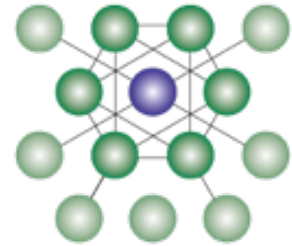


Green Building Encyclopaedia|Green Building Specification GBE Robust Specification LoftZone StoreFloor

GBE



Note to Specifier:

Text in blue and/or square brackets (“[]”) is to be chosen from (optional values separated by “/”), replaced, edited or inserted by the Specifier, as appropriate.

Upon completion delete all “[“ and “]”.

Delete this page’s header, logo, note to specifier; last page’s revision table, terms and conditions, before adding to contract specifications.

K43 RAISED STORAGE/ACCESS DECKS

To be read with Preliminaries A10-A55/General Conditions

4 STANDARDS AND REFERENCE DOCUMENTS:

The British Standards, Codes of Practice and other reference documents referred to in, or relevant to, this Specification work section, except where specifically modified, shall have full effect as though printed herein. The lists of reference documents are not exhaustive and shall be supplemented by those listed under each related work section.

Note that where a British Standards, Codes of Practice or other reference document comprises a number of parts, the latest issue and amendments of each relevant part shall apply.

Listings of British Standards, Codes of Practice and other reference documents etc. must not be considered as conclusive.

The [Main Contractor, sub-contractor, installer and supplier] must comply with all relevant Standards etc. [current at the time of Tender].

5 BSI DOCUMENTS referred to in, or relevant to, work section K43 include:

BS 5250:2011:Code of practice for control of condensation in buildings

BS 6399:Loadings for buildings

BS 6399-1:1996:Code of practice for dead and imposed loads

BS EN 1990:2002 Eurocode – Basis of structural design

BS EN 1991-1-1:2002 Eurocode 1 — Actions on structures — General actions — Densities, self- weight, imposed loads for buildings

BS EN 10346:2015 Continuously hot-dipped coated steel flat products for cold forming — Technical delivery conditions

BS EN 14975:2006+A1:2010:Loft ladders. Requirements, marking and testing

BS EN ISO 13788:2012 Hygrothermal performance of building components and building elements — Internal surface temperature to avoid critical surface humidity and interstitial condensation — Calculation methods

6 BRITISH BOARD OF AGREEMENT CERTIFIED PRODUCTS & CERTIFICATES referred to in, or relevant to, work section K43 include:

British Board of Agrément Certificate 15/5269 Product Sheet 1

10 MANUFACTURER'S DOCUMENTS referred to in, or relevant to, work section K43 include:

LoftZone StoreFloor Installation Instruction

11 RELATED WORK SECTIONS:

Refer to the following work sections for additional requirements pertaining to work section K43 include: [

[P10 Sundry Insulation/Proofing work/Fire Stops](#)

[P11 Foamed/Fibre/Bead Insulation](#)

[Z20 Fixings/Adhesives](#)].

TYPES OF RAISED STORAGE/ACCESS DECKS

120A

RAISED LOFT FLOORING SYSTEM

Reference Drawing(s): Architect's: [\[To be completed by the Specifier\]](#)

Purpose of access: to the maintainable parts of the following M&E equipment:
[\[to be described by the Specifier\]](#)

Purpose for storage: [\[belongings/possessions\]](#)

Storage area including access routes: [\[to be completed by the Specifier\]](#) m2

Floor panel size: [\[325 x 1220 x 18 mm OR 600 x 2400 x 18\]](#) mm.

Structural grade: Attic storage and access for maintenance

Loading: to K43/211A & K43/212A

Installed mass of system including floor boarding (maximum): 16.2 kg/m².

Height:

- Finished raised storage/access floor height above ceiling joists/chord: 279 mm.
- Under-floor void height: 279 mm.

Other system requirements: [\[to be described by the Specifier\]](#)

Existing structure:

- [\[Trussed rafter ceiling chord/traditional cut-timber ceiling joists\]](#) of pitched roofs.
- The existing ceiling joists/loft floor joists must be:
- Minimum of 32 mm wide and 75 mm high at spacing of 600 mm maximum
- The condition and loading capacity of supporting structures must be taken into account when considering the overall capacity of the installation.

Application: [\[](#)

- [Raised loft flooring system to provide space for insulation materials and ventilation zone below](#)
- [Storage deck and/or access deck above and adjacent to access hatch](#)
- [Access walkway/crawl-way to M&E Services in attic between access hatch and services\]](#)

System Performance:

- Structural performance: provide adequate strength and stiffness to sustain the dead and imposed floor loads. See K43/211A & K43/212A
- Layout: Co-ordination with the layout of M&E services. See K43/213A
- Dimensional: satisfactory for raising a loft floor to provide extra space to accommodate uncompressed conductivity thermal insulation.
- Ventilation and condensation risk: provide sufficient space to accommodate 50 mm ventilation gap; ventilate to minimise the risk of condensation. See K43/214A
- Thermal insulation: provide sufficient space to accommodate insulation material to meet the requirements of the national Building Regulations. See K43/215A, K43/216A, K43/217A, K43/218
- Durability: ensure the loft floor will have a life comparable to other structural elements: See K43/219A
- Modular (not staggered) layout permits modification for additional access in future by removing screws of adjacent panels until T & G Joint can be released then re-screwing remaining boards.

Manufacturer: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk

W

www.loftzone.co.uk

Product Reference: StoreFloor

Agreement Certificate: 15/5269 Product Sheet 1:RAISED LOFT FLOORING SYSTEM STOREFLOOR

Date of First issue: 17 February 2016

System comprises:

- Primary supports: to K43/224A
- Secondary supports: to K43/225A
- Cross-Beams to K43/226A
- [\[Lateral restraints: to K43/228A \(for smaller installations\)\]](#)
- [\[Primary insulation \(existing or new if not existing\): to K43/230, K43/230A\]](#)
- Top-up insulation: to [\[K43/231, K43/231A, K43/231B, K43/232A\]](#)
- Loft Floor Boards: to [\[K43/240A, K43/241A\]](#)
- Instruction manual: to K43/260A
- Warning Notice: to K43/270A
- Fasteners: to K43/280A

Other requirements: [\[](#)

- [Access ladders: to K43/250, K43/250A](#)
- [Access ladder and hatch: to K43/251A\]](#).

