



Project name:
Project size:
Client:
Contact:
Date:
E-mail:
Telephone:

K40 - SUSPENDED CEILINGS

To be read with Preliminaries/General conditions.

TYPE(S) OF SUSPENDED CEILING

K40/110SUSPENDED CEILING(S)

Drawing reference(s):

Structural soffit(s):

Ceiling system: **CoolZone Tegular** Cassettes

Type: Metal Unperforated Tegular 8/16 Clamshell **with Phase Change Material (PCM) insert** to cover 50% of the ceiling.

Manufacturer: **Armstrong World Industries, Freephone 0800 371849, fax 01895 274287. John Spicer 07920163196, jspicer@armstrong.com**

Suspension system: Main runners to be installed at 600mm centres, with hangers at 1m centres. See **CoolZone** datasheet.

Grid type: Exposed 24mm Grid System - Universal Main Runners 24 with stitched web.

Grade: Standard

Colour: RAL 9010

Hangers: Trulok BP AW950 Suspension wire secured to soffit with brackets and fixings recommended by suspended ceiling contractor

Perimeter trims: Orcal perimeter channel trim BPT 1938HWRA secured using perimeter wedges BPC 1803A, or for a full module ceiling with plasterboard perimeter margin use Armstrong Axiom Transitions System as detailed below.

Alternative Plasterboard Perimeter Margin: Plasterboard perimeter margin using Axiom Transitions Angle (Item No. BPT 3215 WRG, colour: White RAL 9010) connected to the suspended ceiling grid at 600mm centres using the Axiom Universal T-Bar Connector Clip (Item No. BPA 339). Axiom Transitions Angle to be suspended to the soffit at maximum 1200mm centres using the Transitions Suspension Clip (Item No. BPA 321 A for 19mmx19mm suspension angle and BPA 322 A for 6mm threaded rod). Lengths of Axiom Transitions Angle greater than 3000mm will require Axiom Universal Splice Plates (Item No. BPA 338) and right angled junctions will require Axiom Universal Corner Clips (Item No. BPA 340) Axiom Transitions Plasterboard Perimeter Trim (Item No. BPT 3225 WRA, colour: White RAL 9010) to be mechanically fixed to the wall at a maximum of 450mm centres. The plasterboard shall be supported using Armstrong T35 knurled plasterboard suspension grid (Item No. BP 124033KD (main runner) and BP 123033KD (1200mm cross tee) at centres of 400mm - 600mm dependent on the width of the plasterboard margin and dimensions of the plasterboard. The T35 grid shall be fixed using the Axiom Universal T-Bar Connector Clip (Item No. BPA 339) to both the Axiom Transitions Angle and the Axiom Transitions Plasterboard Perimeter Trim.

Membrane material(s): Metal unperforated Tegular 8/16 clamshell with PCM insert
Item number : BPCZ4980M

Size(s): 600 X 600 X 8 mm or 600 X 600 X 16mm (reversible)

Finish/colour: White RAL9010

Acoustic performance:

Sound absorption (alpha w): 0.25

Sound attenuation (Dnfw): 40

Insulation:

Services fittings: Install

Accessories:

Other requirements: CoolZone cassettes should not be cut and should remain as full cassette modules. CoolZone cassettes will not cover 100% of the ceiling, a second ceiling tile should be specified for the remaining part of the ceiling. These can be mineral or metal ceiling tiles.

GENERALLY/PREPARATION

K40/205SUSPENDED CEILINGS GENERALLY: Unless specified otherwise, comply with the relevant recommendations and performance requirements of BS 8290 for the selection and assembly of components and materials.

K40/208COMPLIANCE WITH PERFORMANCE REQUIREMENTS:

Provide UKAS/NAMAS accredited laboratory test/assessment report(s) for the following:

All materials, components and details used must be in accordance with the test/assessment report(s). If discrepancies arise, seek instructions.

K40/210CONTROL SAMPLE(S): Complete area(s) of the finished work in approved location(s) as follows, and obtain approval of appearance before proceeding:

K40/215SAMPLE(S): Before placing orders submit representative sample(s) of

Ensure that delivered materials match samples.

K40/220ENVIRONMENTAL CONDITIONS:

Areas for storage and installation must be clean, dry, well ventilated and free from excessive and/or rapid variations of temperature and humidity.

