



# Regulatory information report

## Various pipes and cables penetrating Promaseal Bulkhead Sealer systems




Client: Promat Australia P/L

Product: PROMASEAL® Bulkhead Sealer

Report number: FAS190202 Revision: RIR4.4

Issue date: 5 September 2022 Expiry date: 31 December 2024

## Quality management

Version	Date	Information relating to report			
RIR3.0*	Issue: 25 Aug 2021	Reason for issue	Initial issue.		
			<b>Prepared by</b>	<b>Reviewed by</b>	<b>Authorised by</b>
		<b>Name</b>	Rami Al-Darwish	Yomal Dias	Yomal Dias
RIR4.2*	Issue: 23 Feb 2022	Reason for issue	Report re-issued to include additional installation details.		
			<b>Prepared by</b>	<b>Reviewed by</b>	<b>Authorised by</b>
		<b>Name</b>	Kimal Wasalathilake	Mahmoud Akl	Mahmoud Akl
RIR4.3*	Issue: 13 Jul 2022	Reason for issue	Report re-issued updating close to edge details.		
			<b>Prepared by</b>	<b>Reviewed by</b>	<b>Authorised by</b>
		<b>Name</b>	Kimal Wasalathilake	Mahmoud Akl	Mahmoud Akl
RIR4.4*	Issue: 05 Sep 2022	Reason for issue	Report re-issued updating installation details.		
			<b>Prepared by</b>	<b>Revised by</b>	<b>Authorised by</b>
	Expiry: 31 Dec 2024	<b>Name</b>	Kimal Wasalathilake	Mahmoud Akl	Mahmoud Akl
		<b>Signature</b>			

\*RIR numbering changed to match the assessment report numbering.

## Executive summary

This report contains the minimum information required for regulatory compliance and refers to the referenced assessment report FAS190202 R4.4. The referenced assessment report considers the performance of multiple plastic, metal cables and pipe penetrations of various diameters, penetrating a PROMASEAL® Bulkhead Sealer system in accordance with AS 1530.4:2014 and AS 4072.1:2005.

The analysis conducted in section 5 of the referenced assessment report found that the proposed variations are likely to achieve FRL rating as shown in Table 1, if tested in accordance with AS 1530.4:2014 and AS 4072.1:2005.

**Table 1 Variations and assessment outcome**

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 1	Page 30
	W1-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/120/120	Figure 2	Page 31
	W1-2	Brass	PROMASEAL® A	32-100		-/120/-	Figure 5	Page 33
	W1-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/120/120	Figure 6	Page 34
	W1-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-	Figure 7	Page 35
	W1-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/120/120	Figure 19 to Figure 24	Page 45 to Page 47
	W1-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/120/90		
	W1-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100		-/120/60		
	W1-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insulation		-/120/120		
	W1-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/180/180 <sup>1</sup>	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W1-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/120/120		Page 31
	W1-12	PEX	PROMASEAL® Conduit Collar	20		-/120/120		Page 33
	W1-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 900 mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/120/120		Page 34
	W1-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/120/-		Page 35
	W1-15	Copper with 400 mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/120/120		Page 45 to
	W1-16	Fibre optic 12core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/120/120		Page 47
	W1-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	As per AS1530.4 Appendix D1		-/120/120		
	W1-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	As per AS1530.4 Appendix D2		-/120/120		
	W1-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	80 x 50 20% full		-/120/120		
W1-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam	-/120/120				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022	-/120/120	Figure 29	Page 52
	W1-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/120/120		
	W1-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/120/90		
	W1-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/120/90		
	W1-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
	W1-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/120/120		
	W1-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
<ul style="list-style-type: none"> <li>Min 90 mm thick single layer plasterboard wall</li> <li>AAC wall</li> <li>Concrete wall</li> <li>Masonry wall</li> </ul>	W2-0	Unpenetrated batt	PROMASEAL® A		FP6115 and A-15-973	-/60/60	Figure 5 to Figure 7	Page 33 to Page 35
	W2-1	uPVC + FC	-	50-100		-/60/60		
	W2-2	Bundle or single TPS Cables + 50 mm cone	-	up to 25 mm dia		-/60/60		
	W2-3	50 mm copper +Wrap	-	up to 50 mm		-/60/60		
<ul style="list-style-type: none"> <li>Min 116 mm single layer plasterboard wall</li> </ul>	W3-0	Unpenetrated batt	PROMASEAL® A			-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30 Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W3-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400mm long on each face	32-100 mm	A-15-973 and FP6115	-/60/60		
	W3-2	Brass	PROMASEAL® A	32-100		-/60/-		
	W3-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400mm long on each face	32-150		-/60/60		
	W3-4	Copper or Steel	PROMASEAL® A	32-150		-/60/-		
	W3-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insul		-/60/60		
	W3-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50 mm		-/60/60		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 116 mm single layer plasterboard wall	W3-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100 mm	A-15-973 and FP6115	-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W3-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/60/60		Page 31
	W3-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/60/60		Page 33
	W3-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/60/60		Page 34
	W3-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/60/60		Page 35
	W3-12	PEX	PROMASEAL® Conduit Collar	20 mm		-/60/60		Page 45 to Page 47
	W3-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 400mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/60/60		
	W3-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/60/-		
	W3-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/60/60		
	W3-16	Fibre optic 12core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/60/60		
	W3-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool @ 400mm long on each face	As per AS1530.4 Appendix D1		-/60/60		



Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm single layer plasterboard wall</li> </ul>	W3-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400 mm long on each face	As per AS1530.4 Appendix D2	A-15-973 and FP6115	-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W3-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400 mm long on each face	80 × 50 20% full		-/60/60		Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W3-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam		-/60/60		
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W4-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/90/90		Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W4-2	Brass	PROMASEAL® A	32-100		-/90/-		
	W4-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/90/90		
	W4-4	Copper or Steel	PROMASEAL® A	32-150		-/90/-		
	W4-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/90/90		
	W4-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/90/90		
	W4-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100		-/90/60		
	W4-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/90/90		



Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1	Page 30
	W4-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/90/90	Figure 2	Page 31
	W4-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/90/90	Figure 5	Page 33
	W4-12	PEX	PROMASEAL® Conduit Collar	20		-/90/90	Figure 6	Page 34
	W4-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 900mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/90/90	Figure 7	Page 35
	W4-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/90/-	Figure 19 to Figure 24	Page 45 to Page 47
	W4-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/90/90		
	W4-16	Fibre optic 12 core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/90/90		
	W4-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D1		-/90/90		
	W4-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D2		-/90/90		
W4-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	80 x 50 20% full	-/90/90				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30 Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W4-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022 and FRT210159 R1.1	-/90/90	Figure 29	Page 52
	W4-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/90/90		
	W4-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/90/90		
	W4-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/90/90		
	W4-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		A-19-035A and FRT210159 R1.1		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A and FRT210159 R1.1	-/90/90	Figure 30	Page 52
	W4-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/90/90		
	W4-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/90/90		
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 35 to Figure 37	Page 55 to Page 56
	W5-1	Brass	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/120/120		
	W5-2	Brass	PROMASEAL® A	32-100		-/120/-		
	W5-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/120/120		
	W5-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-		
	W5-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/120/120		
	W5-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/120/90		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 88 mm thick AlphaPanel wall <sup>2</sup>	W5-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/60	Figure 35 to Figure 37	Page 55 to Page 56
	W5-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/120/120		
	W5-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/120/120		
	W5-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/120/120		
	W5-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/120/120		
	W5-12	PEX	PROMASEAL® Conduit Collar	20		-/120/120		
	W5-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38mm thick x 900mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/120/120		
	W5-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/120/-		
	W5-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/120/120		
	W5-16	Fibre optic 12core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/120/120		
	W5-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D1		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D2	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 35 to Figure 37	Page 55 to Page 56
	W5-19	Cable Trunking	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	80 × 50 20% full		-/120/120		
	W5-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam		-/120/120		
	W5-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022	-/120/120	Figure 29	Page 52
	W5-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/120/120		
	W5-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/120/90		
	W5-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/120/90		
	W5-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia	A-19-035A	-/120/120	Figure 30	Page 52

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
	W5-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/120/120		
	W5-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/120/120		
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-0	Unpenetrated batt	PROMASEAL® A		EWFA 25948.7, A-16-084 (1000 mm x 500 mm friction fit no angles), A-16-055 (800x1500 with angles), EWFA 25948.7 and A-17-063	-120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-1	Brass	PROMASEAL® A® + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long above and below	32-100		-/120/120		
	S1-2	Brass	PROMASEAL® A®	32-100		-/120/-		
	S1-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	32-150		-/120/120		
	S1-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-		
	S1-5	Copper or Steel	PROMASEAL® A + PROMASHIELD	25-100		-/120/120		
	S1-6	Copper or Steel	PROMASEAL® A + PROMASHIELD	125-200		-/120/90		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-7	Copper or Steel	PROMASEAL® A + PROMASEAL SupaWrap 800 mm long top side only	32-100	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles),	-/120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-8	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	Up to 19 + 25 mm insul	A-16-055 (800×1500 with angles),	-/120/120		
	S1-9	13mm Fibre optic 24core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia	EWFA 25948.7 and A-17-063	-/120/120		
	S1-10	Power cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D1	-/120/120			
	S1-11	Telecommunication Cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D2	-/120/120			
	S1-12	Cable Trunking	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	80 × 50 (20% full)	-/120/120			
	S1-13	Power cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D1	-/120/120			
	S1-14	Telecommunication cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D2	-/120/120			
	S1-15	uPVC pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100	-/120/120			



Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-16	HDPE Pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles),	-/120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-17	PEX	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	16, 20 & 25 mm	A-16-055 (800×1500 with angles),	-/180/180		
	S1-18	uPVC conduit filled with Fibre Optics	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm	EWFA 25948.7 and A-17-063	-/180/180		
	S1-19	uPVC conduit filled with Electrical Cables	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/180/60		
<ul style="list-style-type: none"> <li>Min 75 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-20	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant	50 mm × 600 mm	A-20-032	-/120/120	Figure 25 and Figure 32 to Figure 34	Page 48 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-21	AS 1530.4:2014 Appendix D2 telecommunication cables (with or without cable tray)	Backing wall – Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	-	A-20-038	-/120/120	Figure 26 and Figure 32 to Figure 34	Page 49 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 75 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-22	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)		-	A-19-008	-/90/90	Figure 27 and Figure 32 to Figure 34	Page 50 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-23	Up to 5 AVA5-50 Co-axial cables		Up to 28.1 mm dia.	A-19-018	-/120/120	Figure 28	Page 51

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT slab</li> </ul>	S2-0	Unpenetrated batt	PROMASEAL® A		EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles), A-16-055 (800×1500 with angles), EWFA 25948.7 and A-17-063	-/90/90	Figure 8 to Figure 14	Page 36 to Page 40
	S2-1	Brass	PROMASEAL® A® + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long above and below	32-100 mm		-/90/90		
	S2-2	Brass	PROMASEAL® A®	32-100		-/90/-		
	S2-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	32-150		-/90/90		
	S2-4	Copper or Steel	PROMASEAL® A	32-150		-/90/-		
	S2-5	Copper or Steel	PROMASEAL® A + PROMASHIELD	25-100		-/90/90		
	S2-6	Copper or Steel	PROMASEAL® A + PROMASHIELD	125-200		-/90/90		
	S2-7	Copper or Steel	PROMASEAL® A + PROMASEAL SupaWrap 800 mm long top side only	32-100		-/90/90		
	S2-8	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	Up to 19 + 25 mm insul		-/90/90		
	S2-9	13 mm Fibre optic 24 core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/90/90		
S2-10	Power cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D1	-/90/90				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 130 mm XLam CLT slab	S2-11	Telecommunication Cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D2	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles), A-16-055 (800×1500 with angles), EWFA 25948.7 and A-17-063	-/90/90	Figure 8 to Figure 14	Page 36 to Page 40
	S2-12	Cable Trunking	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	80 × 50 (20% full)		-/90/90		
	S2-13	Power cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D1		-/90/90		
	S2-14	Telecommunication cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D2		-/90/90		
	S2-15	uPVC pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100		-/90/90		
	S2-16	HDPE Pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100		-/90/90		
	S2-17	PEX	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	16, 20 & 25 mm		-/90/90		
	S2-18	uPVC conduit filled with Fibre Optics	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/90/90		
	S2-19	uPVC conduit filled with Electrical Cables	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/90/60		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 130 mm XLam CLT slab	S2-20	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	50 mm × 600 mm	A-20-032	-/90/90	Figure 25 and Figure 32 to Figure 34	Page 48 and Page 53 to Page 54
	S2-21	AS 1530.4:2014 Appendix D2 telecommunication cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	-	A-20-038	-/90/90	Figure 26 and Figure 32 to Figure 34	Page 49 and Page 53 to Page 54
	S2-22	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with topside PROMASHIELD® 65 with extender and PROMASEAL® A Acrylic sealant	-	A-19-008	-/90/90	Figure 27 and Figure 32 to Figure 34	Page 50 and Page 53 to Page 54
	S2-23	Up to 5 AVA5-50 Co-axial cables	100 mm thick PROMASEAL® Bulkhead Batts with SupaWrap on the topside with PROMASEAL® A Acrylic sealant and PROMASEAL® AG intumescent sealant.	Up to 28.1 mm dia.	A-19-018	-/90/90	Figure 28	Page 51