130A

RAISED LOFT FLOORING SYSTEM KITS

In accordance with K43/120A with the following changes:

Layouts: See Reference Drawing(s): [\[to be inserted by the Specifier\]](#)

Manufacturer: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk

W

www.loftzone.co.uk

Product Page: <http://loftzone.co.uk/store/index.php?route=product/category&path=20>

Product Reference: [Starter/Small/Medium/Large/Extra large] Kit.

Storage area: [3/6/13/23/36] m²

Size: [1.2 x 2.4/2.4 x 2.4/3.6 x 3.6/4.8 x 4.8/6.0 x 6.0] m

Kits comprises correct quantities of components for a complete system:

- Primary supports: to K43/224A
- Secondary supports: to K43/225A
- Cross-Beams: to K43/226A
- Instruction manual: to K43/260A
- Warning Notice: to K43/270A
- Fasteners: to K43/280A

Additional requirements: not part of the standard kit, order separately:

- Top-up insulation: to [K43/231A, K43/231B, K43/232A]
- Loft Floor Boards: to K43/240A
- Lateral restraint: to K43/228A (on smallest installations)
- [Access ladders: to K43/250A]
- [Access ladder and hatch: to K43/251A]

GENERAL

200A DESIGN LIFE:

Ensure the system will have a service life of not less than 60 years.

Ensure it is installed:

- Complying with the manufacturer's instructions
- Complying with the details given in the BBA Certificate
 - Agrément Certificate: 15/5269
 - Product Sheet 1:RAISED LOFT FLOORING SYSTEM STOREFLOOR
- Ensuring that the loft space has adequate ventilation

210 GENERAL PERFORMANCE

Completed installation: Clean and stable. No lipping between adjacent floor panels[. [Belongings/Possessions: transferred onto floor panels](#)].

211 STRUCTURAL PERFORMANCE:

Maximum recommended loading on the system is restricted by the existing ceiling loadbearing capacity in accordance with the [\[Building Regulations/Technical Standards\]](#)

Uniformly Distributed Loads: 0.25 kN/m²

Concentrated Access load: 0.9 kN

Avoid excessive concentrated loads that could result in excessive deflections of the loft floor/ceiling.

Ensure the system has adequate resistance to domestic impact loads.

211A STRUCTURAL DESIGN:

Any departures from K43/211 to be designed by a competent person to:

BS EN 1990:2002

BS EN 1991-1-1:2002

BS 6399-1:1996

Correctly install system to meet the requirements of the above.

212 LATERAL STABILITY:

Ensure the system has resistance against small lateral loads.

212A LATERAL STABILITY:

Ensure the system has resistance against small lateral loads.

Provide at least one lateral restraint to K43/228A in each direction in smaller completed installations.

213 DESIGN COORDINATION AND M&E SERVICES:

Where M&E Services equipment is to be installed coordinate the design of the M&E layout with the loft storage/access deck modular layout, to ensure access to the maintainable parts of the M&E services. Ensure the areas accommodate the maintenance operative's reasonable postures, manual handling limitations, opened M&E access panels and withdrawal and insertion movement of any replaceable M&E components.

Plan the layout to work around and between or span over M&E services.

Co-ordinate with the Electrical services sub-contractor to:

- Ensure all cables to be buried by top up insulation are suitable upgraded to resist additional heat.
- Raise exiting cables above top-up thermal insulation

Co-ordinate with the Plumbing services subcontractor(s) to:

- Insulate any uninsulated pipes
 - Rearrange or reroute as necessary to coordinate with the flooring modules
- Setting out: See K43/292.

- 214 VENTILATION AND CONDENSATION RISK
Ensure that there is a existing air gap along the full length of the eaves to allow air to flow from eave-to-eave across the top of the insulation and remove any moisture before it has a chance to condense on the underside of the boards.
Maintain a ventilation zone under the loft floorboards and over the top-up insulation, continuous with the attic cross ventilation, to help minimise the risk of condensation on the underside of the decking.
Upon completion ensure adequate ventilation of the attic air-space, ensure it is open at eaves level on opposite sides of the attic and not blocked or sealed in.
Maintain a minimum free air gap: 29 mm. (BRE bespoke assessment)
- 214A VENTILATION AND CONDENSATION RISK CHECK
Any departures from K43/214 must be verified, checking the Hygro-thermal performance of the system in accordance with BS EN ISO 13788 and BS 5250.
- 215 THEMAL PERFORMANCE:
Comply with [\[Building Regulation: Approved Document L1A for new dwellings](#)
[Approved Document L1B for existing dwellings](#)
[Approved Document L1A for new non-domestic buildings](#)
[Approved Document L1A for existing non-domestic buildings](#)
[Technical Standards 6.2\]](#)
U value: [
[Scotland: new build: 0.11](#)
[Scotland upgrade: 0.13](#)
[EW&NI L1A new build: 0.13](#)
[EW&NI L1B upgrade: 0.16\]](#) W/m2.K
The overall roof U value to include:
 - Allowance for internal and external surfaces, cross ventilation and all voids
 - Existing attic and roof covering
 - Any existing insulation
 - Timber ceiling joists at centres
 - Plasterboard
 - New top-up insulation above ceiling joists
 - New support system and decking
- 215A U VALUE CALCULATION AND BBA COMPLIANCE:
Ensure U value calculations are:
 - Performed by appropriately-qualified individual or
 - Performed using the ready made calculator provided by the manufacturer
 - The calculator also indicates compliance or not with the BBA certificate requirements
- 216 THERMAL BRIDGING:
Allow for support framing causing thermal bridges though top-up insulation when calculating U values.
- 216A THERMAL BRIDGING:
The effect of thermal bridging from the StoreFloor components is not significant and so can be ignored when calculating the U value of roof constructions incorporating the system. (BRE Assessment)
However the opportunity arises for thermal bypass through the web spaces of the supports.
Ensure the web spaces are filled with thermal insulation. See K43/218.
- 217 SUMMER SOLAR OVERHEATING:
Ensure the thermal insulation protects the occupants from summer solar radiation through the opaque parts of the roof coverings and through the ceiling and its insulation.
Choose solar radiation resistant thermal insulation materials to insulate the ceiling with top-up insulation.
See K43/232A
- 218 THERMAL FLANKING OR THERMAL BY-PASS RESISTANCE:
Ensure that there are no cavities bridging the top-up insulation layer.
Ensure the insulation is enclosed around and within the web spaces of the primary and secondary supports leaving no nominal cavities for heat to bypass the top-up insulation layer.
- 219A DESIGN LIFE AND DURABILITY:

