

UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 1 of 14
Date of Issue 2021-10-29

Certificate Holder Etex Building Performance Limited
Gordano House,
Marsh Lane,
Easton-in-Gordano
Bristol, BS20 0NE, United Kingdom

Manufacturing Location(s) Etex Building Performance NV
Bormstraat 24,
2830 Tiselt,
Belgium

Certified Product Type Fire Protective Board, Slab and Mat Products and Kits
Product Trade Name PROMATECT® -250
Trademark N/A
Rating/Classification See Appendix

Harmonised Technical Specifications EAD 350142-00-1106
Supporting Documentation ETA – 08/0161, CERTIFICATE OF CONSTANCY OF PERFORMANCE 0749-CPR-08

Additional information Additional test evidence is held on file
Expiry date 2030-11-30



A handwritten signature in purple ink, appearing to read 'Chris Miles'.

**Authorized Certification Decision
Maker**
Chris Miles

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 2 of 14
Date of Issue 2021-10-29

This certificate relates to the use of PROMATECT® -250 for fire protection of structural steelwork.

The products are certificated on the basis of:

ETA – 08/0161
EC – CONSTANCY OF PERFORMANCE - 0749-CPR-08
Inspection and surveillance of factory production control by UL
Fire resistance test data in accordance with EN 13381-4: 2013
Classification in accordance with EN 13501-2 (Resistance to Fire)
Classification in accordance with EN 13501-1 (Reaction to Fire)
Durability and Serviceability as defined in EAD 350142-00-1106

The products have the following declared performance:

Resistance to Fire

PROMATECT® -250 for the fire protection of structural steel 'H' or 'I' shaped beams and columns. RSJs, structural tees, angles and channels; CHS and RHS sections. The precise scope is given in Tables 1 to 4 and tables in which show the total board thickness of PROMATECT® -250 required to provide classifications of R15 to R120 for various design temperatures and section factors.

Reaction to Fire

Without Topcoat: Classification A1

Durability and Serviceability

Durability Performance

Product	Passed Environmental Conditions			
	Type Z ₂	Type Z ₁	Type Y	Type X
PROMATECT®-250	✓			

Application

PROMATECT®-250 board is supplied in a maximum board size of 2500mm x 1200mm and in thicknesses of 15mm, 20mm and 25mm. Thicknesses greater than 25mm, up to 50mm, are formed by two layers of board.

Three-sided Beam Casings – Method 1: PROMATECT®-250 soldiers

The protection system, using PROMATECT®-250, is fastened around the beam to form a boxed system. (Figure 1).



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 3 of 14
Date of Issue 2021-10-29

PROMATECT®-250 soldiers, 100mm wide, are wedged between the flange tips of the steel beam.

For beams up to 400mm deep, the soldiers are cut in half with a sloping cut which differs by 5mm from side to side and the two parts tapped together to wedge the soldier in position. (Figure 2)

Soldiers are required to be fitted at the ends of the beam and at maximum 1250mm centres; the soffit board is fitted between the side boards. Soldiers must coincide with board joints.

For single layer casings, the thickness of the soldier is the same as the casing. For double layer casings, the thickness of the soldier must be the same as the thicker layer.

The side boards are stapled to the soldiers and to the soffit boards. The staples are steel staples, 50mm x 12.5mm x 1.6mm, at 150mm maximum centres. The end staples are located 40mm from the corner of the board.



Figure 2

For double layer casings the second layer is fastened in the same manner as the first layer. Board joints are staggered between layers by at least 530mm,

Where more than one layer of board is used in a casing, the thicker layer should be applied first.



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 4 of 14
Date of Issue 2021-10-29

For deeper sections, up to 600mm deep each soldier is strengthened using a PROMATECT®-250 stiffener to form a T-shaped soldier. The stiffener is the same thickness as the standard soldier and is wedged between the flanges. The standard soldier is stapled to the outer edge of the stiffener to form the T-shaped soldier. (Figure 3).

