooms from Building Bulletin 93.

Scoping

This measure applies if a fresh air handling unit (AHU) is being installed or replaced or hard finishes are being applied.

Assessment

At design stage: obtain a report from a qualified acoustician and check against the criteria.

At handover stage: check sound measurements meet the criteria above and are taken by a qualified acoustician.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

Noise is defined as unwanted or harmful sound. Noise is part of everyday life, but loud noise can permanently damage hearing. Noise can also cause distraction from tasks, making people more inefficient or inattentive.

Central AHUs are a major source of internal noise; internal noise levels need to be considered during the design stage of the fit-out to ensure that appropriate measures are taken. The installation of hard finishes can also create unpleasant noise levels.

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D29

ID

19

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Guidance

A qualified acoustician will be a member of the Institute of acoustics.

Sound insulation and noise reduction for buildings. Code of practice, BS 8233:1999, BSI, 1999.

Building Bulletin 93. Acoustic Design of Schools – a design guide. Department for Education and Science (DfES). 2003

Ska retail

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D29

ID

19

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Lighting design

Criteria

Office spaces: lighting levels (measured in lux) are designed to meet those in *CIBSE Lighting Guide 7: Office Lighting* (see guidance below).

Retail spaces: lighting is designed to the standards set out in section 5 of British Standard BS EN 12464-1:2012 (see guidance below).

Scoping

Office spaces: this measure applies if general office lighting is being installed, replaced or modified. The criteria does not apply to circulation and/or service space.

Retail spaces: this measure applies if lighting (general and display) is being installed, replaced or modified. This applies to all front of house spaces. In back of house spaces, the criteria does not apply to circulation and/or service space.

Assessment

At design stage: review specification documents/clauses to confirm that lighting levels are designed to meet those specified above.

At handover stage: carry out a site visit, review as-built drawings or check invoices to ensure the specified lighting has been installed in the correct place.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage and the location and direction of fittings has not been changed.

Rationale

The visual comfort of staff and customers is affected by the levels of illumination on the working surfaces and in the working space. Different lux levels are required for different areas, such as occupied workspaces and corridors. Task-based lighting should ensure maximum visual comfort, while avoiding over-illumination of spaces where high lighting levels are not required.

Guidance

Code for Lighting, Part 3 – Lighting Design, CIBSE, 2009.

Lighting Guide 7: Office Lighting, CIBSE, 2005.

BS EN 12464 *Light and lighting – Lighting of work places. Part 1: indoor work places*. 30 June 2011.

The SLL Lighting Handbook, Society of Light and Lighting, 2009. ISBN 9781906846022

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D30

ID

20

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Daylight glare control

Ska retail

Criteria

For office spaces **all** of the following criteria must be met:

- occupant-controlled window coverings (typically blinds or screens) are fitted to the external windows and atria that receive sunlight directly or indirectly;
- coverings are designed to provide optimum glare control and allow the best possible retention of views out with the coverings drawn closed; and
- fabric screens, where specified, have a visual light transmittance (VLT) of less than 10%.

For retail spaces **one** of the following criteria must be met for all visual display units (VDU) e.g. tills, ATMS:

- the VDU must be positioned so that light from the window does not fall on it or cause reflections;
- the VDU must be fitted with an anti-glare screen; or
- the workspace must be provided with a screen that the staff can position to shield the VDU from the source of glare.

Scoping

Office spaces: this measure applies if window coverings are specified or installed.

Retail spaces: this measure applies if VDUs are installed within 6m of an external window or adjacent to roof lights or sunpipes.

This measure is in scope whether procured by a client direct or part of main build works contract.

Assessment

At design stage: check specifications and manufacturer's literature and policies for compliance with criteria.

At handover stage: check materials' receipts for compliance with specification or carry out a site visit. For retail spaces, a site visit must be carried out.

At occupancy stage: if window coverings have been changed or added to then repeat the handover stage assessment. If this measure was achieved at handover stage and the window coverings have not been changed or added to, this measure will be achieved by default. For retail, check that each VDU still has the appropriate glare control.

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D31

ID

21

Rank

Ska Retail

Version **1.0 2012**

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

Rationale

Glare control is important for occupants comfort, particularly in relation to users' workstations. The *Health and Safety (Display Screen Equipment) Regulations* 1992 (Amended 2002) Schedule to Regulation 3 requires that: 'Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation' (Crown copyright material is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland). This requirement is commonly met by provision of internally fitted, externally fitted or encapsulated blinds to external windows and atria windows.

In a retail environment, where there are few VDUs and where it may not be appropriate cover to the windows, the provision of individual glare control for each VDU is acceptable.