Durability: loft floors fitted with the system will have a life comparable to other structural elements
Life expectancy: 60 years (BBA Certificate)

COMPONENTS

220 SAMPLES: Submit representative samples of the following: [

- [Primary supports K43/224A](#)
- [Secondary supports K43/225A](#)
- [Cross beams K43/226A](#)
- [Lateral Restraints K43/228A \(for smaller installations\)](#)
- [Loft Floor Boards K43/240A, K43/241A](#)
- [Fasteners K43/280A](#)
- [Primary Insulation: existing or if not then to K43/230A](#)
- [Top-up insulation: to K43/231A, K43/231B, K43/232A](#)

Retain on site until all related work is complete.

Remove upon completion.

224A PRIMARY SUPPORT:

Life expectancy (minimum): 60 years. Submit manufacturer's expected life expectancy.

Manufacturer: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk W www.loftzone.co.uk

Product Reference: StoreFloor Tri-Supports

Product Page: http://loftzone.co.uk/store/index.php?route=product/product&path=59&product_id=51

Material: nylon or polypropylene

Method of manufacture: injection moulding

Incorporates: moulded fixing holes at the base and top

Shape: Triangular format, H profile section

Height: 279 mm

Size: Nominal: 279 h x 250 w x 40 d mm; Overall: 288 h x 250 x 78 d mm

Setting out spacing: 610 x 1220 mm maximum alternating with secondary support brackets

Supports: ends of 2 No. cross beams end-to-end

Fixing/Fastening: Screws to K43/280A

225A SECONDARY SUPPORT:

Life expectancy (minimum): 60 years. Submit manufacturer's expected life expectancy.

Manufacturer: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk W www.loftzone.co.uk

Product Reference: StoreFloor Uni-Supports

Product Page: http://loftzone.co.uk/store/index.php?route=product/product&path=59&product_id=52

Material: nylon or polypropylene

Method of manufacture: injection moulding

Incorporates: moulded fixing holes at the base and top

Shape: Rectangular format H profile section

Height: 279 mm

Size: Nominal: 279 h x 35 w x 40 d mm; Overall: 288 h x 40 w x 78 d mm

Setting out spacing: 610 x 1220 mm maximum alternating with primary support brackets

Supports: mid-span of cross-beams

Fixing/Fastening: Screws to K43/280A

226A C-SECTION CROSS-BEAMS:

Life expectancy (minimum): 60 years. Submit manufacturer's expected life expectancy.

Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk W www.loftzone.co.uk

Product Reference: StoreFloor Cross-Beam

Product Page: http://loftzone.co.uk/store/index.php?route=product/product&path=59&product_id=53

Materials: lightweight galvanized steel

Grade: S280 GD + Z140 NA-C to BS EN 10346:2015

Thickness: 0.7 mm.

Manufacture: cold roll-formed by the steel manufacturer

Profile: rectangular C section

Section: (h x w) 50 x 80 mm with flared ends for easy assembly onto supports

Size: Nominal: 50 h x 80 w x 1150 l mm; Overall: 51 h x 85 w x 1150 l mm

Length(s): [\[1150/1750/2350\]](#) mm.

Top of beam incorporates pairs of pre cut slots 50 x 5 mm at 300 mm centres
Sides of beam incorporates 18 mm diameter holes at [100/300] mm centres
Provides: 50 mm deep longitudinal ventilation zone between cross-beams
Supports: Span between primary support brackets and supported by secondary bracket at mid-span
Fixing/Fastening: Screws to K43/280A

228A LATERAL RESTRAINT:

Recommended for BBA Certificate compliant systems:

Quantity: To provide increased stability to lateral loads:

- Provide at least one lateral restraint to any section of the deck that is 1.2m wide, or less

Format: vertical stiffening plate, screwed to perimeter edge of loft floor boarding and to side of existing ceiling joists

Material: [

- FSC Softwood:
 - solid wood or framing diagonally braced in both directions.
- Flooring grade chipboard to K43/240A
 - Size: (h x l x t) 325 x 1220 x 18 mm]

Fixing/Fastening: Screws to K43/280A

ANCILLARY ITEMS

230 PRIMARY THERMAL CONDUCTIVITY INSULATION:

If none exists between ceiling joists

Manufacturer: [to be inserted by the Specifier]

Product Reference: [to be inserted by the Specifier]

Supplier: [to be inserted by the Specifier]

T to be inserted by the Specifier F to be inserted by the Specifier

E to be inserted by the Specifier W to be inserted by the Specifier]

Product Page: [on website to be inserted by the Specifier]

To contribute to the overall U value of the pitched roof ceiling See K43/215-218

Material: [mineral wool quilts]

Thermal conductivity: k value: [to be inserted by the Specifier] W/m.K

Thickness: to match depth of ceiling joists: [to be inserted by the Specifier] mm.

Build-up thickness: [to be inserted by the Specifier] mm.

Roll width: to suit spacing of loft flooring support system: [to be inserted by the Specifier] mm.

230A PRIMARY THERMAL CONDUCTIVITY INSULATION:

If none exists between ceiling joists

Manufacturer: Knauf

Product Reference: Earthwool Combi-Cut 44

Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS

T 01483 600304

E info@loftzone.co.uk W www.loftzone.co.uk

Product Page: http://loftzone.co.uk/store/index.php?route=product/product&path=61&product_id=64

To contribute to the overall U value of the pitched roof ceiling See K43/215-218

Material: mineral wool quilts

Thermal conductivity: k value: 0.044 W/m.K

Thickness: to match depth of ceiling joists: [75/100] mm.

Build-up thickness: [100] mm.

Roll width: to suit spacing of loft flooring support system: 1140 mm. (roll to be cut 2 x 570 mm.)