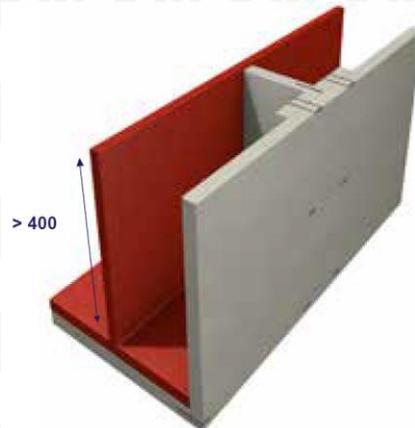


Figure 3

For beams with lower flange widths over 325mm up to 600mm additional support is provided by a steel top-hat section, minimum 50mm x 25mm x 0.5mm or Z-bar, minimum 25mm x 25mm x 1.2mm fixed across the width of the beam at maximum 600mm centres. The top-hat section or Z-bar is fixed to the beam with either screws or shot-fired nails at maximum 200mm centres. The boards are fixed to the top-hats or Z-bars with M4 countersunk self-tapping drywall screws at nominal 200mm centres.



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 5 of 14
Date of Issue 2021-10-29

Three-sided Beam Casings – Method 2: Steel Angles

As an alternative to using PROMATECT®-250 soldiers, the side boards may be secured using continuous galvanised steel angles, min 50mm x 25mm x 0.5mm. The angles are fastened to the steel beam with either minimum 9.5mm x M4 pan head steel screws or shot fired 3.7mm x 16mm steel nails (Hilti ENK 16 S12 or equivalent) at 500mm maximum centres. (Figure 4)

The boards are fastened to the angles with M4 countersunk self-tapping drywall screws at nominal 200mm centres. Screw length should allow minimum of 10mm penetration through the angle



Figure 4

In single layer casings, joints in the side panels are backed with PROMATECT® -250 cover strips, 100mm wide, minimum 15mm thick, fastened on both sides of the joint with steel staples, 50mm x 12.5mm x 1.6mm, at maximum 150mm centres.

For double layer casings the thicker board is applied first, board joints are staggered between layers by at least 530mm and cover strips are not required.

The soffit panels are fitted between the side panels and fastened with steel staples, 50mm long x 12.5mm wide x 1.6mm thick, at 150mm centres. For single layer boards, 15mm thick, the length of the staples may be reduced to 35mm.

For beams with lower flange widths over 325mm up to 600mm additional support is provided by a steel top-hat section, minimum 50mm x 25mm x 0.5mm or Z-bar, minimum 25mm x 25mm x 1.2mm fixed across the width of the beam at maximum 600mm centres. The top-hat section or Z-bar is fixed to the beam with either screws or shot-fired nails at maximum 200mm centres. The boards are fixed to the top-hats or Z-bars with M4 countersunk self-tapping drywall screws at nominal 200mm centres.

Four-sided Beam Casings using Soldier or Angle fix

The construction technique is the same as for three-sided casings except that the side panels extend above the beam for the thickness of the board and the PROMATECT®-250 boards are fitted between the side panels to protect the top of the beam. The staple fixings are the same as for other board to board joints.

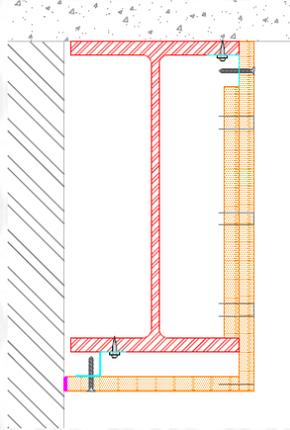


UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 6 of 14
Date of Issue 2021-10-29