<sup>1</sup>FRL is applicable when installed in a separating element that has an established FRL of -/180/180 achieved through a test or an assessment in accordance with AS 1530.4:2014.

<sup>2</sup>The maximum FRL will be governed by the established FRL of the AlphaPanel wall system – refer FAS210067 fire assessment report for established FRLs of AlphaPanel wall systems

For AS 1530.4:2014 Appendix D1 and D2 cables, if the cable tray does not penetrate the PROMASEAL® Bulkhead batt, the cables can be wrapped on their own without including the tray support.

The variations and outcome of this assessment are subject to the limitations and requirements described in section 2, 4 and 5 of this report. The results of this report are valid until 31 December 2024.

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## 1. Introduction

This report contains the minimum information required for regulatory compliance and refers to the referenced assessment report FAS190202 R4.4.

The referenced assessment report considers the performance of multiple plastic and metal pipe penetrations, of various diameters, penetrating a PROMASEAL® Bulkhead Sealer system in accordance with AS 1530.4:2014<sup>1</sup> and AS 4072.1:2005 (R2016)<sup>2</sup>.

The referenced assessment report may be used as Evidence of Suitability in accordance with the requirements of the relevant National Construction Code (NCC) to support the use of the material, product, form of construction or design as given within the scope of this assessment report. It also references test evidence for meeting deemed to satisfy (DTS) provisions of the (NCC) as applicable to the assessed systems.

The referenced assessment report was carried out at the request of Promat Australia P/L. The sponsor details are included in Table 2.

**Table 2 Sponsor details**

Sponsor	Address
Promat Australia P/L	1 Scotland Road Mile End SA 5031

## 2. Framework for the assessment

### 2.1 Assessment approach

An assessment is an opinion about the expected performance of a component or element of structure if it was subject to a fire test.

No specific framework, methodology, standard or guidance documents exists in Australia for doing these assessments. We have therefore followed the 'Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence' prepared by the Passive Fire Protection Forum (PFPF) in the UK in 2019<sup>3</sup>.

This guide provides a framework for undertaking assessments in the absence of specific fire test results. Some areas where assessments may be offered are:

- Where a modification is made to a construction which has already been tested
- The interpolation or extrapolation of results of a series of fire resistance tests, or utilisation of a series of fire test results to evaluate a range of variables in a construction design or a product
- Where, for various reasons – eg size or configuration – it is not possible to subject a construction or a product to a fire test.

Assessments will vary from relatively simple judgements on small changes to a product or construction through to detailed and often complex engineering assessments of large or sophisticated constructions.

This assessment uses established empirical methods and our experience of fire testing similar products to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is an evaluation of the potential fire resistance performance if the elements were to be tested in accordance with AS 1530.4:2014.

<sup>1</sup> Standards Australia, 2014, Methods for fire tests on building materials, components and structures – Part 4: Fire-resistance tests for elements of construction, AS 1530.4:2014, Standards Australia, NSW.

<sup>2</sup> Standards Australia, 2005, Components for the protection of openings in fire-resistant separating elements: Service penetrations and control joints (Reconfirmed 2016), AS 4072.1:2005 (R2016), Standards Australia, NSW.

<sup>3</sup> Passive Fire Protection Forum (PFPF), 2019, Guide to undertaking technical assessments of the fire performance of construction products based on fire test evidence, Passive Fire Protection Forum (PFPF), UK.

## 2.2 Compliance with the National Construction Code

The referenced assessment report has been prepared to meet the evidence of suitability requirements of the National Construction Code Volumes One and Two – Building Code of Australia (NCC) 2019 including amendments<sup>4</sup> under A5.2 (1) (d).

The referenced assessment report has been written in accordance with the general principles outlined in EN 15725:2010<sup>5</sup> for extended application reports on the fire performance of construction products and building elements. It also references test evidence for meeting a performance requirement or deemed to satisfy (DTS) provisions of the NCC under A5.4 for fire resistance levels as applicable to the assessed systems.

The referenced assessment report may also be used to demonstrate compliance with the requirements for evidence of suitability under NCC 2016 including amendments<sup>6</sup>.

The referenced assessment report results are limited to the mentioned pipe materials and diameter sizes. Moreover, the assessment is applicable to pipes with a similar protection materials and installation methods.

## 2.3 Declaration

The guide to undertaking assessments in lieu of fire tests prepared by the PFPF in the UK requires a declaration from the client. By accepting our fee proposal dated 5 July 2021, Promat Australia P/L confirmed that

- To their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the standard against which this assessment is being made.
- They agree to withdraw this assessment from circulation if the component or element of structure is the subject of a fire test by a test authority in accordance with the standard against which this assessment is being made and the results are not in agreement with this assessment.
- They are not aware of any information that could adversely affect the conclusions of this assessment and – if they subsequently become aware of any such information, they agree to ask the assessing authority to withdraw the assessment.