Do not install membrane material until the building is weathertight and wet trades have finished their work. Before, during and after installing, ensure that temperature and humidity are maintained at levels similar to those which will prevail after building is occupied.

Notwithstanding the above, delivery of materials and installation of the suspended ceiling will be taken as joint acceptance by the Main Contractor and Ceiling Contractor of the suitability of the environmental conditions.

K40/230CONDITIONING: Before fixing store _____ on site for at least 48 hours in conditions similar to those which will prevail after the building is occupied. Ensure free circulation of air to all surfaces.

K40/240COORDINATION WITH OTHERS: The Ceiling Contractor must liaise with the Main Contractor and other contractors to ensure:

Related work within the void (services, partitions, fire barriers, fire stopping, painting, etc.) is at a suitable stage of completion to enable ceiling installation to proceed without damage or disfigurement to the ceiling system.

Fixtures around which the ceiling is to be installed are completed and that services, fire barriers, etc. are in the correct position relative to the ceiling grid.

Hangers do not press against services, etc. and are installed vertically. Where obstructions prevent vertical installation, brace hangers against lateral movement or provide rigid bridging structures across obstructions.

Services integrated within the ceiling membrane are positioned accurately, supported adequately and aligned and levelled in relation to the membrane and suspension system.

INSTALLATION

K40/305WORKMANSHIP GENERALLY:

Handle, store and fix suspended ceiling materials and accessories in accordance with manufacturers' recommendations, BS 8290:Part 3 and design/performance requirements. Set out accurately to give level soffits free from undulations, lipping and distortions in grid members.

Fix securely with additional bracing and stiffening as necessary at upstands, access hatches, partition heads, etc. to give a stable system resistant to wind induced uplift and other

specified design loads and pressures.

Do not use cartridge or powder activated methods for top fixings or rivets for bottom fixings of hangers.

K40/315 PROTECTION:

No part of the suspension system must be subjected to loads for which it is not designed, including lateral loads from ladders, tower scaffolds, etc.

Membrane materials must be handled carefully, kept clean and removed and replaced correctly using special tools and clean gloves, etc. as appropriate.

K40/325 SETTING OUT: Unless shown otherwise, set out ceilings so that:

Edges of tiles/panels are never less than half in width or length. Position grid to suit tile/panel size(s), allowing for permitted deviations from nominal size(s).

All lines and joints are straight and parallel to walls unless specified otherwise. Where surrounding walls or other building elements and features to which the suspended ceilings relate are not square, straight or level, obtain instructions on setting out.

K40/355 FIXING BOARDS TO CONCEALED GRIDS:

Fix and join boards using methods, materials and accessories recommended by the board manufacturer.

Cut boards neatly and accurately. Do not use damaged boards.

Screw boards securely and firmly to grid members at recommended centres and edge distances, to give a flat surface free from bowing and lipping. Set heads of screws below surface of boards and fill flush with surface.

Where not shown otherwise, provide movement joints as appropriate for the area of ceiling and/or to coincide with movement joints in surrounding structure.

Stagger joints of boards applied in two or more layers. Ensure that edges and ends of each board are fully supported and screwed to grid members.

K40/360 WIRE HANGERS:

Straighten before use and install vertically without bends or kinks. Do not allow hangers to press against any fittings within the void.

Tie securely at top and bottom with tight bends to loops to prevent any vertical movement.

K40/370 TIMBER EDGE BATTENS:

Material: Planed softwood to BS EN 942, class J10.

Moisture content: 15% +/- 2 at time of fixing.

Finished size: _____

Finish (to be applied before ceiling grid is installed): _____

Fix with _____ at not more than 450 mm centres.

K40/380 JOINTING OF PERIMETER TRIMS to be carried out neatly and accurately without lipping or twisting using:

Mitred joints at all external and internal corners.

The longest lengths of trim available from manufacturer to keep intermediate butt joints to a minimum.

K40/390 OPENINGS IN MEMBRANE MATERIALS to be formed accurately and neatly to suit sizes and edge details of fittings, using methods recommended by the manufacturer and without causing damage or distortion.