Guidance

Window coverings

The manufacture of window coverings and their materials should not contribute to resource depletion or persist in the environment if disposed of (e.g. to landfill). This aspect is covered by good practice measures relating to material selection; however, for blinds, and particularly fabric blinds, the material selection for reasons of wellbeing and its physical and environmental performance are closely linked and should be considered together in any process of specification. For example fabric blinds should meet the Eco-tex 100 Standard.

Although the VLT rate is provided by most suppliers of blinds the following guidance can assist in the calculation of glare reduction:

Glare reduction is the percentage reduction in visible light transmission through glazing, from glass without covering to that with covering. It can be calculated from the following formula:

$$GR = \left(\frac{VLT1 - VLT2}{VLT1}\right) \times 100$$

Where:

- VLT1 is the visible light transmission of the window without treatment; and
- VLT2 is visible light transmission of window after treatment.

Visible light transmission and glare reduction are related and to reduce glare the amount of visible light transmitted must be reduced.

Further guidance and information on the selections can be found at this Australian-based website ecospecifier.org

Retail space

This measure is only in scope where VDUs are installed in a space where daylight falls; in practice this is the space that is less than 6m from the window. If the window has been boxed in as part of the fit-out, then this measure is not in scope. Where the retail space is within a shopping mall and the windows open onto the covered landlord space then this measure will not be in scope.

Bespoke joinery can be used to create a screen that prevents glare.

Ska retail

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D31

ID

21

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

Ventilation rates

Criteria

Ventilation rate is at least as good as the rates shown below for each of the spaces:

Office space:	at least 12 litres per person per second
Retail space:	at least 5 litres per person per second
Changing/fitting rooms:	at least 10 air changes per hour
Toilets:	at least 4 air changes per hour

Scoping

This measure applies to mechanically ventilated spaces if the ventilation strategy is being changed, e.g. if the AHU is being replaced or new equipment is being installed.

This measure applies to naturally ventilated spaces if the windows are being changed.

Assessment

At design stage: check specifications state the design ventilation rate.

At handover stage: review testing and commissioning report to confirm ventilation rates.

At occupancy stage: check reports show that during the first year of occupation the ventilation system has been tested to ensure that the actual ventilation rates achieved meet the designed ventilation rates.

Rationale

Maintaining adequate fresh air within these spaces is important to the health of the occupants as stale air can cause a variety of problems such as headaches.

Guidance

BCO Guide to Specification, British Council for Offices, 2009

Heating, ventilating, air conditioning and refrigeration, Guide B, CIBSE, 2005.

Ska retail

Fit-out Benchmark & Assessment Tool

Wellbeing

Issue

D33

ID

74

Rank

Ska Retail

Version 1.0 2012

www.rics.org/ska

If you would like to comment on this measure please email ska@rics.org

CO_2 monitors

Ska retail

Criteria

CO_2 sensors are installed to control the mechanical ventilation to ensure that ventilation is increased when CO_2 concentrations rise above 0.25% CO_2 (as shown in CIBSE Guide B – see guidance below).

Scoping

This measure applies to mechanically ventilated office and retail spaces if the ventilation strategy is being changed, e.g. if the AHU is being replaced or new equipment is being installed. If existing ductwork is being relocated or an existing AHU is being relocated then this is not considered to be a change in ventilation strategy so this measure would not be in scope.

Assessment

At design stage: review specifications and contracts.

At handover stage: check the specified equipment was installed by reviewing as-built drawings or checking invoices.

At occupancy stage: review reports and check that during the first year of occupation the CO_2 monitoring system has been tested to ensure that it has been operating correctly..

Rationale

Air change rates impact the level of CO_2 and have a direct relationship with indoor air quality and airborne transmission of respiratory infections. Control of airflow rates can be achieved through CO_2 sensors to establish a minimum rate.

CO_2 levels affect performance and productivity. A report by Dr Derek Clements-Croome[1], Reading University, details the results of a study of CO_2 levels on student productivity.

Guidance

It is up to the assessor to determine, in consultation with the M&E engineers, whether this measure is in scope if the layout is being changed. Some guidance is given below:

If grilles are being moved to suit a layout, such as moving from open plan to creating meeting rooms, then the additional cooling

[1] www.healthyfacilitiesinstitute.com/a_47-Study_Classroom_Ventilation_Affects_Student_Performance. Reading University.

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loads for meeting rooms is far greater than that of open plan desks in the same area so this would constitute a change in strategy.

If grills are simply being moved around in a suspended ceiling to improve the air distribution into more populated areas, without sub-diving spaces, then this would probably not constitute a change in strategy.

Heating, ventilating, air conditioning and refrigeration, Guide B, CIBSE, 2005.

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Staff breakout space

Criteria

A dedicated breakout space is provided for staff which has enough seating for each staff member that may be on a break at any one time. This has to be a separate space from the working area.