## 3. Limitations of this assessment

- The scope of the referenced assessment report is limited to an assessment of the variations to the tested systems described in section 4.3.
- The referenced assessment report details the methods of construction, test conditions and assessed results that are expected if the systems were tested in accordance with AS 1530.4:2014.
- The referenced assessment report is applicable to assessed services penetrating floor/ceiling systems exposed to fire from below in accordance with the requirements of AS 1530.4:2014 where horizontal elements must be exposed to heat from the underside only.
- Additionally, the referenced assessment is applicable to wall systems exposed to fire from each side/one side in accordance with the requirements of AS 1530.4:2014 where vertical elements must be exposed to heat from the direction required to resist fire exposure.

<sup>4</sup> National Construction Code Volumes One and Two - Building Code of Australia 2019 including Amendments, Australian Building Codes Board, Australia

<sup>5</sup> European Committee for Standardization, 2010, Extended application reports on the fire performance of construction products and building elements, EN 15725:2010, European Committee for Standardization, Brussels, Belgium.

<sup>6</sup> National Construction Code Volumes One and Two - Building Code of Australia 2016 including Amendments, Australian Building Codes Board, Australia



- The referenced assessment report is only valid for the assessed systems and must not be used for any other purpose. Any changes with respect to size, construction details, service penetration types, loads, stresses, edge or end conditions – other than those identified in this report – may invalidate the findings of this assessment. If there are changes to the system, a reassessment will need to be done by an Accredited Testing Laboratory (ATL).
- All wall and floor systems assessed in this report must be tested to achieve a minimum FRL of -/120/120.
- The assessed services support distances must not exceed the distances tested in the referenced test reports.
- The documentation that forms the basis for this report is listed in Table 3.
- The referenced assessment report has been prepared based on information provided by others. Warringtonfire has not verified the accuracy and/or completeness of that information and will not be responsible for any errors or omissions that may be incorporated into this report as a result.

## 4. Description of the specimen and variations

### 4.1 System description

The assessed system consists of various services penetrating PROMASEAL® Bulkhead Sealer system installed into various walls and floors systems.

### 4.2 Referenced test data

The assessment of the variation to the tested system and the determination of the likely performance is based on the results of the fire tests documented in the reports summarised in Table 3.

**Table 3 Referenced test data**

Report number	Test sponsor	Test date	Testing authority		
A-15-982	Promat Australia Pty Ltd	15 May 2015	Fire science Research Group		
A-15-973		1 April 2015			
A-18-054		13 December 2018			
A-16-027		22 April 2016			
A-15-974		17 April 2015			
A-14-874		16 April 2014			
A-17-063		29 November 2017			
A-14-917A		2 October 2014			
A-17-064		23 May 2018			
A-17-022		26 May 2017			
A-17-071		14 September 2017			
A-17-065A		25 May 2018			
A-18-029		23 August 2018			
A-18-030		6 August 2018			
FP6115				2 August 2017	BRANZ LTD
A-18-034				13 December 2018	Fire science Research Group
250011707	Promat Building System Pty Ltd	18 January 2001	Singapore Productivity and Standards Board		
2000FE0177	Promat International (Asia Pacific) Ltd	26 January 2000	SIRIM QAS Sdn. Bhd		

Report number	Test sponsor	Test date	Testing authority
WFRA 41027.2	Promat Australia Pty Ltd	12 August 2003	Warringtonfire Australia (previously known as Warrington Fire Research (Aust.) Pty Ltd,)
WFRA 41056.1	Promat Australia Pty Ltd	2 August 2004	Warringtonfire Australia (previously known as Warrington Fire Research (Aust.) Pty Ltd,)
EWFA 2683500	Warringtonfire Australia	11 January 2012.	Warringtonfire Australia
A-12-804	Promat Australia Pty Ltd	6 December 2012	Fire Science Research Group
A-19-018	Promat Australia Pty Ltd	10 July 2019	FSRG
A-19-008	Promat Australia Pty Ltd	29 May 2020	FSRG
A-20-032	Promat Australia Pty Ltd	13 August 2020	FSRG
A-19-035A	Promat Australia Pty Ltd	24 September 2020	FSRG
A-20-038	Promat Australia Pty Ltd	2 December 2020	FSRG
A-20-022	Promat Australia Pty Ltd	7 December 2020	FSRG
Pr-14-2.076	Promat GmbH	11 November 2015	PAVUS, a.s.
FRT210159 R1.1	Promat Australia Pty Ltd	14 September 2021	Warringtonfire Australia
FRT210222 R1.1	Promat Australia Pty Ltd	27 September 2021	Warringtonfire Australia
FRT210158 R1.1	Promat Australia Pty Ltd	17 September 2021	Warringtonfire Australia

### 4.3 Variations to tested system

An identical system has not been subject to a standard fire test. We have therefore assessed some of the variations which are different from the test data. The variations to the tested systems together with the referenced baseline standard fire tests – are described in Table 4.

**Table 4 Variation to tested systems**

Item	Reference test	Description	Variations
PVC pipes in plasterboard and PROMASEAL bulkhead Batts	A-15-973, A-14-874, A-15-973, A-17-063, A-14-917 and A-17-064	A minimum of 25 mm and maximum 110 mm diameter plastic pipes were tested in a plasterboard and bulkhead batts systems and achieved the same FRL rating.	Assess intermediate plastic pipe diameters based on the results of the maximum and minimum pipe diameter sizes.
Testing Standard update	All referenced tests	copper and plastic pipes were tested in walls and floors in accordance with AS 1530.4:2005	Update all testing standards to AS 1530.4:2014.
Assessment of cables with or without tray support.	A-20-032, A-20-038, and A-19-008	D1 and D2 cable group were tested in 100 mm PROMASEAL bulkhead sealer system with cable tray supports.	Assess the tested D1 and D2 cables without cable tray supports.
Assessment of relevant test data in accordance with AS 1530.4:2014	A-20-038	The tested system in A-20-038 was an ad-hoc test and not in strict accordance to AS 1530.4:2014	Assessment of test A-20-038 in strict accordance with AS 1530.4:2014
Assessment of D1 and D2 cables in wall systems	A-20-032, A-20-038, and	D1 and D2 cable group were tested in 100 mm PROMASEAL bulkhead sealer system in rigid floor systems	Assess the tested D1 and D2 cables in various wall systems