231 TOP-UP ROLL THERMAL CONDUCTIVITY INSULATION:

Manufacturer: [to be inserted by the Specifier]

Product Reference: [to be inserted by the Specifier]

Supplier: [to be inserted by the Specifier]

T to be inserted by the Specifier F to be inserted by the Specifier

E to be inserted by the Specifier W to be inserted by the Specifier

Product page: [on website, to be inserted by the Specifier]

To contribute to the overall U value of the pitched roof ceiling See K43/215-218

Material: mineral wool quilts

Thermal conductivity: k value: [to be inserted by the Specifier] W/m.K

Thickness: [to be inserted by the Specifier] mm.

Build-up thickness: maximum 250 mm maintaining a minimum 29 mm air gap below decking

Roll width: to suit spacing of loft flooring support system: [to be inserted by the Specifier] mm.

Installation: See K43/400A

- 231A TOP-UP ROLL THERMAL CONDUCTIVITY INSULATION:
 Manufacturer: Knauf
 Product Reference: Earthwool Combi-Cut 44
 Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS
 T 01483 600304
 E info@loftzone.co.uk W www.loftzone.co.uk
 Product page:
http://loftzone.co.uk/store/index.php?route=product/product&path=61&product_id=64
http://loftzone.co.uk/store/index.php?route=product/product&path=61&product_id=63
 To contribute to the overall U value of the pitched roof ceiling See K43/215-218
 Material: mineral wool quilts
 Thermal conductivity: k value: [0.044] W/m.K
 Thickness: [100/200] mm.
 Build-up thickness: maximum 250 mm maintaining a minimum 29 mm air gap below decking
 Roll width: to suit spacing of loft flooring support system: 1200 mm. (roll to be cut 2 x 600 mm.)
 Installation: See K43/400A
- 231B TOP-UP ROLL THERMAL CONDUCTIVITY INSULATION:
 Manufacturer: Knauf
 Product Reference: Earthwool Combi-Cut 44
 To contribute to the overall U value of the pitched roof ceiling See K43/215-218
 Material: mineral wool quilts
 Thermal conductivity: k value: [0.044] W/m.K
 Thickness: [75/100/170/200] mm.
 Build-up thickness: maximum 250 mm maintaining a minimum 29 mm air gap below decking
 Roll width: to suit spacing of loft flooring support system: 1200 mm. (roll to be cut 2 x 600 mm.)
 Installation: See K43/400A
- 232A TOP-UP BLOWN-IN SUMMER SOLAR RADIATION RESISTANT THERMAL INSULATION:
 To contribute to the overall U value of the pitched roof ceiling See K43/215 and K43/215A
 To provide resistance to summer solar overheating See K43/217
 To provide resistance to thermal bridge and thermal bypass at supports See K43/216A and K43/218
 Manufacturer: CIUR (UK) Limited, Office 6, Aberdare Enterprise Centre, Aberaman, Aberdare, Mid Glam CF44 6DA
 T 01685 878649 F 01685 875403
 E kath.richards@ciur.co.uk W <http://www.warmcel.co.uk/>
 Product Reference: Warmcel 500
 Product page: <http://www.warmcel.co.uk/wp-content/uploads/2013/12/Warmcelthermaltechnicaldatasheet.pdf>
 Literature:
<http://www.warmcel.co.uk/wp-content/uploads/2013/12/CIUR-UK-Building-With-Warmcel-Guide-23769-v2.pdf>
 Material: cellulose fibre flake, 100% recycled newspaper
 Protects from solar radiation heat gain into attic and top floor rooms
 Specific Heat capacity: 1600 j/kg.K to EN 12534
 Thermal conductivity: k value: 0.038 W/m.K
 Installed density: 28-36 kg/m³
 High thermal insulation and complete void fill
 Superior airflow resistance: >8.0 kPa s/m² @ 30 kg/m³ density to EN 29053:19930-03 Method A
 Superior air tightness and breathability:
 Carbon footprint, -1.5 GWP
 Zero OPD, CFC and VOC, fire resistant
 Does not encourage the growth of fungi, mould or bacteria
 Does not sustain insects and vermin
 Low material cost
 Build-up thickness: 280 mm. allowing for 56 mm (20% settlement) = 224 mm (maximum 250 mm) maintaining a minimum 50 mm air gap below decking.
 Installation: See K43/401A or K43/402A
- 240A LOFT FLOOR BOARDS:
 Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS
 T 01483 600304
 E info@loftzone.co.uk W www.loftzone.co.uk
 Product page: <http://loftzone.co.uk/store/index.php?route=product/category&path=62>
 Application: decking above support system
 Material: chipboard panels to EN 312

Performance: flooring grade P5
Long Edges: tongue-and-groove
Size: [325 x 1220] x 18 mm (Supplied with DIY kits)
For optimum energy performance cut lengths to 1200 mm and set out supports to 600 mm module.
Surface: Smooth
Timber chain of custody certification: [FSC/PEFC] provide evidence of certification.
EU Timber Regulation (EUTR): provide evidence of certification.

241A LOFT FLOOR BOARDS:

Application: decking above support system
Material: chipboard panels to EN 312
Performance: flooring grade P5
Long Edges: tongue-and-groove
Size: [600 x 2400] x 18 mm
Surface: Smooth
Timber chain of custody certification: [FSC/PEFC] provide evidence of certification.
EU Timber Regulation (EUTR): provide evidence of certification.

250 LOFT LADDER:

Type: 3 part [Folding/Extending]
Material: Aluminium extrusions
Slip resistant treads & feet
Handrail to aid safe climbing
Maximum load 150 kg
Tested & certified: to EN 14975:2006
Manufacturer: [to be inserted by the Specifier],
Product Reference: [to be inserted by the Specifier],

250A LOFT LADDER:

Type: 3 part [Folding/Extending/Extending]
Material: Aluminium extrusions
Slip resistant treads & feet
Handrail to aid safe climbing
Maximum load 150 kg
Tested & certified: to EN 14975:2006
Manufacturer: [Titan/Werner/Youngman],
Product Reference: [Titan/ABRU/Easyway],
Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS
T 01483 600304
E info@loftzone.co.uk W www.loftzone.co.uk
Product pages: <http://loftzone.co.uk/store/index.php?route=product/category&path=60>
Titan: http://loftzone.co.uk/store/index.php?route=product/product&path=60&product_id=67
Werner: http://loftzone.co.uk/store/index.php?route=product/product&path=60&product_id=60
Youngman: http://loftzone.co.uk/store/index.php?route=product/product&path=60&product_id=61

