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Quelfire Putty Pad

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1. Introduction

This classification report defines the classification assigned to the element Quelfire Putty Pad, in accordance with the procedures given in BS EN 13501-2: 2016.

2. Details of classification product

2.1 General

The element Quelfire Putty Pad is defined as a fire resisting penetration sealing system to be used to reinstate the performance of flexible walls.

2.2 Product description

The element Quelfire Putty Pad is fully described in the test reports provided in support of classification detailed in clause 3.1.

3. Test reports in support of classification

3.1 Summary of test reports

Name of laboratory	Name of sponsor	Test and Date	Test method
Warringtonfire - Notified Body No. 0833	Quelfire Ltd	WF No. 501324/R, 27/04/21	BS EN 1366-3: 2009
Exova Warringtonfire - Notified Body No. 0833		WF No. 501694/R 21/05/21	
		WF No. 385717, 31/07/17	



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3.2 Results

Summary of report No.: WF No. 501324/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on penetration seals installed in a 75 mm flexible wall supporting construction. The results of the test were as follows:

Reference	Integrity (mins)			Insulation (mins)
	Cotton pad	Sustained flaming	Gap Gauge	
A1 to A3	66	66	66	62
B1 to B3	66	66	66	57
E	66	66	66	57
F	62	62	62	56
G	66	66	66	57

Summary of report No.: WF No. 501324/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on penetration seals installed in a 95 mm flexible wall supporting construction. The results of the test were as follows:

Reference	Integrity (mins)			Insulation (mins)
	Cotton pad	Sustained flaming	Gap Gauge	
I	66	66	66	58
J	66	66	66	-
O	66	66	66	61
P1 to P3	66	66	66	59
Q1 to Q3	66	66	66	-
R	66	66	66	58
S	66	66	66	52

Summary of report No.: WF No. 385717

A fire resistance test in accordance with BS EN 1366-3: 2009, on penetration seals installed in a 100 mm flexible wall supporting construction. The results of the test were as follows:

Reference	Integrity (mins)			Insulation (mins)
	Cotton pad	Sustained flaming	Gap Gauge	
A1	124	124	125	124
B1	135	135	135	135
Y	41	41	43	41
Z	103	103	104	103



Project No.: 4790067615

Summary of report No.: WF No. 501694/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on penetration seals installed in a 100 mm flexible wall supporting construction. The results of the test were as follows:

Reference	Integrity (mins)			Insulation (mins)
	Cotton pad	Sustained flaming	Gap Gauge	
A1 to A3	132	132	132	117
B1 to B3	132	132	132	121
E	125	125	125	112
F	121	121	122	105
G	132	132	132	129

Summary of report No.: WF No. 501694/R

A fire resistance test in accordance with BS EN 1366-3: 2009, on penetration seals installed in a 130 mm flexible wall supporting construction. The results of the test were as follows:

Reference	Integrity (mins)			Insulation (mins)
	Cotton pad	Sustained flaming	Gap Gauge	
H	129	132	132	127
I	132	132	132	132
N	121	121	122	115
O1 to O3	132	132	132	132
P1 to P3	132	132	132	132
Q	132	132	132	132
R	123	123	123	112

4. Classification and field of application**4.1 Reference of classification**

This classification has been carried out in accordance with Clause 7 of EN 13501-2: 2016.

4.2 Classification

The element, product name Quelfire Putty Pad is classified according to the following combinations of performance parameters and classes as appropriate.

R	E	I	W		t	t	-	M	S	C	IncSlow	sn	ef	r	G	K
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**Quelfire Putty Pads in Metal Socket Boxes****Installation Details:**

The Quelfire Intumescent Acoustic Putty Pad should be moulded to fully line the internal face of the back and sides of the metal electrical socket box. ≥ 3 mm thickness intumescent putty should be maintained throughout.

Metal Socket Boxes with a depth ≤ 47 mm are suitable, and metal extension box frames can be used to extend the metal socket box to the front face of the wall, as long as the overall depth is not greater than the tested scope of the wall construction being used. The metal socket box should be fitted to a steel caddy.

A gap ≤ 5 mm between the Metal electrical socket box and back of the fire rated plasterboard is tolerable.