Item	Reference test	Description	Variations
	A-19-008		
Assessment of services in CLT wall panel	FRT210159 R1.1	PROMASEAL Bulkhead sealer system fitted into a penetration in a 130 mm thick CLT wall was tested in accordance with AS 1530.4:2014	Assess a series of metal and plastic pipes penetrating through PROMASEAL Bulkhead sealer system in CLT wall panel
Assessment of services in CLT AlphaPanel wall	FRT210222 R1.1	PROMASEAL Bulkhead sealer system fitted into a penetration in a 88 mm thick wall system consisting of a single layer of 35 mm thick AlphaPanel on the unexposed side and a 13 mm thick standard plasterboard on the exposed side was tested in accordance with AS 1530.4:2014	Assess a series of metal and plastic pipes penetrating through PROMASEAL Bulkhead sealer system in 88 mm thick wall consisting of AlphaPanel and standard plasterboard
Assessment of services in CLT slab	FRT210158 R1.1	PROMASEAL Bulkhead sealer system fitted into a penetration in a 130 mm thick CLT slab was tested in accordance with AS 1530.4:2014	Assess a series of metal and plastic pipes penetrating through PROMASEAL Bulkhead sealer system in CLT slab. Assess an additional Install method of first layer of batt friction fitted within the slab and second layer laid to the underside of XLAM CLT slab. Further assess another option of installing fire grade plasterboard as an internal lining board

## 4.4 Test standard

AS 1530.4:2014 sets out the procedure for the fire test on building material, components and structures. In addition to the fire resistance tests for elements of construction.

## 4.5 Schedule of components

Table 5 outlines the schedule of components for the assessed systems subject to a fire test, as referenced in Section 4.2

**Table 5 Schedule of components of assessed systems**

Item	Description	
1	Name	Penetration Seal
	Material	PROMASEAL® Bulkhead Batt
	Size	Two 50 mm thick layers 1500 mm × 600mm – 120 kg/m <sup>3</sup>
	Installation	- Walls: <b>Installation Method 1:</b> Min 116 mm FR Plasterboard (2 × 13 each face)/Masonry/AAC, PROMATECT 100 or Concrete): Bulkhead batt friction fitted to apertures and sealed at perimeter with PROMASEAL A as per figure 1. Sizes: either 600 mm high × 1500 mm wide or 1000 mm high or any width up to a maximum of 1 m <sup>2</sup> or 500 mm high × infinite length. <b>Installation Method 2:</b>

Item	Description
	<p>Min 116 mm FR Plasterboard (2 × 13 mm each face) /Masonry / Concrete, min 75 mm AAC and Speedpanel: Bulkhead Batt fixed to each face of the wall. Overlapping the opening by 75mm on all sides. Fixed to the wall at 200 mm centres with minimum 100 mm × 8g screws with 30 mm washers for FR Plasterboard and AAC. For concrete and masonry, use M6 × 80 mm Masonry or Concrete Screw with a 30 mm washer. Fixed to the face of the wall at 200 mm centres with 10g × 100 mm long screws with 30 mm washer for Speedpanel. PROMASEAL A to be applied to all exposed Batt edges and interface between wall and batt. Sizes up to 550 × 450 mm.</p> <p><b>Installation Method 3:</b> Min 75 mm AAC, Min 78 mm Speedpanel, Masonry or Concrete.): Bulkhead Batt Pattress fitted. First layer friction fitted into opening so that one face of the batt is flush with one face of the wall. Second layer is fixed to the face of the wall at 200 mm centres with 10g × 100 mm long screws with a 30 mm washer for Speedpanel. Min 75mm long Type 17 bugle batten screw with 30 mm washer for AAC. M6 Dynabolt or Concrete / Masonry Screw with 30 mm washer. Min 30 mm embedment. Sizes up to 550 × 450 mm</p> <p>For Speedpanel walls, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 75 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm.</p> <p><b>Installation Method 4:</b> Min 90 mm thick FR Plasterboard (Min 1 × 13 mm each face), Masonry or Concrete. 1 × 50 mm Bulkhead Batt friction fitted into the centre of the opening and sealed at the perimeter with PROMASEAL A Acrylic Sealant. Size 600 mm high × 1200 mm wide.</p> <p>For single layered plasterboard walls, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 50 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm provided that the aperture is lined with a minimum of 13 mm fire rated plasterboard.</p> <p><b>Installation Method 5:</b> Min 116 mm thick FR Plasterboard (Min 1 × 13mm each face), Masonry or Concrete. Installed as per method 2</p> <p>For double layered plasterboard walls, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 50 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm provided that the aperture is lined with a minimum of two layers of 13 mm fire rated plasterboard.</p> <p><b>Installation Method 6:</b> Min 130 mm thick CLT wall panel: The coated mineral wool slab covered the aperture on both the exposed and the unexposed side, with a 100 mm overlap on all edges. The coated mineral wool slabs are fixed to the CLT wall panel with timber screws and washers at approximately 250 mm centres – at 50 mm from the edge of the coated mineral wool slab.</p> <p>Promaseal -A sealant is brushed on the mineral wool exposed surface. 10 mm × 10 mm sealant fillet is applied at the corner between the mineral wool slab and the CLT wall panel.</p> <p>Note: For CLT walls, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 40 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm provided that the aperture is lined with 16 mm fire rated plasterboard or 13 mm high impact fire resistant plasterboard.</p> <p><b>Installation Method 7:</b></p>