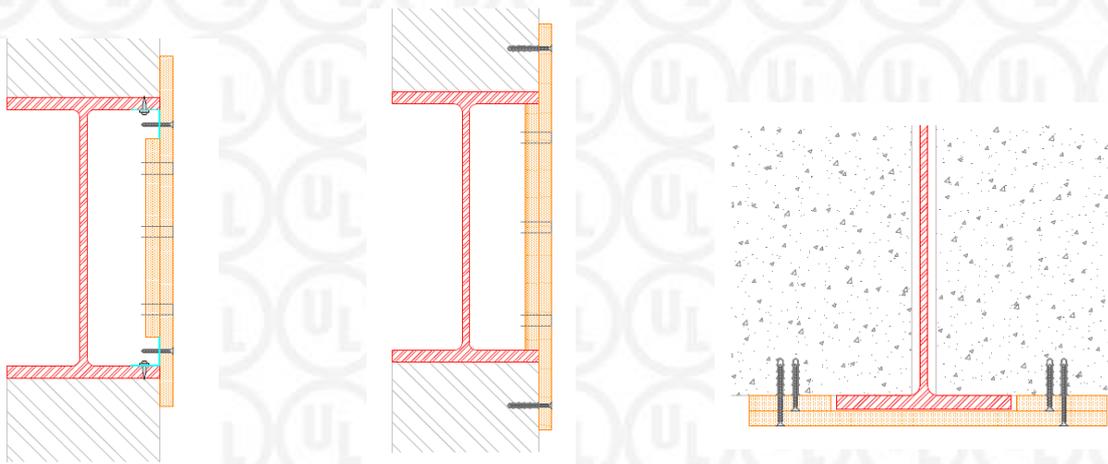
Two-sided Beam Casings

The side boards are secured to steel angles as for three-sided beam casings. One edge of the soffit board is stapled to the side board. The opposite edge is screwed to a continuous steel top-hat section, minimum 50mm x 25mm x 0.5mm or Z-bar, minimum 25mm x 25mm x 1.2mm with M4 countersunk self-tapping drywall screws at 200mm centres. The top-hat section or Z-bar is fixed to the beam with either screws or shot-fired nails at maximum 500mm centres. Any abutments to surrounding structure should be sealed with PROMASEAL® Intumescent Acrylic Sealant.



One-sided Beam Casings

The side boards are secured to steel angles fixed to the flanges as for three-sided beam casings. Alternatively, they can be fixed to the surrounding structure using minimum M4 steel screws and metal plugs or M6 concrete screws at 300mm centres. Spacer or packing strips of PROMATECT®-250 may be required. Side boards should overlap on to surround by minimum 75mm.



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 7 of 14
Date of Issue 2021-10-29

Three & Four-Sided Deep Web Beams

For steel sections deeper than 600mm and up to 1200mm deep, a framed casing arrangement may be used, as detailed below.

Framing: 30mm x 52mm x 30mm x 0.5mm steel U-channel fixed to the underside of the top flanges and the upper side of the bottom flanges of the steel beam. Vertical steel C-channels, 36mm x 50mm x 34mm x 0.5mm, are fitted into the horizontal channels at 1250mm centres.

Fixings:

U-channel to flange: Shot fired 3.7mm x 16mm steel nails (Hilti ENK 16 S12 or equivalent) or self-tapping 9.5mm x No.8 panhead screws at maximum 500mm centres.

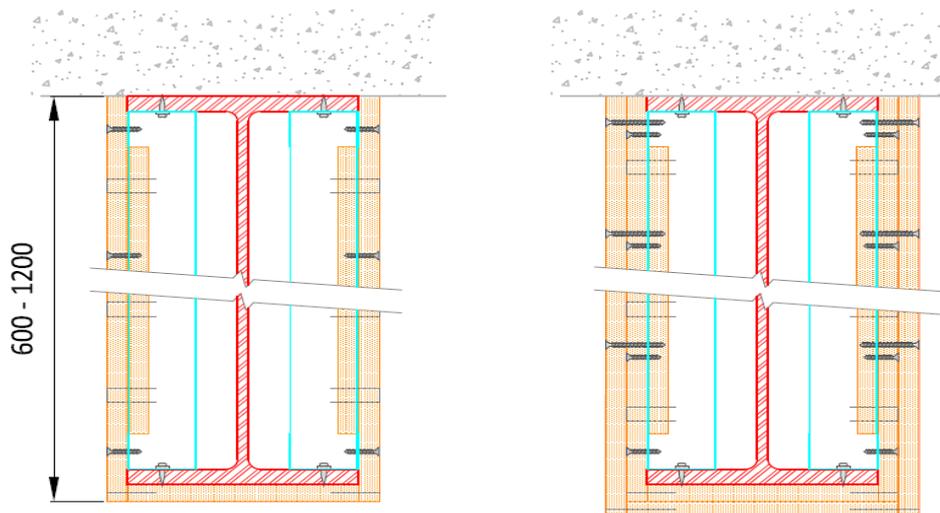
Board to channels: M4 countersunk self-tapping drywall screws at nominal 200mm centres. Screw length should allow minimum of 10mm penetration through the channel.