251A LOFT LADDER AND LOFT HATCH:

Type: 3 part Folding ladder
Material: Spruce softwood
Timber chain of custody certification: [FSC/PEFC] provide evidence of certification.
EU Timber Regulation (EUTR): provide evidence of certification.
Slip resistant treads & feet
Handrail to aid safe climbing
Maximum load 150 kg
Tested & certified: to EN 14975:2006
Manufacturer: Youngman,
Product Reference: Eco S line,
Supplier: Eco Answers Ltd t/a LoftZone, 82 Coast Road West Mersea Colchester, Essex CO5 8LS
T 01483 600304
E info@loftzone.co.uk W www.loftzone.co.uk
Product page: http://loftzone.co.uk/store/index.php?route=product/product&path=60&product_id=62
Hatch: Made to suit 600 mm centre ceiling joist spacing
Colour: White faced trap door
Airtightness: Rubber draught excluder
Easy use; timber pull & push rod
Insulation: 20mm thick trapdoor insulation
Made in the UK

- 260A INSTRUCTION MANUAL
 Supplied in each delivery pack
 Available on website: http://www.loftzone.co.uk/LoftZone_installation_instructions.pdf
 Follow instructions
- 270A WARNING NOTICE
 Cut out the back page of the instruction manual
 Available on website: http://www.loftzone.co.uk/LoftZone_installation_instructions.pdf
 Installation: See K43/510A
- 280A FASTENERS:
 Manufacturer: Abrasives & Screw Products Limited
 Product Reference: ASP XT-C High Performance Wood Screws Pozi Flat Countersunk Head M4x40
 Supplier: LoftZone,
- complimentary in DIY Kits See K43/130A.
 - otherwise order as required. See Quantities below
- Type: wood screws
- Minimum edge distance in Chipboard: 20 mm.
 - Specially designed for exceptional performance
 - Self-drill: A cutting flute to help penetrate the hardest of woods
 - Self-thread tapping: Serrated threads to cut into the wood with less effort
 - Self-countersink: Nibs under the head to aid countersinking
- Materials: High quality steel for added strength
 Corrosion protection: galvanized, yellow chromate finish
 Size: M4x40: 4 mm diameter (No.8) by 40 mm long (1.5")
 Quantity:
- 2 No. per primary support (2 at bottom)
 - 2 No. per secondary support (1 bottom and 1 top)
 - 3 No. per secondary support if positioned at ends of run; (2 bottom and 1 top)
 - 2 No. per cross-beam (2 at top; 1 at both ends)
 - 3 No. per 325 x 1220 mm loft floor board (1 at both ends, 1 midway)
 - 10 No. per 600 x 2400 mm loft floor board (2 at both ends, 2 at intermediate supports)
 - 6 No. per 325 x 1220 mm loft floor board at perimeters (2 at both ends and 2 midway) in line with cross beams
 - 15 No. per 600 x 2400 mm loft floor board (3 at both ends, 3 at intermediate supports)
 - 4 No. per lateral restraint (2 at top; 2 at bottom) in line with cross beams
- Applications:
- Fix the plastic supports to the supporting softwood loft floor joists
 - Secure the steel Cross-Beams to the plastic Supports.
 - Secure the timber decking boards to the steel Cross-Beam and into plastic supports.
 - Secure lateral restraints
- Do not over-tighten and damage timber board, plastic or metal parts.

WORKMANSHIP

- 290A CONTROL SAMPLES:
 General: Complete areas of finished work in the following locations: [
- [Setting out in relationship to M&E services maintenance items. See K43/213A](#)
 - [complete attic installation](#)
 - [initial installation against obstructions](#)
 - [initial installation at perimeters](#)
 - [lateral restraint at edges K43/228A](#)]
- Inform the CA and seek confirmation before commencing with the remainder.
- 291 BASE:
 Type: [[softwood trussed rafter bottom chord/traditional softwood cut timber pitched roof ceiling joist](#)]
 Preparation: [[check primary insulation is in place between ceiling joists/allow for installing insulating if missing](#)]
 Cleanliness: Clear any debris before installation and keep clean during installation.
- 292 PREPARATION:
 Setting out:
- To avoid obstructions,
 - [[To stagger boards \(BBA compliant\) \(time consuming, wasteful and more difficult to modify or dismantle\)](#)]
 - [[To modular layout not staggering boards \(LoftZone recommendation\)](#)]

- To avoid or reduce cutting of loft floor boards, cross-beams and supports
- To avoid party walls, chimney breasts, gable walls and slopes down to eaves
- To plan the layout for optimum access (towards ridge for height) and storage (away from eaves for height)
- To create specified area(s) for storage and access to or through all areas of storage
- To enable easy access to maintainable parts of all M&E equipment See K43/213A

Temporary measure to enable assembly of raised loft flooring system:

- Plan your temporary landing and temporary materials storage areas
- Plan your temporary possessions storage areas to avoid overloading existing ceiling

Before installation:

- Approximately set out where all the supports will be located ensuring they avoid obstructions in the loft, such as roof timbers, services, cables, conduits and pipes and their insulation.
- Accurately set out the spacing and lines for supports with measuring tape, string, chalk or laser.
- Indelibly mark support positions on ceiling joists.

295 TOOLS REQUIRED:
 Temporary access ladder
 Temporary walking and storage boards to avoid damaging ceiling and prevent accidents and falls through ceiling
 Retractable tape measure
 Chalk, pencil or other marker
 Setting-out line, string or laser
 Fully charged cordless screwdriver
 with low torque setting and speed control to avoid damaging parts and
 hammer setting for driving screws into steel cross-beams
 Fully charged spare battery for cordless screwdriver (for larger installations)
 Stapler to secure warning notice to roof timbers
 Tin snips or metal hacksaw for 0.7 mm steel cross beams
 (if non modular approach taken or obstructions not avoided)

296 PERSONELL PROTECTION EQUIPMENT (PPE) REQUIRED:
 Overalls suitable for working with insulation
 Gloves: Sharp metal edge resistant and suitable for working with insulation
 Footwear: Approved for use on site and suitable for nimble footwork
 Breathing and filtering face mask: suitable for working with insulation
 Helmet: working in and around timber construction and raising components to attic through hatch
 Eye Protection: suitable for working with insulation and raising components to attic through hatch
 Working at height: other PPE to suit.