The Quelfire Intumescent Acoustic Putty Pad is extended (using additional putty where necessary ensuring a ≥ 3 mm thickness is maintained) to sit flush with the front face of the plasterboard wall at a 3 mm thickness.

Socket box dimensions

Single socket box dimensions ≤ 72 mm (wide) x ≤ 72 mm (high)

Double socket box dimensions ≤ 132 mm (wide) x ≤ 72 mm (high)

Media panel socket box dimension ≤ 252 mm (wide) x ≤ 192 mm (high)

Aperture dimensions

Single socket box 75 mm (wide) x 75 mm (high)

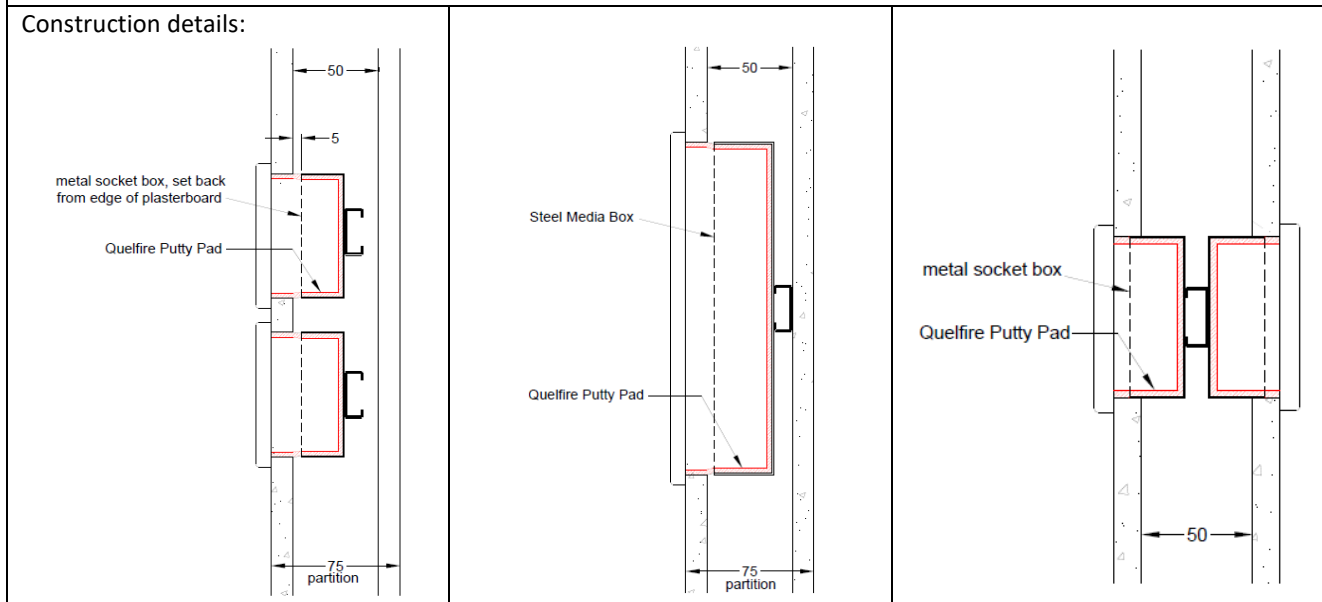
Double socket box dimensions ≤ 135 mm (wide) x ≤ 75 mm (high)

Media panel socket box dimension ≤ 255 (wide) x ≤ 196 (high)

Beadmaster product may also be used with the socket boxes where practically possible

Flexible or rigid wall constructions with wall thickness of minimum 75 mm

Flexible walls (insulated or uninsulated) to have a minimum 50 mm wide stud and minimum 1no. layer of 12.5mm plasterboard on both sides of the stud. The back of the metal socket box should be no further than 52.5 mm from the front face of the plasterboard wall.



