



CERTIFICATE OF APPROVAL

No CF 607

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
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 Composite Barriers

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: 29th May 2008
Reissued: 13th September 2019
Frequency: Every 5 Years
Valid to: 12th September 2024





CERTIFICATE No CF 607

ETEX BUILDING PERFORMANCE LTD

Durasteel Composite Barrier Assemblies

1. 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.
2. This approval relates to the use of the above partition assemblies in providing fire resistance of 240 minutes integrity and up to 240 minutes insulation as defined in BS 476: Part 22: 1987. Subject to the undermentioned conditions, the partitions will meet the relevant requirements of BS 9999 for fire resisting compartment walls, for periods of up to 240 minutes (dependent upon design limitations) when used in accordance with the provisions therein.
3. This certification is designed to demonstrate compliance of the product or system specifically with Approved Document B (England and Wales), Section D of the Technical Standards (Scotland), Technical Booklet E (N. Ireland). If compliance is required to other regulatory or guidance documents there may be additional considerations or conflict to be taken into account.'
4. The partitions 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) Certification of quality management system to ISO 9001: 2008
5. The partition assemblies comprise Durasteel board and Promatect 250 board screwed to a Durasteel framework.
6. This approval is applicable to insulated Durasteel composite barrier assemblies as described within this Certificate.
7. The partition 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.
8. The approval relates to on going 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.



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Insulated Durasteel Composite Barrier Assemblies

The basic construction consists of a framework of Durasteel channels, minimum 80mm wide x 60mm deep x 3mm thick, with the vertical channels at 1200mm maximum centres and horizontal channels at 2000mm maximum centres. 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. For partition heights up to 4m the horizontal and vertical channel members may be welded together or joined with Durasteel 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. Above this height the horizontal and vertical channel members are joined with the angle cleats. Wherever possible the main vertical Durasteel channel studs should be formed in one continuous length to avoid the need for splicing.

The inner layer of board on each face of the Durasteel framework is Promatect 250 board, minimum 12mm thick. It is fastened to the framework with steel countersunk ribbed timber-fix Tek screws at 600mm nominal centres. Vertical board joints coincide with the studs. Horizontal board joints are fitted with an internal Promatect 250 cover strip, 100mm wide x same thickness as the facing boards, fastened on both sides of the joint with steel drywall screws at 250mm nominal centres.

The outer layer of board on each face of the Durasteel framework is Durasteel board, 6mm or 9.5mm thick. It is fastened to the framework, through the Promatect 250 board, with M5.5 steel self drill and tap Durasteel Tek screws at 250mm nominal centres. Vertical board joints coincide with the studs. Horizontal board joints coincide with the horizontal channels or are fitted with an internal steel cover strip, 100mm wide x 3mm thick, fastened on both sides of the joint with M5.5 steel self drill and tap Durasteel Tek screws at 250mm nominal centres.

Up to a height of 4m no expansion allowance is required. Above that height an expansion allowance of at least 6mm per metre height is required. Where an expansion allowance is provided at the top of a partition, Durasteel 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 and Promatect 250 board facing is covered with a Durasteel and Promatect 250 board cover panel that is fastened to the Durasteel framework above the gap (through the facing boards) and overlaps the facing boards below the gap by at least 75mm.



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The proposed arrangement for various fire resistance performances is as follows:

Integrity and insulation (minutes)	Inner layer	Outer layer
	Promatect 250 (mm)	Durasteel (mm)
60	12	6
90	12	9.5
120	15	9.5
180	20	9.5
240	25	9.5

The alternative sizes of Durasteel channel stud are 80mm x 60mm x 3mm thick, 150mm x 60mm x 3mm thick and 175mm x 60mm x 3mm thick, 200mm x 60mm x 3mm thick, 250mm x 60mm x 3mm thick with minimum yield strength of 350 N/mm² for cold rolled sections) and UKPFC 380x100x54 (with minimum yield strength of 275 N/mm²). The back-to-back Durasteel 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 size of Durasteel channel used in the construction of the partition framework for various heights is as follows:

60minutes fire resistance (integrity and insulation)					
Web (mm)	Flange (mm)	Lip (mm)	Thickness (mm)	Maximum Height (mm)	
				1200(mm)	600(mm)
80	60	-	3	5350	7850
150	60	-	3	8500	11800
175	60	-	3	9300	12850
200	60	-	3	10000	13875
250	60	-	3	11400	15675
Double section back to back					
250	60	-	3	13500	-