INSTALLATION

310 WORKMANSHIP GENERALLY:
 Install supports, restraints, initial and top-up insulation, floor panels, accessories, etc.
 Install all components to achieve specified levels of performance.
 The completed installation to be:

- level, free from lipping between sides and ends of panels,
- stable, firm, free from excessive deflection, bounce, noises, vibration

Install loft floor components in dry, well ventilated conditions
 Avoid extremes of temperature or humidity.
 Adequately protect from dirt, stains
 Report any damage to CA and replace when instructed.
 Avoid overloading during handling, installation, moving belongings/possessions and upon completion.

311A DELIVERY AND SITE HANDLING:
 Plastic Supports are supplied in cardboard boxes
 Lightweight galvanized steel Cross-Beams are delivered strapped in bundles
 Handle StoreFloor components and deck panels into the loft, making sure they cannot slide back as you lift them up.

312 SITE STORAGE:
 At site level: Where temporary storage of the components is necessary, items should be stored:

- inside, in a dry, well ventilated environment, not subject to extremes of temperature or humidity
- off the ground, over stable ground,
- away from potential water or mud splashes

At loft floor level:

- Provide temporary storage space adjacent to loft access hatch to enable Just In Time delivery to support continuous uninterrupted installation

- Clear possessions from the area where components will be located ensuring you do not overload other areas of the ceiling joists.
- Place loft floor panels close to the hatch panels to create a temporary landing and storage area outside of the proposed loft floor area
- Place additional components on the temporary storage area, ensuring you do not overload the ceiling joists

313 HEALTH AND SAFETY

Ensure safe access to loft and provide adequate lighting, taking care of trailing cables.
 Take care when using a ladder to access loft space and handling materials into loft.
 Walking boards are required to provide access and storage areas during the initial installation of the system.
 Take due care and use appropriate Personnel Protective Equipment (PPE) during all stages of the work
 Helmet, goggles and gloves when handling of the system components into lofts through the loft hatch,
 Materials through attic hatch
 Dust mask, overalls and gloves when handling existing insulation
 Dust mask, helmet and gloves during installation when assembling raised floor

314 METHOD STATEMENT

Provide a method statement addressing all onsite and offsite activities
 Follow the guidelines, comply with its provisions.

314A METHOD STATEMENT

A comprehensive Method Statement is available from the manufacturer
 LoftZone StoreFloor:

[Method Statement \(on GBE website\)](#)

Method Statement (on LoftZone website)

320 MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS

Comply with manufacturers requirements and recommendations

320A MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS

For more information, reference should be made to the manufacturer's installation instruction.

321 BBA AGREEMENT CERTIFICATE

Comply with British Board of Agreement requirements and recommendations

322 DISCREPANCIES

Bring any discrepancies between this specification, manufacturer's instruction, and BBA Agreement's requirements to the attention of the CA.

Seek instructions in a timely manor to meet the programme.

325A INSTALLER:

The system is designed to be installed by:

- A competent general builder, Or
- Sub-contractor, experienced with this type of system. See K43/326A

However it can also be installed by:

- Home-owners on a DIY basis.
- Experienced installers from the manufacturer's installer network. See K43/326A

326A INSTALLER NETWORK: RAISED STORAGE/ACCESS SYSTEM K43/120A

Use an installer from the list held by the manufacturer

The manufacturer has a nationwide list of installers; contact manufacturer by phone or email

326B APPROVED INSTALLER NETWORK: INSULATION K43/232A

PYC Approved installer network <http://www.warmcel.co.uk/supplyinstallbuild/installers/>

PEN Y COED Construction & Insulation Ltd, Pen y Lan Meifod, Powys SY22 6DA United Kingdom

T 01938 500797 F 01938 500643

E info@penycoed-warmcel.com W www.penycoed-warmcel.com

W <http://home.btconnect.com/penycoed/main.html>

327A INSTALLER TRAINING:

The manufacturer's website has:

- pages of illustrated instruction
- <http://www.loftzone.co.uk/installation.html>
- links to on-line videos
- Youtube <https://www.youtube.com/user/LoftZoneStoreFloor>

On-line installer training accredited CPD videos and tests

- <http://www.pplelearning.co.uk/lms/index.php?r=course/details&id=18>

PROCEDURES

- 350 SEQUENCE OF WORK
When providing access to M&E services ensure all M&E services work is complete before commencing setting out.
- 351A PREPARATION AND EXISTING BELONGINGS/POSSESSIONS:
The system has been designed to avoid the need to decant all the belongings/possessions from the attic. Ensure a working area of the loft is clear and free of objects
Clear a working area for the first raised flooring module(s) avoiding overloading the loft floor joists.
Assemble the module(s), top-up insulation and complete the loft floor boarding.
Then move belongings/possessions onto parts of the completed flooring modules, leave enough space for access and to be able to continue working.
Repeat the process until completion of raised flooring modules and all possessions are on top of flooring modules.
See Completion K43/500 – 520.
- 352 PREPARATION AND EXISTING PIPES, INSULATION AND ELECTRICAL CABLES:
Setting out to avoid conflict with services
Avoid contact with, or damaging, electric cables and pipework and their insulation.
To avoid risk of polymer migration between different plastics avoid plastic to plastic contact
Separate plastics using:
○ metal (avoiding sharp edges) or
○ spare instruction manuals (removed from plastic envelop),
Do not cut metal from Cross-Beams, except from off cuts after cutting around obstructions.
Stabilise and secure separators using pressure or friction between touching plastic parts, or gravity.
If this is insufficient secure with:
○ metal to metal using screws or metal to timber using screws
○ paper manual stapled to itself or to timber; screws to timber.
Take care not to damage services or insulation in the process.
- 355 PROGRESSION:
Start nearest the access hatch, work away from the access hatch.
If starting furthest from access hatch then make use of temporary walking boards.
Use the completed assembled raised loft flooring system as a working platform to assemble more of the same.
Take care not to damage completed installation.
- 360A PRIMARY INSULATION BETWEEN EXISTING JOISTS
If primary insulation is not already in place, lay new insulation quilt, to K43/140A, between and up to the top of the loft floor joists before starting raised flooring installation.
- 370A PRIMARY SUPPORTS: K43/224A
Position StoreFloor's Tri-Supports at [610/600 (if deck cut down)] mm intervals along the joists,
Secure Tri-Supports to the joists with 2 No. screws one each side.
Space Tri-Supports on parallel joists no greater than 1200 mm apart, align the Tri-Supports.
Orientate the Tri-Supports so that the bottom lips hangs on opposite sides of ceiling joists in adjacent supports in adjacent and same rows.
Substituting Tri-Supports and Uni-Supports at obstruction. See K43/371A
- 371A SUBSTITUTING PRIMARY AND SECONDARY SUPPORTS AT OBSTRUCTIONS
If the installation is too close to a wall or other obstruction and a Tri-Supports will not fit, substitute a Uni-Support.
Secure using 2 No. screw to K43/280A per Uni-Support, at ends of runs, from both sides at base.
Use a Tri-Supports in place of the normal Uni-Supports position in every row for added strength.
- 380A INSTALL CROSS-BEAMS: to K43/226A
Slide Cross-Beams into position onto the Tri-Supports at both ends leaving a variable length gap between ends of cross-beams. (nominal 70 mm at 600 mm roof timber spacing)
The 1150 mm galvanized steel Cross-Beams can span a maximum length of 1220 mm between supports
The maximum spacing between parallel steel Cross-Beams is [610/600 (if deck cut down)] mm to suit the typical length of [1220/1200 (if deck cut down)/2400] mm loft floor boards supported by them.