Board to board: Steel staples, 50mm long x 12.5mm wide x 1.6mm thick, at 150mm centres.

The end staples are located nominally 40mm from the corner of the board. For single layer boards, 15mm thick, the length of the staples may be reduced to 35mm.

Cover strips:

In single layer casings, joints in the side panels are backed with PROMATECT® -250 cover strips, 100mm wide, fastened on both sides of the joint with steel staples, 50mm x 12.5mm x 1.6mm, at maximum 150mm centres. The thickness of these cover strips is minimum 15mm thick for single layer casings. For double layer casings the thicker board is applied first, board joints are staggered between layers by at least 530mm and cover strips are not required



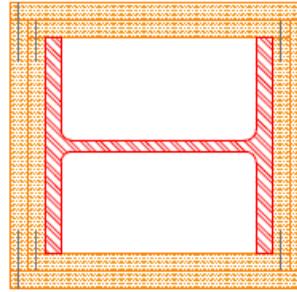
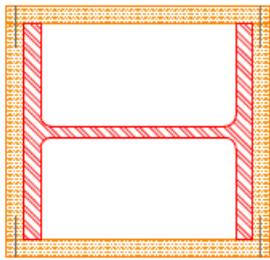
UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 8 of 14
Date of Issue 2021-10-29

Four-sided Column Casings

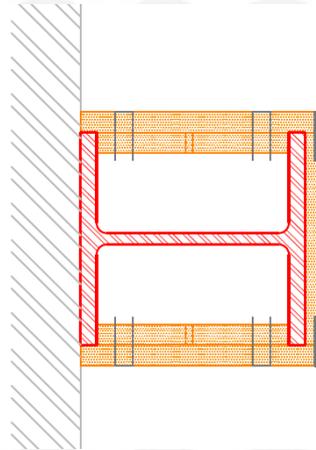
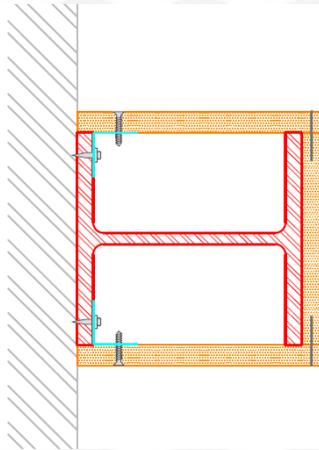
For four-sided column casings PROMATECT® -250 soldiers are wedged between the flanges at the top and bottom of the column, created in the same fashion as for beams. The soldiers are 100mm wide x casing thickness. The boards are fixed to the soldiers and to each other using steel staples, 50mm long x 12.5mm wide x 1.6mm thick, at 150mm centres. The end staples are located nominally 40mm from the corner of the board. Soldiers may be fitted behind board joints as an option. Cover strips are not required. Board to board joints on adjacent sides are staggered by at least 530mm. For single layer boards, 15mm thick, the length of the staples may be reduced to 35mm.

For double layer casings the thicker board is applied first, board to board joints on adjacent sides are staggered by at least 530mm and board joints between layers are also staggered by minimum 530mm.



Three-sided Column Casings

The side boards are secured to either soldiers or steel angles. The construction technique is the same as for three-sided beam casings except that cover strips are not required when using the angle fix method. Any abutments to surrounding structure should be sealed with PROMASEAL® Intumescent Acrylic Sealant.