Penetration seal with socket boxes

Service type*^	Position	Quelfire Putty Pads	Minimum Distance Between Multiple Sockets on Same Side of Wall	Classification
Single or double metal socket boxes, reference 'LAP' 13A 2 gang switch plug sockets, with 'Appleby' 25 mm deep socket boxes.	Offset – fitted to each face	Internal faces of box fully lined with pad	20 mm	E 60, EI 45
Deta S1987 Multimedia switched socket with 4x13A + TV + phone socket + 4 data module blanks and a 35 mm deep back box	Offset – fitted to each face	Internal faces of box fully lined with pad	100 mm	E 60, EI 45
Single or double metal socket box, reference 'LAP' 13A 2 gang switch plug sockets, with 'Appleby' 25 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	E 60, EI 45

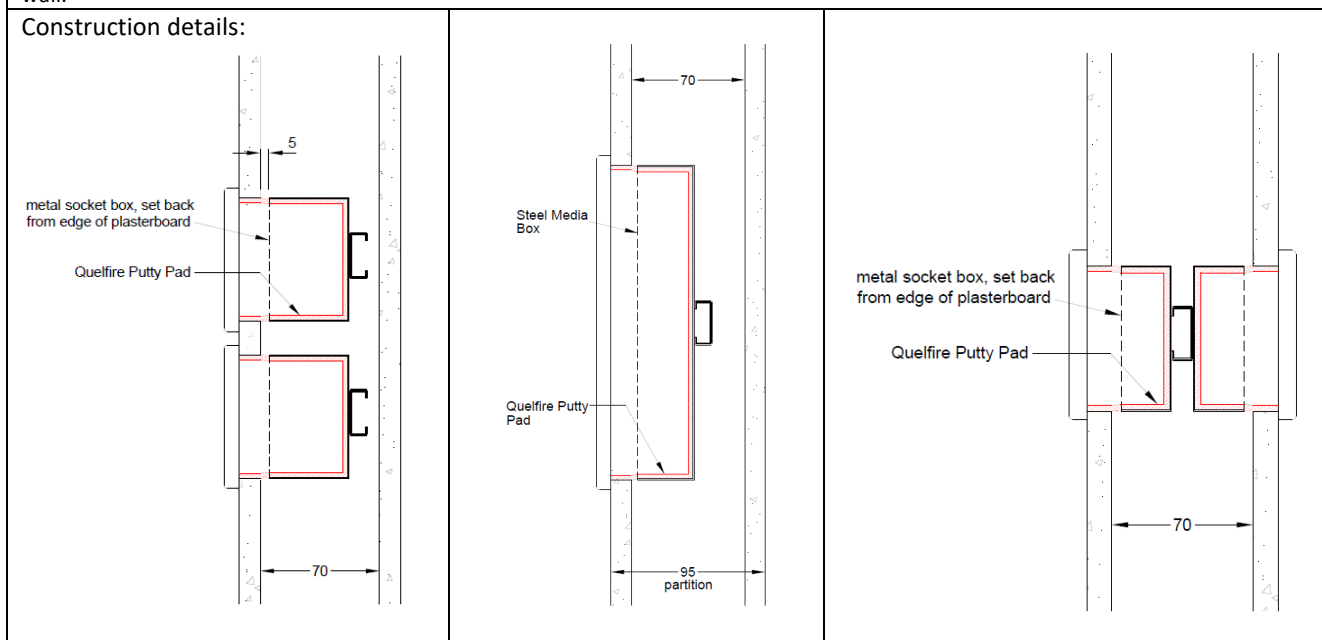
*Socket box fixed to a Caddy TSGB24 support bracket between the studs

^Bead Master cover may also be used where practically possible

Flexible or rigid wall constructions with wall thickness of minimum 95 mm

Penetration seals with 3 mm thick Quelfire Putty Pad in socket box

Flexible walls (insulated or uninsulated) to have a minimum 70 mm wide stud and minimum 1no. layer of 12.5mm plasterboard on both sides of the stud. The back of the metal socket box should be no further than 64.5 mm from the front face of the plasterboard wall.