Secure using 2 No. screws to K43/280A via the slots in the tops of Cross-Beams and use pre-drilled holes in the Tri-Supports, the web of the Cross-Beam should be compressed down to the Tri-Supports. Continue this process to cover the extent of the required finished loft floor deck.

- 390A **INSTALL SECONDARY SUPPORTS:** to K43/225A
To maximise the capacity of the system, where loading or traffic is anticipated to be greatest: Install Uni-Supports at mid-span of all Cross-Beams
Generally: Install Uni-Supports at mid-span of alternate cross-beams
Install Uni-Supports onto intermediate loft floor joists, as close as possible to mid-span of the Cross-Beams. Arrange Uni-Supports with bottom flanges on alternate sides of the loft floor joists for additional stability. Position each Uni-Supports into the Cross-Beam from beneath, position centrally, arrange vertically, rotated the support through 90 degrees to lock it into position.
Secure using 1 No. screw to K43/280A per Uni-Supports, to the loft floor joist, from one side only, any side. Secure using 1 No. screw to K43/280A per Uni-Supports, through the Cross-Beam slits, into pre-drilled hole in the top of the Uni-Supports.
Substituting Tri-Supports and Uni-Supports at obstruction. See K43/371A
- 400A **INSTALL TOP-UP INSULATION:** to [\[K43/231, K43/231A or K43/231B\]](#)
Roll out at right angles to ceiling joists between parallel support systems
Insulation to be squeeze into gap and expand around supports to avoid any air gaps between for thermal bypass.
Cut strip to fill gap through full thickness of insulation.
Lay the insulation between supports leaving a 29 mm gap below the tops of the supports
Ensure the top of the insulation is level
Ensure the insulation fits tightly around and into the webs of the supports.
 - [\[600 mm support system centres with 600 mm. insulation rolls will leave no gaps for heat loss;](#)
 - [610 mm support system centres with 600 mm insulation rolls will leave a 10 mm gap for heat loss;](#)
 - [Narrower rolls made to fit between 400 mm ceiling joists will leave a wider gap\].](#)Ensure that there are no gaps between adjacent strips of insulation.
 - To solve any gaps insert a thin layer of flexible compressible insulation standing vertically and compressed into the supports as the main top-up insulation is rolled between the rows.
- 401A **BLOWN-IN TOP-UP INSULATION:** K43/232A
Blown in: zero product waste
Blown installation: from truck to attic via hose (fed by 12 kg bags)
Installed density: 28-36 kg/m³
Ensure the insulation fits tightly around the supports and into the webs of the supports.
Build-up thickness: 280 mm. allowing for 56 mm (20% settlement) = 224 mm (maximum 250 mm) maintaining a minimum 29 mm air gap below decking.
Ensure the top of the insulation is level
Level the insulation at 224 mm thickness.
Approved Installer:
PYC Approved installer network <http://www.warmcel.co.uk/supplyinstallbuild/installers/>
PEN Y COED Construction & Insulation Ltd, Pen y Lan Meifod, Powys SY22 6DA United Kingdom
T 01938 500797 F 01938 500643
E info@penycoed-warmcel.com W www.penycoed-warmcel.com
W <http://home.btconnect.com/penycoed/main.html>
- 402A **POURED-IN AND LEVEL TOP-UP INSULATION:** K43/232A
Pour in: zero product waste
Delivery: 12 kg bags for man-handling to attic and DIY poured and spread installation
Installed density: 28-36 kg/m³
Ensure the insulation fits tightly around the supports and into the webs of the supports.
Pour the insulation between supports to the top of the supports allowing for 20% = 56 mm settlement gap below the tops of the supports
Ensure the top of the insulation is level
Level the insulation at 224 mm thickness.
Installer: [\[Main Contractor/Insulation sub-contractor/Approved installer/DIY\]](#)
- 410A **INSTALL RAISED LOFT FLOORBOARDS** to K43/240A or 241A
Trim 1220 mm length board to 1200 mm to prevent vertical air gaps occurring in insulation
Ensure there is a 29 mm ventilation gap between insulation and underside of loft floorboards.
Lay the loft floorboards directly onto the Cross-Beams
Lay the boards to reach half-way across the 80 mm width of the Cross-Beam;
Allow a second board to butt up against first so both boards are supported by the same Cross-Beam.
At the perimeter of your deck, board may sit across the full width of the Cross-Beam.

At the perimeter a small over-lap is permitted:

- Do not create a trip hazard at loft entrance hatch or at changes of level
- Do not exceed maximum: 20 mm

[Stagger the floorboards if possible (for a BBA compliant, impractical wasteful installation)
Do not stagger boards: the deck is strong enough without (LoftZone recommendation)]

Close the T&G joints on the long edges before securing.