Scoping

This measure is in scope for all retail assessments where a dedicated breakout space for staff does not already exist. If one already exists, this measure is not in scope.

Assessment

At design stage: obtain evidence from the client/store manager about the anticipated number of staff that will be on a break at any one time.

Review drawings to confirm that sufficient seating has been provided in the breakout space.

At handover stage: carry out a site visit and check that a breakout room has been provided and the number of seats is the same as agreed at design stage.

At occupancy stage: check that a designated breakout space and seating is still available. Check with the store manager that the actual number of staff that are on a break at any one time is the same or fewer than determined at design stage. If the number has increased then check that additional seating has been provided in the breakout space to reflect the increase in staff numbers.

Rationale

A rest area provided for staff should be designed to maximise staff well-being when they are taking a break from working.

Guidance

As each store/restaurant will have different break requirements and different staff numbers, it is up to the assessor to discover from the client/store manager the anticipated number of staff that will be on a break at any one time.

When a staff breakout space has already been provided for staff, for example on another floor that is not part of the fit-out project, then this measure is not in scope. This is to ensure that the project is not assessing something that already exists.

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Good day lighting and views out are beneficial to people's health. As sales space frequently does not have natural day lighting, then ideally the breakout space should have views out and good day lighting. The design team should aim to ensure that the layout of the retail space enables the breakout space to be provided with a window. Good practice standards are:

- an average daylight factor of 5%;
- a view of the sky from all spaces within the room; and
- a view out to enable eyes to refocus: there should be at least 10m between the window and any other building.

The requirements for day lighting and a view out have not been set as criteria for this measure for the first release of the retail scheme, as it is recognised that it can be difficult to provide access to a window in a break out space.

Acoustic separation between the breakout space and other retail spaces is also beneficial to staff wellbeing. This is addressed by measure D29 Noise level standards.

Daylighting and Window Design. Lighting Guide LG 10. 1999. CIBSE.

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Low VOC finishes

Criteria

All products used in the fit-out have low or zero VOC emissions.

The definition of 'low' VOC emissions is product dependent and is based on compliance with one of the standards below:

1. The product has been awarded one of the following labels:

   EMICODE – Levels 1 or 2

   Blue Angel

   M1

   Eurofin Indoor Air comfort GOLD standard

Or

2. the product has been tested to the following British Standards, and has passed:

Varnishes:	BS EN 13300:2001
Wood panels:	EN 13986:2004
Timber structures:	EN 14080:2005
Wood flooring:	EN 14342:2005
Floor coverings	EN 14041:2004
Suspended ceiling tiles	EN 13964:2004
Flooring adhesives	EN 13999-1:2007
Adhesives for hanging flexible wall coverings	BS 3046:1981
Wall-coverings	EN 233:1999, EN 234:1997, EN 259:2001, EN 266:1992

   These products should all meet the requirement for formaldehyde E1 as tested to standard BS EN 717-1:2004

Scoping

This measure is in scope where one or more of the following products has been installed in a retail fit-out:

- varnishes;
- wood panels, timber structures, wood flooring;
- resilient, textile and laminated floor coverings;
- flooring and wall adhesives;
- wall coverings;
- suspended ceiling tiles;

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- joinery; or
- furniture.

Assessment

At design stage: review specifications to ensure conformance with criteria.

At handover stage: collate manufacturer's data for the installed products to ensure that they have been tested to British Standards or have been awarded one of the approved product labels above.

At occupancy stage: if new products have been installed then repeat the handover stage assessment, if this measure was achieved at handover stage and no new products have been installed, this measure will be achieved by default.

Rationale

This good practice measure addresses Indoor Air Quality. Volatile Organic Compounds (VOCs) are organic chemicals which evaporate from liquid or solid form at room temperature and enter the atmosphere. A common example is formaldehyde which has a boiling point of -19°C. While not all VOCs are harmful to health many of the ones used in construction products can cause harm when people are exposed for extended periods of time in an enclosed space. The best way to control exposure to pollutants is not to install products that give off gas VOCs.

Guidance

A number of European countries have introduced labelling schemes to show the VOC emissions from of various products used within the indoor environment.

- EMICODE is a German label for adhesives, sealants, parquet varnishes and other construction products.
- Blue Angel is a German label for wooden products, adhesives and flooring.
- M1 is a Finnish label.
- Eurofin is a label operated by Eurofin, a testing company. The 'gold' standard demonstrates compliance with all European VOC labels.

The UK has a set of standards for testing various construction products. One of the test requirements for these products is to test the formaldehyde emission levels. The standards for adhesives (EN 13999-1:2007, and BS 3046:1981) also cover other VOCs.

Cranfield Institute of Environment and Health (IEH)

Indoor Air Quality UK

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Cleaning of existing air supply ductwork

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Criteria

The existing air supply ductwork is cleaned as part of the fit-out works.