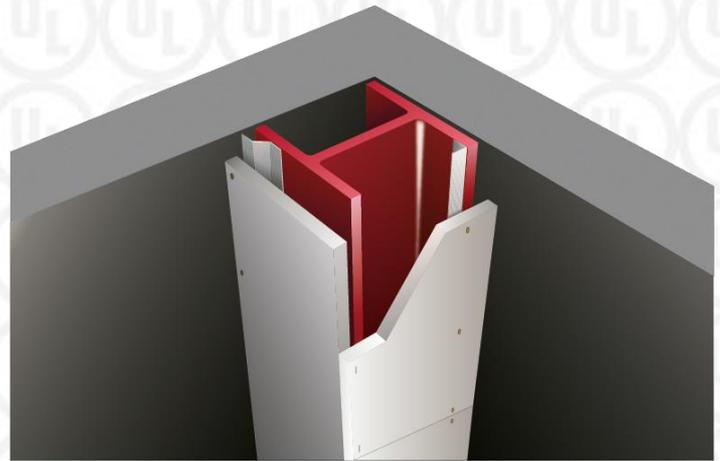
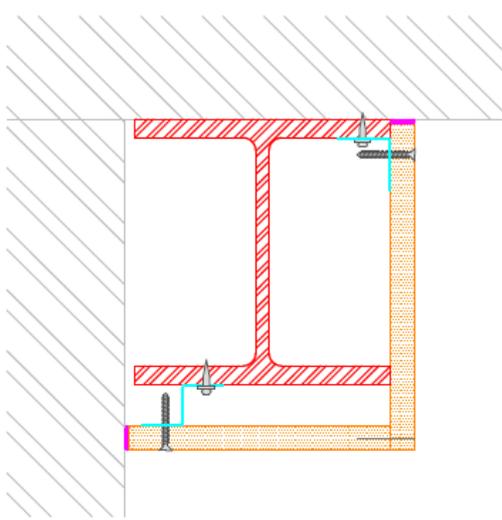
UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 9 of 14
Date of Issue 2021-10-29

Two-sided Column Casings

The side boards are secured to steel angles as for three-sided beam or column casings. One edge of the flange board is stapled to the side board. The opposite edge is screwed to a continuous steel top-hat section, minimum 50mm x 25mm x 0.5mm or Z-bar, minimum 25mm x 25mm x 1.2mm with M4 countersunk self-tapping drywall screws at 200mm centres. The top-hat section or Z-bar is fixed to the column with either screws or shot-fired nails at maximum 500mm centres. Any abutments to surrounding structure should be sealed with PROMASEAL® Intumescent Acrylic Sealant.

For single layer boards, 15mm thick, the length of the staples may be reduced to 35mm.



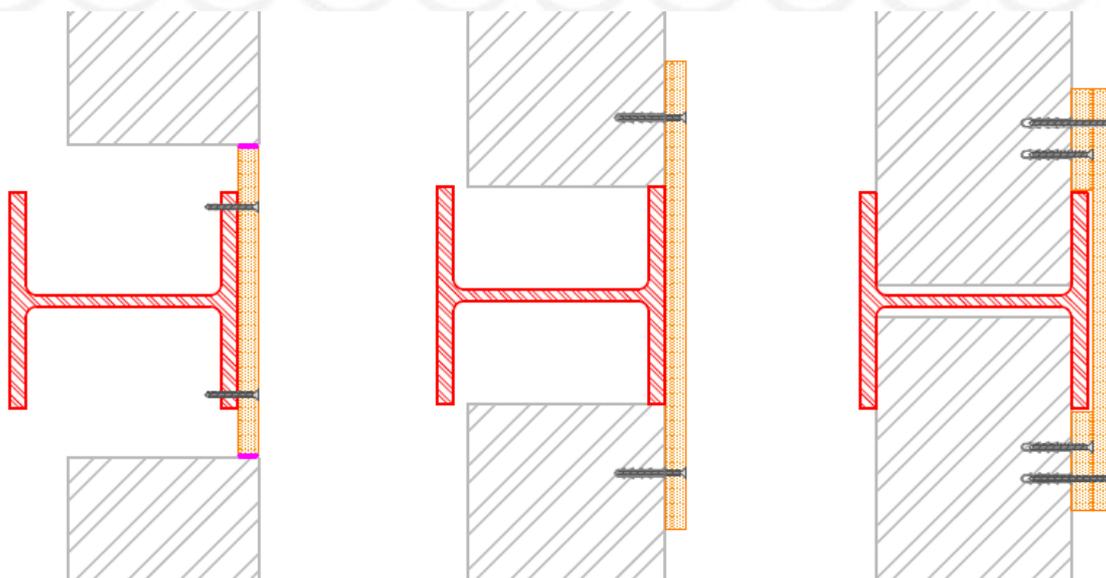
UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 10 of 14
Date of Issue 2021-10-29

One-sided Column Casings

The PROMATECT® -250 boards are fixed directly to the steel flange using steel self-drilling, self-tapping screws or shot fired nails (Hilti XU 27 S12 or equivalent) at 300mm centres. Alternatively, the PROMATECT® -250 board overlaps the wall by at least 75mm and is fastened to the wall with minimum M4 steel screws and metal plugs or M6 concrete screws at 300mm centres. Spacer or packing strips of PROMATECT® -250 may be required.

