



CERTIFICATE OF APPROVAL

No CF 429

This is to certify that, in accordance with
TS00 General Requirements for Certification of Fire Protection Products
The undermentioned products of

ETEX BUILDING PERFORMANCE LTD

Gordano House, Marsh Lane, Easton-in-Gordano, Bristol,
BS20 0NE, United Kingdom
Tel: 0800 145 6033

Have been assessed against the requirements of the Technical Schedule(s)
denoted below and are approved for use subject to the conditions
appended hereto:

CERTIFIED PRODUCT

Durasteel Partitions and
Ceiling Membranes

TECHNICAL SCHEDULE

TS49 Vertical and Horizontal
Separating Elements

Signed and sealed for and on behalf of Warringtonfire Testing and Certification Limited

Paul Duggan
Certification Manager



Issued: 13th April 2006
Reissued: 8th April 2024
Valid to: 8th July 2024





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ETEX BUILDING PERFORMANCE LTD

Durasteel Partition and Ceiling Membrane Assemblies

1. This approval relates to the use of the above partitions and ceiling membrane assemblies in providing fire resistance of up to 240 minutes integrity for uninsulated assemblies, or integrity and insulation, for insulated assemblies, as defined in BS 476: Part 22: 1987.
2. This certification is provided to the client for their own purposes and we cannot opine on whether it will be accepted by Building Control authorities or any other third parties for any purpose.
3. The partitions and ceiling membranes are approved on the basis of:
 - i) Initial type testing
 - ii) Audit testing at the frequency specified in TS49
 - iii) A design appraisal against TS49
 - iv) Inspection and surveillance of factory production control
 - v) Production surveillance under ISO 9001:2015
4. The partition and ceiling membrane assemblies comprise Durasteel board screwed to a steel framework and for insulated constructions include mineral wool insulation.
5. This approval is applicable to insulated and uninsulated Durasteel partition and ceiling membrane assemblies as described within this Certificate.
6. The partition and ceiling membrane assemblies shall be mechanically fixed to wall and/or floor constructions or structural steel members having a fire resistance of at least the same period as the partition or ceiling membrane.
7. The approval relates to ongoing production. Product and/or its immediate packaging is identified with the manufacturers' name, the product name or number, the CERTIFIRE name or name and mark, together with the CERTIFIRE certificate number and application where appropriate.

Further Information

Further information regarding the details contained in this certificate may be obtained from Etex Building Performance Ltd(Tel: 0800 145 6033).

Further information regarding CERTIFIRE certification and other approved products can be obtained from CERTIFIRE.

(Tel:01925 646777, website: www.warringtoncertification.com/certifire).

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Durasteel Partition Assemblies

Uninsulated partition assemblies (up to 240 minutes integrity)

A single layer of Durasteel board, 9.5mm thick, supported by a framework of steel channels, minimum 80mm wide x 60mm deep x 3mm thick, with the vertical channels at 1200mm maximum centres. The boards are fastened to one flange of the steel channels with M5.5 steel self drill and tap Tek screws at 250mm nominal centres. The Durasteel boards are supplied at a maximum size of 2.5 m x 1.2 m. Vertical board joints coincide with the channel studs. Horizontal board joints are backed by a steel channel the same size as the vertical studs. The perimeter channels of the partition are fastened to the surrounding construction with M10 or M12 all-steel expanding anchors (or equivalent for alternative types of supporting construction) at 500mm maximum centres. The maximum height of the partition assemblies is 15.0 m. Fire attack may be from either face.

The horizontal and vertical channel members are either welded together or joined with steel angle cleats, minimum 60mm x 60mm x 3mm thick x 60mm long, that are fastened to each channel member with two M10 steel bolts and nuts. Wherever possible the main vertical channel studs are formed in one continuous length to avoid the need for splicing.

Where an expansion allowance is provided at the top of a partition, steel channels, minimum 50mm flanges x 3mm thick, are fastened to the vertical channels with M10 steel bolts and nuts. The width of the channel (web dimensions) should be such that it is a close fit within the channel studs. At the junction above the expansion gap the channels are connected with minimum two M10 bolts. At the junction below the expansion gap the channels are connected, through slotted holes, with minimum two M10 bolts fitted with fusible washers. The gap in the Durasteel board facing is covered with a Durasteel cover panel that is fastened to the steel framework above the gap (through the Durasteel facing board) and overlaps the Durasteel board below the gap by at least 50mm. Up to a height of 4 m no expansion allowance is required. Above that height an expansion allowance of at least 6mm per metre height is required.

Increased partition heights

The size of steel channel used in the construction of the partition framework for various heights is as follows:

Height of partition - m	Size of channel for single skin uninsulated partitions -mm x mm x mm	Size of channel for double skin insulated partitions -mm x mm x mm
0 – 6	80 x 60 x 3	80 x 60 x 3
6 – 9	150 x 60 x 3	150 x 60 x 3
9 – 12	Two 150 x 60 x 3 back to back	Two 150 x 60 x 3 back to back
12 - 15	Two 175 x 60 x 3 back to back	Two 200 x 60 x 3 back to back

Durasteel Partition Assemblies

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The back-to-back channels are fastened together with M10 steel bolts and nuts at 500mm maximum centres. The vertical joints in the Durasteel should be offset by 30mm from the centreline of the back-to-back studs to avoid a straight through path for hot gases. The horizontal channels are single channels.