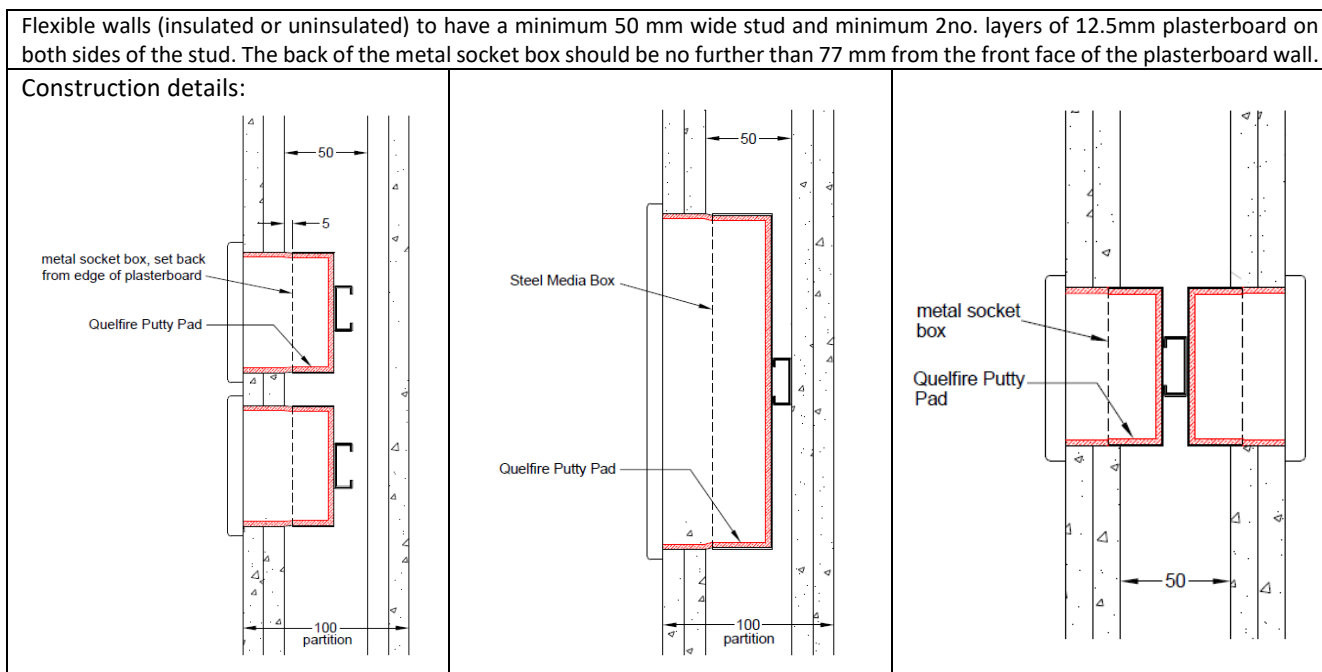
Single side penetration seal with socket boxes

Service type*^	Position	Quelfire Putty Pads	Minimum Distance Between Multiple Sockets on Same Side of Wall	Classification
Single or double metal socket boxes, reference 'LAP' 13A 2 gang switch plug sockets, with 'Appleby' 47 mm deep socket boxes.	Offset – fitted to each face	Internal faces of box fully lined with pad	20 mm	E 60, EI 45
Deta S1987 Multimedia switched socket with 4x13A + TV + phone socket + 4 data module blanks and a 35 mm deep back box	Offset – fitted to each face	Internal faces of box fully lined with pad	100 mm	E 60, EI 45
Single or double metal socket box, reference 'LAP' 13A 2 gang switch plug sockets, with 'Appleby' 25 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	EI 60