Scoping

This measure applies if there is an existing HVAC system that is not being replaced.

This measure will not be in scope:

- if the fit-out encompasses only a few floors in a building with a central HVAC system for the whole of the building. This is because the benefits from duct cleaning are only achieved if the whole system is cleaned; if the whole system is not cleaned, the non-cleaned elements will re-contaminate the cleaned elements as the air flows through the system; or
- if following initial inspection, the ductwork is deemed to be clean. This is to ensure that energy is not wasted if the ductwork has been cleaned recently.

Assessment

At design stage: check specification or obtain confirmation that a specialist ductwork cleaning firm will be employed.

At handover stage: check invoices to confirm that the ductwork was cleaned.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

All offices with mechanical ventilation should be supplied with uncontaminated air. If not properly maintained, ductwork can suffer from particulate (dust) contamination and microbial contamination. These pollutants contaminate the air passing through the ductwork and can cause allergic reactions in office workers.

Guidance

Hygienic maintenance of office ventilation ductwork, TM26, CIBSE, 2000.

Internal cleanliness of ventilation systems, Guide to good practice, Heating and Ventilating Contractors' Association, 2002.

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Fine-air filters

Criteria

Mechanical ventilation units are fitted with secondary filters; the filter class is between F6 and F9, with an efficiency of 70–98%.

Scoping

This measure applies to all mechanically ventilated buildings.

Assessment

At design stage: check specification documents/clauses state the fine filters will be installed.

At handover stage: check invoices to confirm the filters were installed.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at handover stage.

Rationale

Installation of higher grade filters will prevent particulate matter from entering the building.

Guidance

Air filters, Application Guide 8/97, BSRIA, 1997.

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VOC monitors

Criteria

Install a system for monitoring and recording volatile organic compound (VOC) concentrations in the fit-out spaces which are occupied by any person for 30 minutes or more at a time.

Scoping

This is applicable to any space that is occupied by people for more than 30 minutes.

Assessment

At design stage: review specifications and contracts.

At handover stage:

- check the specified equipment was installed by reviewing as-built drawings or checking invoices;
- check that the tenant procedures for monitoring VOC levels are included within the building user guide; and
- carry out a site visit.

At occupancy stage: review the tenant's records to ensure that VOC levels have been recorded on a regular basis (at least weekly: daily would be ideal). Review reports showing that, during the first year of occupation, the VOC monitoring system has been tested to ensure that it has been operating correctly.

Rationale

This good practice measure addresses Indoor Air Quality and is related to D40 CO_2 monitors. Volatile organic compounds (VOCs) such as benzene, formaldehyde and naphthalene are emitted by finishes and products. They are known to have health effects and if sustained over a long period of time can cause sick building syndrome. Installing monitoring systems will raise awareness of the VOC levels in each retail space and encourage the occupier to undertake corrective actions to reduce VOC polluting episodes.

Guidance

Volatile Organic Compounds (VOCs) are organic chemicals which evaporate from liquid or solid form at room temperature and enter the atmosphere. A common example is formaldehyde which has a boiling point of -19°C. While not all VOCs are harmful to health many of the ones used in construction products can cause harm when people are exposed for extended periods of time in an enclosed space.

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Where a BMS system is in place or being installed as part of the fit-out, then the VOC sensors should be linked to the BMS system to provide an automated recording and analysing system.

For smaller spaces that do not have a BMS a more basic system where sensors have to be manually monitored would be acceptable.

For both systems, records should be kept that show VOC levels have been recorded at least on a weekly basis, or more frequently if possible.

This measure is applicable to spaces that are regularly occupied by people, so includes office spaces, shops, kitchens, restaurants, breakout spaces etc, but not store rooms or corridors.

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Fit-out VOC monitoring

Ska retail

Criteria

During the fit-out process, monitor volatile organic compound (VOC) concentrations in the fit-out space. Records are kept and the site manager regularly reviews the VOC levels.

Scoping

This measure applies to all fit-outs.

Assessment

At design stage: obtain commitment from the design team that the fit-out contractor will monitor and keep records of VOC levels on site.

At handover stage: review the records of VOC levels during the fit-out process.

At occupancy stage: this measure is not assessed. The measure is achieved by default if it was achieved at the handover stage.

Rationale

This good practice measure addresses Indoor Air Quality and is related to D40 CO_2 monitors. Volatile organic compounds (VOCs) such as benzene, formaldehyde and naphthalene are emitted by products. They are known to have health effects and if present over a long period of time can cause sick building syndrome.

New products and finishes emit the highest levels of VOCs so this measure is aimed at raising awareness of VOC levels during the fit-out process.

Guidance

1. Cranfield Institute of Environment and Health (IEH)
2. Indoor Air Quality UK

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