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120minutes fire resistance (integrity and insulation)					
Web (mm)	Flange (mm)	Lip (mm)	Thickness (mm)	Maximum Height (mm)	
				1200(mm)	600(mm)
80	60	-	3	4400	6500
150	60	-	3	7150	10100
175	60	-	3	8000	11100
200	60	-	3	8650	11950
250	60	-	3	9800	13500
Double section back to back					
250	60	-	3	11600	-

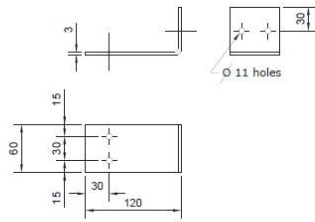
180minutes fire resistance (integrity and insulation)					
Web (mm)	Flange (mm)	Lip (mm)	Thickness (mm)	Maximum Height (mm)	
				1200(mm)	600(mm)
80	60	-	3	4000	5850
150	60	-	3	6300	9125
175	60	-	3	7100	9950
200	60	-	3	7750	10700
250	60	-	3	8750	12100
Double section back to back					
250	60	-	3	10400	-

240minutes fire resistance (integrity and insulation)					
Web (mm)	Flange (mm)	Lip (mm)	Thickness (mm)	Maximum Height (mm)	
				1200(mm)	600(mm)
80	60	-	3	4000*	5250
150	60	-	3	5700	8375
175	60	-	3	6400	9150
200	60	-	3	7050	9850
250	60	-	3	8000	11150
Double section back to back					
250	60	-	3	9550	-
UKPFC 380x100x54					
Web (mm)	Flange (mm)	t _w (mm)	t _f (mm)		
380	100	9.5	17.5	15000	-

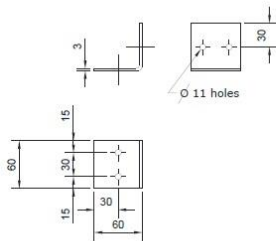
The approval for the integrity performance of the partition assemblies is for 240 minutes. The maximum height of the partition assemblies is 15.0m. Fire attack may be from either face.

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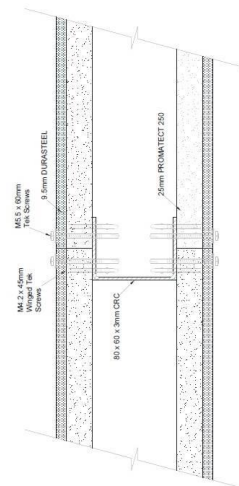
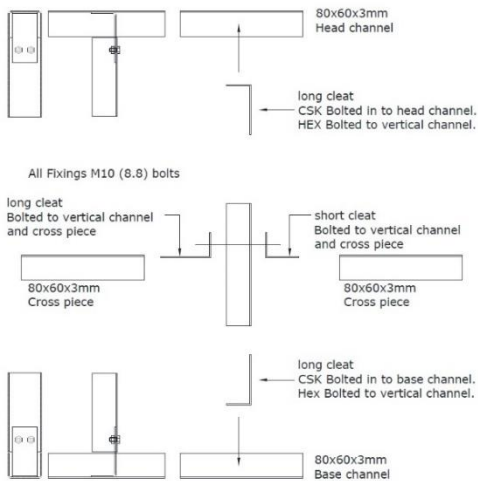
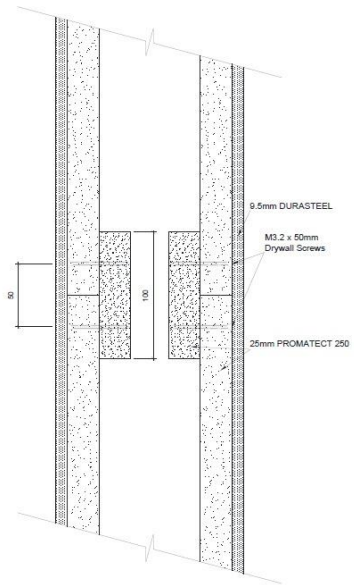
Insulated Durasteel Composite Barrier Assemblies Sample detail of the Durasteel framing system



Long Cleat



Short Cleat



Paul Duggan