Secured the floorboards with self-tapping screws with hammer setting on screwdriver
Screws, type, spacing and quantities: to K43/280A

- 450 INSTALL LOFT LADDERS:
Follow manufacturer's Instruction, recommendations and requirements.

SITE WASTE MANAGEMENT

- 450A SWMP CHECKLIST
Excess to requirements: Return to stock
Return to stock: Full refund for returned to warehouse within 28 days
Phone in advance: 01483 600304
Offcut take back: Not available
Packaging waste return to producer: Not available
Instruction manual return to producer: Not available
Diversion from landfill: Normal site waste management plan SWMP activity
Processing under producer responsibilities: Not available
Waste minimization and management: Plan ahead, do not over order,
Offcuts: Avoid obstructions, keep modular, avoid stagger and avoid cutting;
(offcuts into segregated waste containers)
Waste handling on site: Segregate pallets, cardboard, plastics and metal (whole plastics and metal items return to stock)
Waste removal off site: Not applicable
- 460A EUROPEAN WASTE CATALOGUE:
15 01 01 paper and cardboard packaging
17 02 01 wood (decking and pallets)
17 02 03 plastic (supports and packaging)
17 04 04 zinc (galvanizing)
17 04 05 iron and steel (cross-beams)
17 04 07 mixed metals (galvanized steel cross-beams, screws)
17 06 INSULATION MATERIALS AND ASBESTOS-CONTAINING CONSTRUCTION MATERIALS
17 06 01* insulation materials containing asbestos (not applicable unless existing)
17 06 03* other insulation materials consisting of or containing DS (not applicable unless existing)
17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03 (thermal insulation)
17 08 GYPSUM-BASED CONSTRUCTION MATERIALS
17 08 01* gypsum-based construction materials contaminated with DS (not applicable)
17 08 02 gypsum-based construction materials other than those mentioned in 17 08 01 (in case of accidents)

COMPLETION

- 500 TOP-UP INSULATION
Upon completion ensure adequate ventilation of the attic air-space, ensure it is open at eaves level on opposite sides of the attic and not blocked or sealed in.
Ensure all top-up insulation is free from any objects that compress it and reduce its performance.
Report any difficulties in meeting this requirement to the CA
Seek instruction in a timely manner to meet the programme.
- 510A INSTALL WARNING NOTICE:
Warning Notice: K43/270A
Fasten notice to roof timbers in a prominent position in view at head of loft ladder/access at loft entrance hatch
Orientation: ensure the warning notice is facing reader and up the right way.
Fixing: Use stainless steel staples
- 520 REPAIRS UPON COMPLETION
Make good any damage to the loft entrances hatch and frame, ladder, ceiling and roof membranes upon completion.

IN USE

610 MAINTENANCE:

Maintenance is not required for the Supports and Cross-Beams.

Check that the 50 mm air gap for cross ventilation is maintained.

Check is the loft-floor boards have been affected by condensation, mould, wrot, deflection, collapse.

END OF LIFE

710 END OF LIFE OPPORTUNITIES:

Reclaim: Carefully remove screws with screwdriver in reverse action, reclaim all parts, segregate for efficient packing handling and storage, and make available for reuse.

Reuse: Use reclaimed components in new installations to the same arrangement as originally intended by the manufacturer

Instructions: obtain PDF file from the manufacturers website, print and follow instructions.

Installation Instructions: http://www.loftzone.co.uk/LoftZone_installation_instructions.pdf

Identification: Website URL is printed in the supports.

Recycle: Screws withdrawn from steel cross-beams may have damaged threads and may be unserviceable for reuse.

Replace: unserviceable screws with new to the same specification. K43/280A.

Recyclability: polypropylene, nylon and galvanized steel beams, are all easily segregated and recyclable.

END OF WORK SECTION K43.

REV Revisions

Revision No.	Description	Author	Date
A00	Extract from BBA Certificate Major format problem residue from BBA certificate to overcome	BBA	05/09/2016
A01 %%%	Beat the format issue Edit BBA Text into specification Add: Ex Refs, Add: HTML links	BRM	02/12/2016 - 05/12/2016
A01 %%%	Header, logos and T&C A04 added	BRM	05/12/2016
A01	Issue to DR@LZ	BRM	05/12/2016
A02 %%%	Added from GBE LitAudit and Lit Edit LZ Installation instructions	BRM	06/12/2016
A02 %%%	Added from GBE LitAudit Website instruction and Video Installation instructions	BRM	07/12/2016
A02 %%%	Added from Method Statement	BRM	07/12/2016
A02	Issue to DR@LZ	BRM	07/12/2016
A03	Feedback and questions	DR	12/12/2016
A04	Incorporated feedback and cross referenced A few items remaining to be addressed	BRM	13/12/2016
A05	Feedback from DR@LZ	DR	14/12/2016
A06	Incorporated feedback and cross referenced Complete!	BRM	15/12/2016
A06	Issue to DR@LZ	BRM	15/12/2016
A07	Clean copy to RD@LZ	BRM	15/12/2016
A07a	Amended by DR deleting end editing notes, adding early editing note added editing notes in [_____]	DR	22/12/2016
A08	Accepted or replaced DR comments	BRM	22/12/2016
A08	Darker blue for consistent editing notes and for [and] Relocated and added to early editing notes Added raw clauses for insulation options, added editing notes Added new Xrefs Some [optional] text converted to fixed text	BRM	23/12/2016
A08	Issue to DR@LZ	BRM	23/12/16
A09	Add system density in k43/120A Edited early editing notes Clean copy	BRM	23/12/16

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Addenda

NBS compatibility

National Building Specification (NBS) is the industry standard specification library.

NGS's Green Building Specification (GBS) and Robust Specifications (GBS RS) are designed to complement NBS.

NGS clauses are written specifically to address issues of environmental sustainability.

NBS adopts and develops the Construction Project Information Committee's (CPIC) classification system Common Arrangement of Work Sections (CAWS) 1998 edition.

GBS adopts and develops the CPIC and NBS versions of CAWS to enable integration into NBS-based specifications.

GBS adopts NBS clause numbering to provide for easy clause assimilation.

CPIC: <http://www.cpic.org.uk>

CAWS: <http://www.cpic.org.uk/en/publications/common-arrangement-listing.cfm>

NBS: www.thenbs.com/

GBE website: www.greenbuildingencyclopaedia.uk

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