Item	Description
	<p>Min 88 mm thick AlphaPanel wall: The aperture is protected by a Promaseal bulkhead sealer system on both the exposed and unexposed sides. The coated mineral wool slab on the unexposed side is friction fitted with the AlphaPanel and finished flush on the exposed side of the AlphaPanel. The Promaseal – A sealant fillet is applied on the perimeter of the coated mineral wool slab on the unexposed side. The coated mineral wool slab on the exposed side is installed in the cavity of the wall system. The coated mineral wool slab is fixed to the exposed side of the AlphaPanel with mineral wool slab fixings at 250 mm centres and 50 mm away from the edges of the coated mineral wool slab. The gap between the regular plasterboard and the coated mineral wool slab is filled with Promaseal – A sealant (Figure 35 - Figure 37).</p> <p>Note: For rigid walls (concrete/masonry/AAC walls), if the batt is surface mounted (pattress fit) on the separating element with a minimum of 40 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm.</p>
2	<p>Installation</p> <p>- Floors:</p> <p><b>Installation Method 1:</b> Both layers friction fitted within the slab opening and sealed on the perimeter with PROMASEAL A. Sizes 800 mm wide × 1500 mm long, supported on 50 mm × 50 mm × 1 mm angles. 500 mm wide × 1000 mm (No angle). 600 mm wide × infinite length. Supported at 600mm centres. 300mm wide x infinite length (no angles)</p> <p><b>Installation Method 2:</b> First Layer Friction fitted within the slab opening flush with the top face of the slab and sealed on the perimeter with PROMASEAL A. Second layer is then laid over the top so that it overlaps the slab by 100mm. The perimeter of the interface between the PROMASEAL Bulkhead and the slab is sealed with PROMASEAL A. Sizes as per method 1</p> <p><b>Installation Method 3:</b> Both layers of PROMASEAL Bulkhead Batt are laid on top of the slab with a 50 mm overlap all the way around the opening. PROMASEAL A is applied to the slab before laying the batts on top, and the interface at the perimeter of the batt and the slab has a bead of PROMASEAL A applied. A thin, 5mm thick wash of PROMASEAL A is then applied to the edges of the batt. Sizes as per Method 1 but no angles are required.</p> <p>Note: For concrete slabs, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 40 mm of overlap around the aperture, the distance between the service and the aperture can be less than 40 mm.</p> <p><b>Installation Method 4:</b> The bottom layer of the coated mineral wool slab is friction fitted into the CLT/concrete slab. The top surface of the coated mineral slab is flush with the unexposed side of the CLT/concrete slab. The top layer of coated mineral wool slab covered the aperture on top of the CLT/concrete slab with 100 mm overlap on all edges. For CLT, 14 - 10 × 125 mm timber screws and washers are fixed at approximately 250 mm centres, 50 mm from the edge of the coated mineral wool slab. For concrete, 100 mm masonry screws and washers are fixed at approximately 250 mm centres, at 50 mm from the edge of the coated mineral wool slab. Promaseal -A sealant is brushed on the mineral wool exposed surface. 10 mm × 10 mm sealant fillet is applied at the corner between the mineral wool slab and the CLT slab.</p> <p><b>Installation Method 5:</b> Top layer of batt friction is fitted within the slab and the bottom is laid to the underside of XLAM CLT fixed with 125 mm screws at approximately 250 mm centres, at 50 mm from the edge of the coated mineral wool slab. Promaseal -A sealant is brushed on the mineral wool exposed surface. 10 mm × 10 mm sealant fillet is applied at the corner between the mineral wool slab and the CLT slab.</p> <p>Note: For CLT floors, if the batt is surface mounted (pattress fit) on the separating element with a minimum of 40 mm overlap around the aperture, the distance between the service and the aperture can be less than 40 mm provided that the aperture is lined with 16 mm fire rated plasterboard or 13 mm high impact fire resistant plasterboard.</p>

Item	Description	
3	Name	Support Wall Construction
	Material	Masonry, Concrete, AAC, Plasterboard lined Wall, PROMATECT 100, 78mm Speedpanel, and 75 mm AAC wall.
	Size	Minimum Wall thickness 116 mm unless otherwise specified.
4	Name	Support Floor Construction
	Material	Reinforced Concrete
	Size	Minimum floor thickness 120 mm
5	Name	Cable Trunking and Cables
	Cable Spec.	80 mm × 50 mm × 1.5 mm trunking with 20% (max.) cross section area filled with cables.
7	Name	Bundle of Insulated Copper Pipes
	Material	Copper pipes protected with Nitrile Rubber lagging type insulation
	Size	Ø19 mm (max) × 1.0 mm (min) copper pipe Nitrile Rubber lagging insulation 9 mm (max) wall thickness
8	Name	PROMASEAL® FCW Wall Collar
	Material	Steel cased intumescent wall collar.
	Size	FCW40 to FCW100 wall collar
9	Name	Plastic Pipe
	Material	uPVC, HDPE or PEX Pipe
	Size	uPVC - 40 to 100 mm HDPE - 40 -100 mm PEX - 16, 20 & 25 mm
10	Name	PROMASEAL® FlexiWrap
	Material	Intumescent Wrap strip
	Size	230mm wide × 6mm thick installed in a single layer
11	Name	Nitrile Rubber lagging type Pipe Insulation
	Material	Closed cell elastomeric thermal insulation
	Size	25 mm wall thickness 100 mm diameter
13	Name	PROMASEAL® A Acrylic Sealant
	Material	Acrylic Sealant
14	Name	Wrapped PVC Insulated Cables
	Material	PVC insulated copper cables wrapped with PROMASEAL SupaWrap – 38 mm Non fibre glass based stone wool (minimum 80kg/m <sup>3</sup> ).
	Size	AS 1530.4:2014 Appendix D1 and D2 cables wrapped on the exposed side and unexposed side with PROMASEAL SupaWrap, 38 mm Non fibre glass based stone wool (minimum 80kg/m <sup>3</sup> ), for a length of 600 mm each side of the wall and fixed to service with 4 steel pipe clamps. Note: The cable tray can be installed as close as possible to the edge of the batt (< 40 mm) if the tray is supported by a backing wall. In plasterboard walls, the fixings must go through tracks or studs.
14a	Name	Unwrapped PVC Insulated Cables
	Material	PVC Sheathed Power and Communications Cables
	Size	As per AS 1530.4:2014 Appendix D1 and D2 cables
14b	Name	Cable Bundles
	Material	Thermoplastic Sheathed Cables (TPS)
	Size	Bundles up to 60 mm diameter
15	Name	Wrapped Metal Pipes
	Material	Metal cables wrapped with PROMASEAL SupaWrap - 38mm Non fibre glass based stone wool (minimum 80kg/m <sup>3</sup> ).