K40/395 SUPPORT OF SMALL FITTINGS VIA MEMBRANE MATERIALS:

Fittings must be adequately supported without causing damage or distortion to the membrane, by the use of rigid backing boards or other suitable means.

Surface spread of flame rating of additional supporting material must match that of the ceiling membrane material.

K40/400 INSULATION:

Fit accurately and firmly with no gaps so that specified performance levels are achieved.

Insulation within individual tiles, trays, etc. must be fitted closely and secured to prevent displacement when tiles are installed or subsequently lifted. Reseal any cut dustproof sleeving.

Lay out insulation over the membrane in the widest practical widths to suit spacings of grid members, with closely butted joints.

Do not cover electrical cables (unless they have been sized accordingly). Cut insulation carefully around electrical fittings, etc.

On sloping and vertical areas of ceiling, fastenings must be used to prevent displacement.

K40/405 FIRE STOPPING TO FIRE RESISTING SUSPENDED CEILING: Seal any gaps at junctions of ceiling with perimeter abutments, service penetrations, etc. using tightly packed mineral wool or approved intumescent sealant to prevent penetration of smoke and flame.

K40/410 CAVITY FIRE BARRIERS:

Fire resistance to BS 476:Part 20:

Integrity/insulation (minutes): _____

Material: _____

Fixing: _____

Unless shown otherwise, install barriers to subdivide the ceiling void into areas not exceeding _____ m square.

Fix securely at perimeters and joints, ensuring permanent stability and continuity with no gaps, to provide a complete barrier to smoke and flame.

Fixing to the ceiling must not impair free expansion of grid system or otherwise affect fire resisting performance.

K40/420 SOUND BARRIERS:

Material: _____

Align accurately with partition heads. Fit tightly and fix securely at perimeters and joints, using methods recommended by the barrier manufacturer, including steel support sections as appropriate. Ensure permanent stability and continuity with no gaps.

Seal any gaps at junctions of sound barriers with partition heads, suspended ceiling, structural soffit, walls, ducts, pipes, etc. using mineral wool or suitable sealants.

K40/430 AIR PLENUM BARRIERS:

Material: rigid or semirigid non porous sheets with smooth nondusting surfaces having the same fire spread rating as that required for membrane materials exposed within the void. Fix securely at perimeters and joints, using methods recommended by the barrier manufacturer to ensure permanent stability. All edges and joints to be effectively sealed to prevent air leakages.

K40/500 ELECTRICAL CONTINUITY AND EARTHBONDING:

All substantial conductive parts of the suspended ceiling system including integrated electrical equipment and fittings, are to be electrically continuous and fully earth bonded in accordance with BS 7671 (The IEE Wiring Regulations).

Ensure that earth bonding is completed as soon as possible after completion of each independent area of suspension system.

After completion of the ceiling installation, associated services and fittings, arrange for tests to demonstrate that the ceiling is electrically continuous and fully earth bonded in accordance with BS 8290:Part 3. Notify the CA to enable the testing to be witnessed. Submit a test report to the CA.

K40/505 INSTRUCTIONS AND TOOLS: Provide the Main Contractor with duplicate sets of user instructions and access tools recommended by the suspended ceiling/access panel manufacturer. One for the use of contractors requiring access to the void and the other for handing over to the CA at Practical Completion.

K40/510 ACCESS TOOLS: Provide the Main Contractor with two sets of:

One set to be for the use of contractors requiring access to the void and the other for handing over to the CA at Practical Completion.

K40/520 USER INSTRUCTIONS: Provide the Main Contractor with two copies; one for the use of contractors requiring access to the void and the other for handing over to the CA at Practical Completion. The contents of the instructions to include:

Correct methods for lifting and replacing tiles, panels, etc.

Cleaning methods and materials.

Decoration of tiles and touching up where appropriate.

Limitations placed on subsequent alterations and maintenance procedures to fire resisting suspended ceilings to ensure that their performance is not impaired.

K40/530 SPARES: Provide the following and hand over to the Employer at Practical Completion:

K40/540 POST INSTALLATION VISIT: After completion of services and associated work by others: Thoroughly inspect the ceiling installation for defects. Prepare a schedule of outstanding

defects and submit a copy to the CA.

Check that tiles, integrated luminaires, diffusers, etc. are correctly fitted, aligned and clean.