*Socket box fixed to a Caddy TSGB24 support bracket between the studs

^Bead Master cover may also be used where practically possible

Flexible or rigid wall constructions with wall thickness of minimum 100 mm



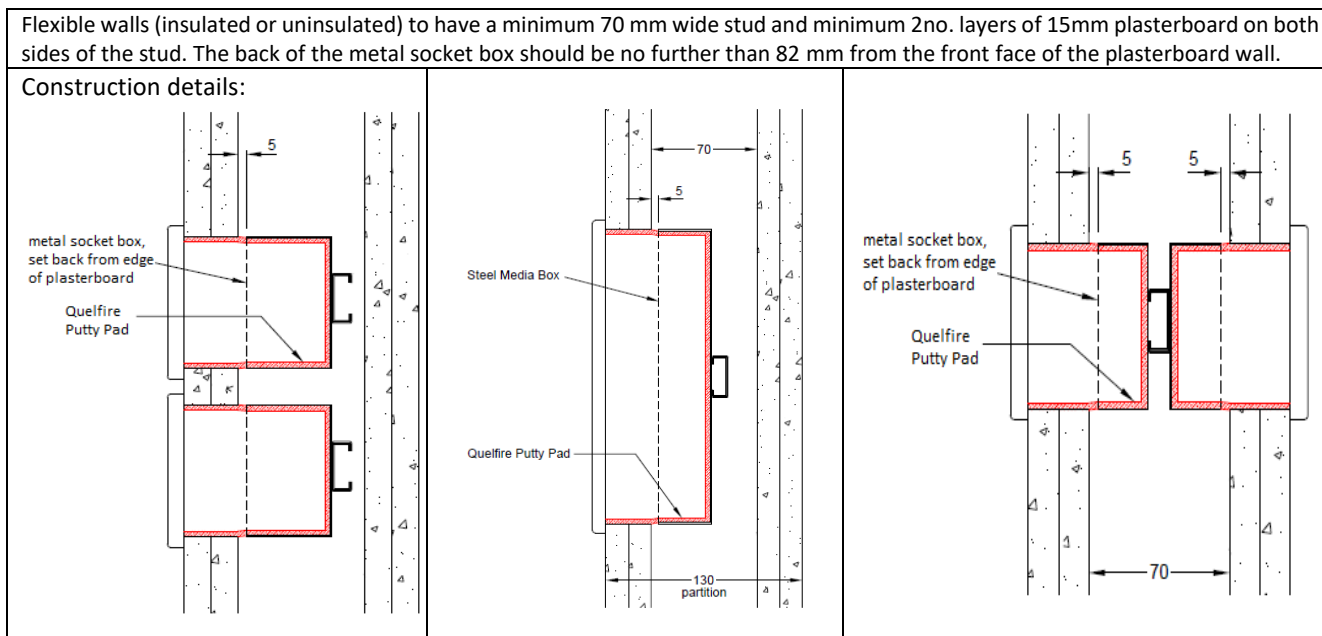
Penetration seal with socket boxes

Service type*^	Position	Quelfire Putty Pads	Minimum Distance Between Multiple Sockets on Same Side of Wall	Classification
Single or double metal socket boxes, reference 'LAP' 13A 2 gang switched plug sockets, with 'Appleby' 25 mm deep socket boxes.	Offset – fitted to each face	Internal faces of box fully lined with pad	20 mm	E 120, EI 90
Deta S1987 Multimedia switched socket with 4x13A + TV + phone socket + 4 data module blanks and a 35 mm deep back box	Offset – fitted to each face	Internal faces of box fully lined with pad	100 mm	E 120, EI 90
Single or double metal socket box, reference 'LAP' 13A 2 gang switch plug socket, with 'Appleby' 25 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	E 120, EI 90

*Socket box fixed to a Caddy TSGB24 support bracket between the studs

^Bead Master cover may also be used where practically possible

Flexible or rigid wall constructions with wall thickness of minimum 130 mm



Penetration seal with socket boxes

Service type*^	Position	Quelfire Putty Pads	Minimum Distance Between Multiple Sockets on Same Side of Wall	Classification
Single or double metal socket boxes, reference 'LAP' 13A 2 gang switched plug sockets, with 'Appleby' 47 mm deep socket boxes.	Offset – fitted to each face	Internal faces of box fully lined with pad	20 mm	EI 120
Deta S1987 Multimedia switched socket with 4x13A + TV + phone socket + 4 data module blanks and a 35 mm deep back box	Offset – fitted to each face	Internal faces of box fully lined with pad	100 mm	E 120, EI 90
Single or double metal socket box, reference 'LAP' 13A 2 gang switch plug socket, with 'Appleby' 25 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	E 120, EI 90

*Socket box fixed to a Caddy TSGB24 support bracket between the studs

^Bead Master cover may also be used where practically possible

**Quelfire Putty Pads in Plastic Socket Boxes****Installation Details:**

The Quelfire Intumescent Acoustic Putty Pad should be moulded to fully line the internal face of the back and sides of the plastic electrical socket box. ≥ 3 mm thickness intumescent putty should be maintained throughout.

Plastic Socket Boxes with a depth ≤ 47 mm are suitable. The plastic socket box should be installed flush with the face of the plasterboard wall.

Socket box dimensions

Single socket box dimensions ≤ 80 mm (wide) x ≤ 80 mm (high)

Double socket box dimensions ≤ 140 mm (wide) x ≤ 80 mm (high)

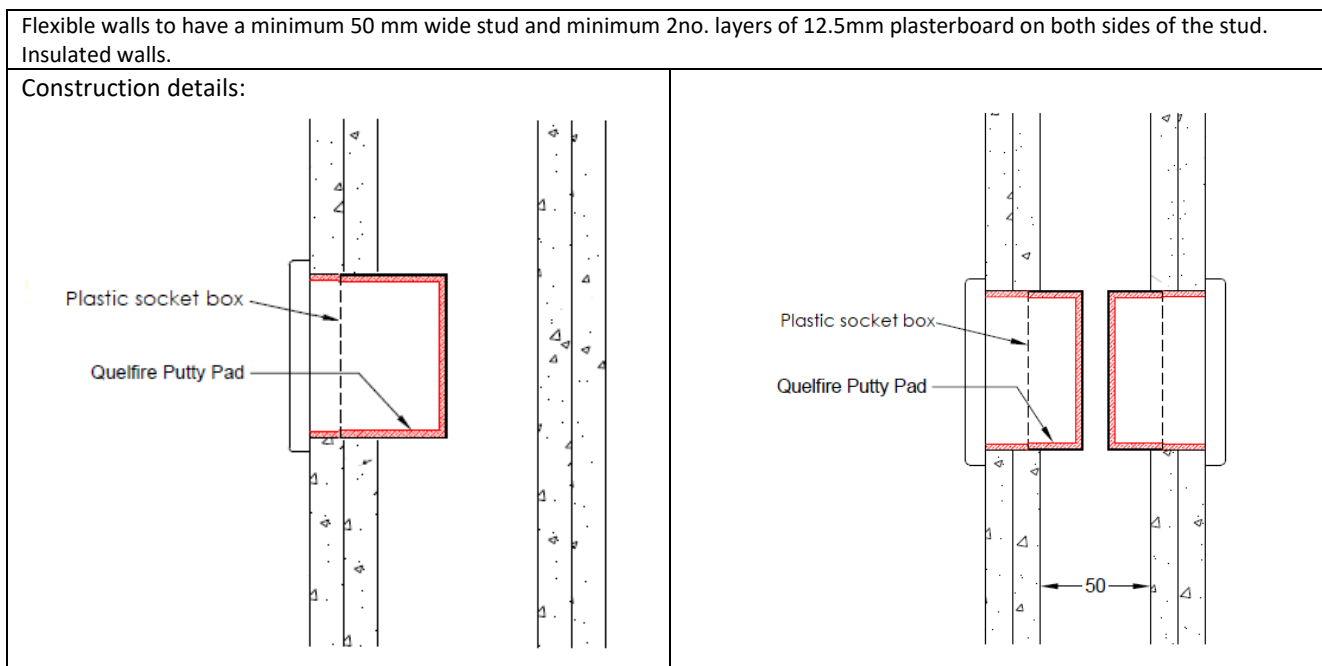
Aperture dimensions

Single socket box 75 mm (wide) x 75 mm (high)

Double socket box dimensions ≤ 133 mm (wide) x ≤ 75 mm (high)

Media panel socket box dimension ≤ 255 (wide) x ≤ 196 (high)

Flexible or rigid wall constructions with wall thickness of minimum 100 mm



Penetration seal with socket boxes

Service type	Position	Quelfire Putty Pads	Minimum Distance Between Multiple Sockets on Same Side of Wall	Classification
Single or double plastic socket box, with 44 mm deep socket box.	Offset – fitted to each face	Internal faces of box fully lined with pad	100 mm	EI 120
Double plastic socket box, with 44 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	EI 30
Single plastic socket box, with 44 mm deep socket box.	Back-to-back – 1 fitted to each face	Internal faces of box fully lined with pad	100 mm	EI 90

4.3 Field of Application

This classification is valid for the following end use applications (as defined in EN1366-3: 2009, referencing the following appropriate clauses of EN1366-3: 2009).

4.3.1 General Rules

13.1 Orientation

Test results are only applicable to the orientation in which the penetration seals were tested, i.e. in a wall or floor.

13.2 Supporting construction

13.2.1 Rigid floor and wall constructions

Test results obtained with rigid standard supporting constructions may be applied to concrete or masonry separating elements of a thickness and density equal to or greater than that of the supporting construction used in the test. This rule does not apply to pipe closure devices positioned within the supporting construction in case of higher thickness of the supporting construction unless the length of the seal is increased by an equal amount and the distance from the surface of the supporting construction remains the same on both sides.

13.2.2 Flexible wall constructions

13.2.2.1 Test results obtained with the standard flexible wall constructions according to 7.2.2.1.2 cover all flexible wall constructions of the same fire resistance classification provided:

- 1) The construction is classified in accordance with EN 13501-2;
- 2) The construction has an overall thickness not less than the minimum thickness of the range given in Table 3 for the standard flexible wall used in the test. This rule does not apply to pipe closure devices positioned within the supporting construction unless the length of the seal is increased by an equal amount and the distance from the surface of the supporting construction remains the same on both sides;
- 3) In the case of penetration seals installed within the wall and where a flexible wall with insulation was used in the test an aperture framing shall be used in practice. The aperture frame and aperture lining shall be made from studs and boards of the same specification as those used in the wall in practice. The thickness of the aperture lining shall be minimum 12.5 mm. This rule does not apply in the case where the insulation was removed around the penetration seal(s) (see 7.2.2.1.2);
- 4) The number of board layers and the overall board layer thickness is equal or greater than that tested when no aperture framing is used
- 5) Flexible wall constructions with timber studs are constructed with at least the same number of layers as given in Table 3, no part of the penetration seal is closer than 100 mm to a stud, the cavity is closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1 is provided within the cavity between the penetration seal and the stud.



13.2.2.2 An aperture framing is considered as being part of the penetration seal. Tests without an aperture framing cover applications with aperture framing but not vice versa.

13.2.2.3 The standard flexible wall construction does not cover sandwich panel constructions and flexible walls where the lining does not cover the studs on both sides. Penetrations in such constructions shall be tested on a case by case basis.

13.2.2.4 Test results obtained with flexible supporting walls may be applied to concrete or masonry elements of an overall thickness equal to or greater than that of the element used in the tests. This rule does not apply to pipe closure devices positioned within the supporting construction unless the length of the seal is increased by an equal amount and the distance from the surface of the supporting construction remains the same on both sides.

13.3 Services

13.3.1 The direct field of application rules apply to the nominal dimensions of services.

13.3.2 For the field of direct application for cable penetration seals including small conduits see A.3, B.2, C.1.2 and C.2.3.

13.4 Service support construction

13.4.3 The distance from the surface of the separating element to the nearest support position for services shall be as tested or less.

13.5 Seal size and distances

13.5.1 The test results obtained using standard wall and floor configurations for penetration seals are valid for any penetration seal size (in terms of linear dimensions) equal to or smaller than that tested, provided the total amount of cross sections of the services (including insulation) does not exceed 60 % of the penetration area, the working clearances are not smaller than the minimum working clearances (as defined in Annexes A & B) used in the test and a blank penetration seal of the maximum seal size desired was tested in addition.

13.5.2 For floor constructions, results from tests with a penetration seal length of minimum 1000 mm apply to any length as long as the perimeter length to seal area ratio is not smaller than that of the tested penetration seal.

13.5.3 The distance between a single service and the seal edge (annular space, e.g. a1 according to Figures B.7) shall remain within the tested range.

5. Limitations

This classification report does not represent type approval or certification of the product.



Project No.: 4790067615

6. Signatories

Report by:

A handwritten signature in blue ink, appearing to read 'D. Yates'.

D. Yates
Senior Project Engineer
Built Environment

Reviewed by:

A handwritten signature in blue ink, appearing to read 'C. Johnson'.

C. Johnson
Staff Engineer
Built Environment

For and on behalf of UL International (UK) Ltd.