Item		Description		
	Size	Pipe Material	Pipe OD (mm)	Pipe Thickness (mm)
		Copper, Brass or Ferrous pipes	32-65	0.91
			75-100	1.22
		Copper or Ferrous pipes	125	1.42
150	1.63			
15a	Name	Unwrapped Metal Pipes		
	Material	Copper, Brass or Ferrous Pipes		
	Size	As per item 15		
19	Name	IBS strip		
	Material	IBS foam strip		
	Size	10 mm thick × 145 mm wide		
20	Name	PROMASHIELD		
	Material	Aluminium		
	Size	PROMASHIELD 65 mm – 300 mm high PROMASHIELD 100 mm – 500 mm high PROMASHIELD 150 mm – 650 mm high		
21	Name	Promat Pigtail Screw		
	Material	Steel		
	Size	75mm long		
22	Name	Chipboard Screw		
	Material	Steel		
	Size	8g × 100 mm long with 30 mm dia washer		
23	Name	PROMASEAL Retrofit Collar (FC)		
	Material	Steel Cased with intumescent inlay		
	Size	FC40 to FC100 Retrofit Collar		
24	Name	PROMASEAL Conduit Collar		
	Material	Stainless Steel Cased with intumescent inlay		
	Size	CFC32		
25	Name	Fibre optic cable		
	Material	Plastic Sheathed with glass conductors		
	Size	13 mm diameter		
26	Name	Fire rated backing wall		