Insulated partition assemblies

The construction of the insulated double-skin Durasteel partitions is identical to the uninsulated single-skin partitions except for the following changes:

- A second skin of Durasteel, 9.5mm thick, is fitted to the opposite face of the steel framework.
- For some constructions Durasteel fillets are fitted over both faces of the channel members before the faces are fitted. The fillets must overlap the channels by at least 20mm on both sides.
- For 120 and 240 minute insulation periods mineral wool insulation is fitted in the cavity of the partition.

Details of the different specifications for the insulated partitions are as follows:

Fire resistance – minutes		Stud size - mm	Durasteel fillets per face	Rock wool infill
Integrity	Insulation			
240	60	80, 150 & 200	1	None
240	120	80	1	2 x 40mm x 140kg/m ³
240	120	150	None	3 x 50mm x 80kg/m ³
240	120	200	None	4 x 50mm x 60kg/m ³
240	240	80	2	3 x 40mm x 140kg/m ³
240	240	150	2	3 x 50mm x 100kg/m ³
240	240	200	1	4 x 50mm x 80kg/m ³

The mineral wool is fitted into the channels. If the mineral wool does not fill the cavity it must be fastened in position with 2.5mm-diameter steel stud-welded pins and 38mm-diameter spring steel washers. The pins are positioned in a grid 400mm x 400mm maximum. Joints in the layers of mineral wool overlap by at least 150mm.



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Durasteel Ceiling Membrane Assemblies

Uninsulated ceiling membrane assemblies (up to 240 minutes integrity)

A single layer of Durasteel board, 9.5mm thick, supported by a framework of steel channels, minimum 80mm wide x 60mm deep x 3mm thick, with the primary channels at 1200mm maximum centres. The primary channels are supported from the building structure above the ceiling membrane with steel drop rods at 1.50m maximum centres. The threaded rods pass through clearance holes in the upper flange of the channels and are fastened with steel hexagon full nuts. The diameter of the drop rods is such that the tensile stress within the rods does not exceed 6N/mm² for fire ratings up to 240 minutes and 10N/mm² for fire ratings up to 120 minutes. The boards are fastened to the lower flange of the steel channels with M5.5 steel self drill and tap Tek screws at 200mm nominal centres. The Durasteel boards are supplied at a maximum size of 2.5m x 1.2m. Longitudinal board joints coincide with the primary channels. Transverse board joints are backed by a steel channel the same size as the primary channels. The perimeter channels of the ceiling membrane are fastened to the surrounding construction with M10 or M12 all-steel expanding anchors (or equivalent for alternative types of supporting construction) at 500mm maximum centres. Fire attack may be from either above or below the ceiling membrane.

The longitudinal and transverse channel members are either welded together or joined with steel angle cleats, minimum 60mm x 60mm x 3mm thick x 60mm long, that are fastened to each channel member with two M10 steel bolts and nuts.

Where an expansion allowance is provided within the primary channels, steel jointing channels, minimum 50mm flanges x 3mm thick, are fastened to the primary channels with M10 steel bolts and nuts. The width of the jointing channel (web dimensions) should be such that it is a close fit within the primary channels. On one side of the expansion gap the primary and jointing channels are connected with minimum two M10 bolts. On the opposite side of the expansion gap the channels are connected, through slotted holes, with minimum two M10 bolts fitted with fusible washers. For fire attack from below, an expansion allowance of at least 6mm per metre is required for primary channels longer than 4m. For fire attack from above, an expansion allowance of at least 6mm per metre is required for all sizes of ceiling. As drop rods support the ceiling, the length and width of the ceiling membrane is unrestricted.

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Durasteel Ceiling Membrane Assemblies

Insulated ceiling membrane assemblies

The construction of the insulated single and double-skin Durasteel ceiling membranes is identical to the uninsulated single-skin ceiling membranes except for the following changes:

- For some constructions a second skin of Durasteel, 9.5mm thick, is fitted to the upper face of the steel framework.
- For some constructions Durasteel fillets are fitted over the upper and lower faces of the channel members before the faces are fitted. The fillets must overlap the channels by at least 20mm on both sides.
- Mineral wool insulation, 140kg/m³ nominal density, is fitted over the soffit layer of Durasteel and either filling the channels or covering the channels. Joints in the layers of mineral wool overlap by at least 150mm.

Details of the different specifications for the insulated ceiling membranes are as follows:

System	Fire resistance minutes	Fire attack	Durasteel boards	Durasteel fillets per face	Thickness of mineral wool
A	120	below	1 x 9.5mm below	1 x 9.5mm above & below	80mm
B ²	120	above or below	1 x 6mm below	None	80mm
C ²	120	above or below	1 x 9.5mm below	None	80mm
D ¹	120	above or below	1 x 9.5mm above & below	None	80mm
E ¹	240	below	1 x 9.5mm below	1 x 9.5mm above & below	150mm
F ³	240	above or below	1 x 9.5mm below	None	120mm
G ¹	240	above or below	1 x 9.5mm above & below	1 x 9.5mm above & below	150mm
H	240	above or below	1 x 9.5mm above & below	2 x 9.5mm above & below	120mm

Note 1 – Constructed with 60mm x 150mm x 60mm x 3mm thick steel channels.

Note 2 – Mineral wool laid over the steel channels, not between them.

Note 3 – Fitted with 2 x 60mm thick layers of rock wool, one laid between the channels and the second over the channels. A layer of 1.5mm thick steel sheet is laid on top of the upper layer of mineral wool.