Any abutments to surrounding structure should be sealed with PROMASEAL® Intumescent Acrylic Sealant.



Maintaining Compartmentation

If it also required to provide fire insulation across a beam or column in order to maintain compartmentation to the criteria of EN 1363-1 (maintaining insulation to average temperature rise of 140°C, maximum temperature rise 180°C), then the minimum thickness of PROMATECT® -250 board on each side of the beam or column must be 15mm for 60 minutes insulation, 20mm for 90 minutes insulation and 25mm for 120 minutes insulation.



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR

Page 11 of 14

Date of Issue 2021-10-29

AV Ratio for Beams & Columns Encasements

AV Ratio	350°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	250	65	-	-	15mm	-
	350	115	60	-	20mm	-
		190	85	55	25mm	-
		350	120	70	-	15mm + 15mm
			205	95	-	15mm + 20mm
			350	140	-	20mm + 20mm
				240	-	20mm + 25mm
				350	-	25mm + 25mm

AV Ratio	400°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	350	80	-	-	15mm	-
		140	70	-	20mm	-
		245	105	70	25mm	-
		350	170	90	-	15mm + 15mm
			305	120	-	15mm + 20mm
			350	180	-	20mm + 20mm
				325	-	20mm + 25mm
				350	-	25mm + 25mm

AV Ratio	450°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	350	95	50	-	15mm	-
		175	85	55	20mm	-
		305	125	80	25mm	-
		350	205	100	-	15mm + 15mm
			350	135	-	15mm + 20mm
				190	-	20mm + 20mm
				310	-	20mm + 25mm
				350	-	25mm + 25mm



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR

Page 12 of 14

Date of Issue 2021-10-29

	500°C		Limiting Steel temperature			
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
A/V Ratio	350	115	55	-	15mm	-
		220	100	65	20mm	-
		350	155	95	25mm	-
			265	115	-	15mm + 15mm
		350	150	-	15mm + 20mm	
			200	-	20mm + 20mm	
			315	-	20mm + 25mm	
			350	-	25mm + 25mm	

	550°C		Limiting Steel temperature			
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
A/V Ratio	350	135	65	-	15mm	-
		280	120	75	20mm	-
		350	185	110	25mm	-
			350	140	-	15mm + 15mm
			175	-	15mm + 20mm	
			235	-	20mm + 20mm	
			350	-	20mm + 25mm	
					25mm + 25mm	

	600°C		Limiting Steel temperature			
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
A/V Ratio	350	165	75	50	15mm	-
		350	140	85	20mm	-
			220	125	25mm	-
			350	170	-	15mm + 15mm
			215	-	15mm + 20mm	
			290	-	20mm + 20mm	
			350	-	20mm + 25mm	
					25mm + 25mm	



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR

Page 13 of 14

Date of Issue 2021-10-29

	650°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	350	255	85	55	15mm	-
		350	160	95	20mm	-
			260	145	25mm	-
			350	230	-	15mm + 15mm
				290	-	15mm + 20mm
				350	-	20mm + 20mm
				-	20mm + 25mm	
				-	25mm + 25mm	

	700°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	350	255	100	60	15mm	-
		350	190	110	20mm	-
			310	165	25mm	-
			350	340	-	15mm + 15mm
				350	-	15mm + 20mm
					-	20mm + 20mm
				-	20mm + 25mm	
				-	25mm + 25mm	

	750°C Limiting Steel temperature					
	Fire Resistance Period (minutes)				Board Thickness	
	30	60	90	120	Single Layer	Double Layer
AV Ratio	350	325	115	70	15mm	-
		350	220	125	20mm	-
			350	190	25mm	-
				350	-	15mm + 15mm
					-	15mm + 20mm
					-	20mm + 20mm
				-	20mm + 25mm	
				-	25mm + 25mm	



UL-EU CERTIFICATE

Certificate No. UL-EU-01220-CPR
Page 14 of 14
Date of Issue 2021-10-29

The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Certificate Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

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The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul