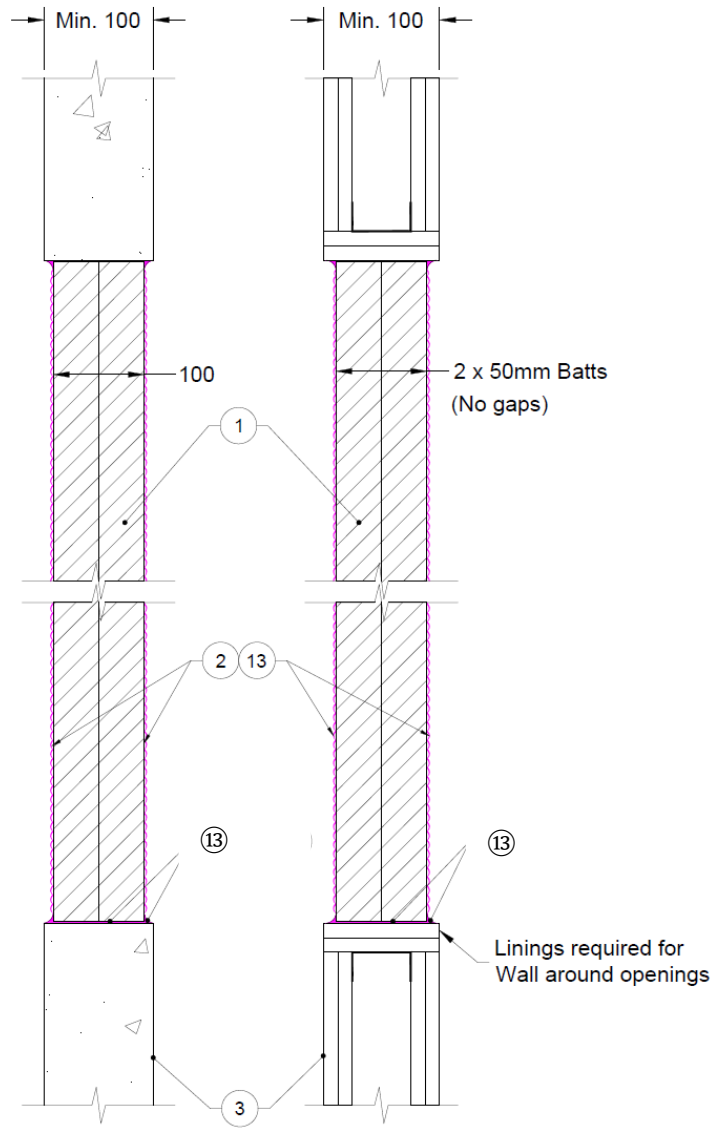


Figure 1 Support Wall Construction Options for PROMASEAL® Bulkhead Batts

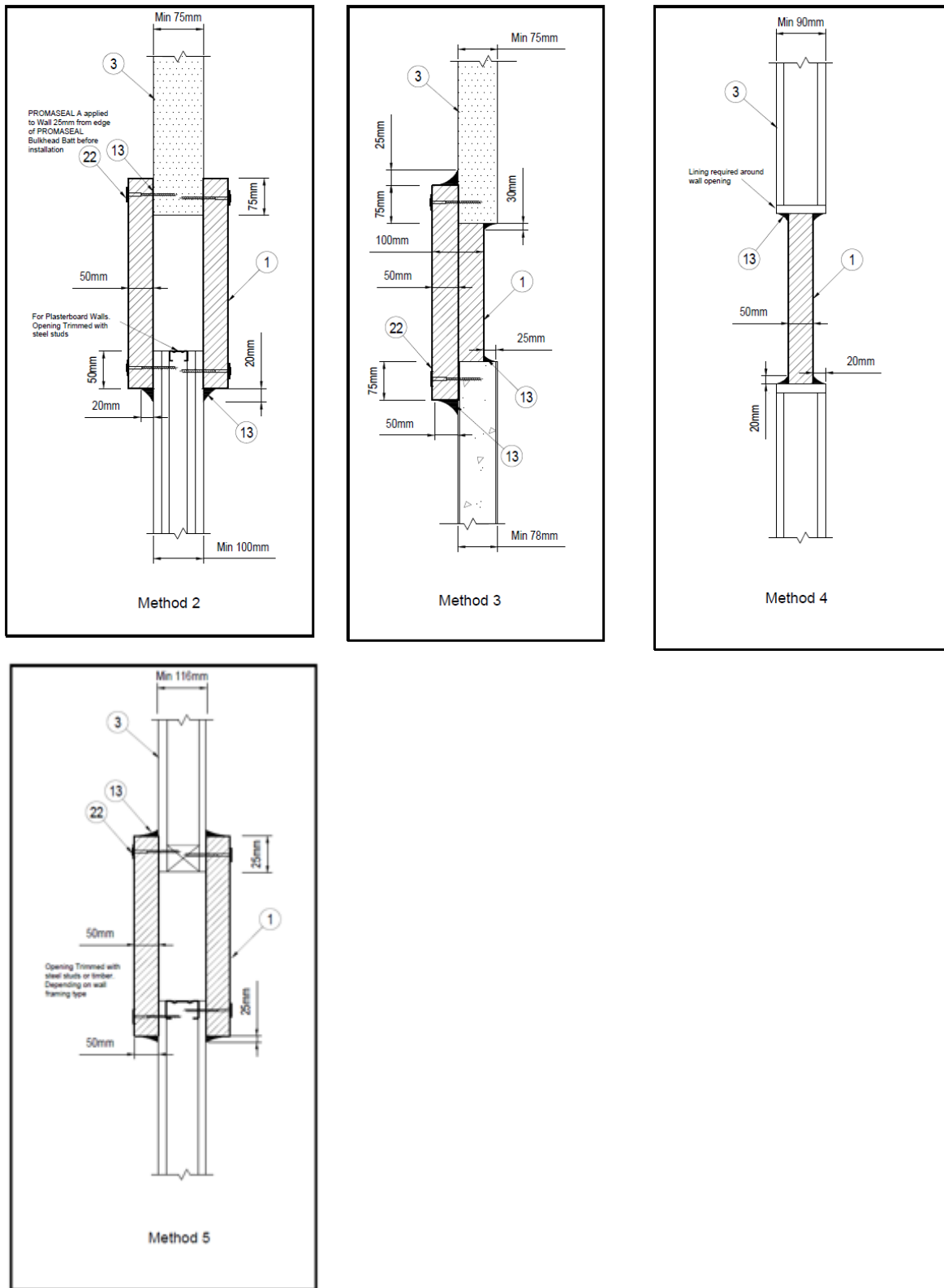


Figure 2 Various installation methods for PROMASEAL® bulkhead batts in Walls

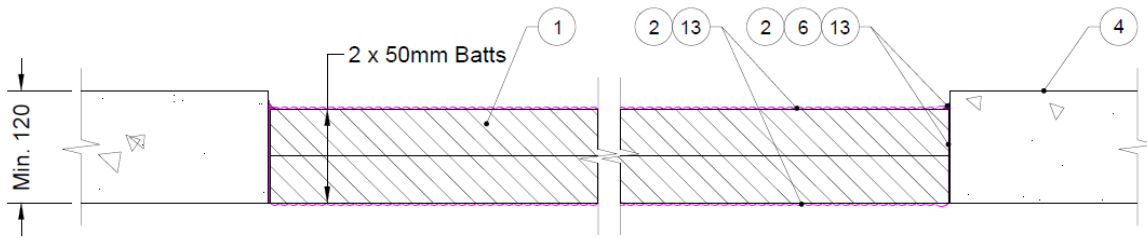


Figure 3 Support Floor Construction for PROMASEAL® Bulkhead Batt

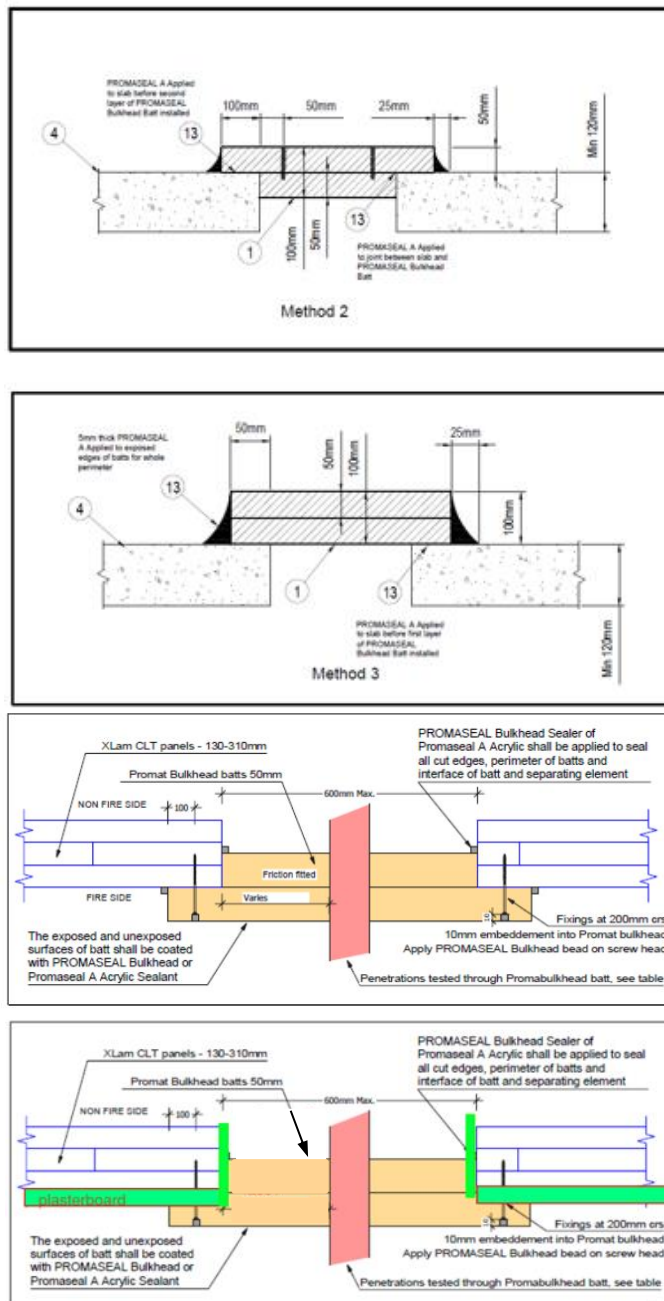
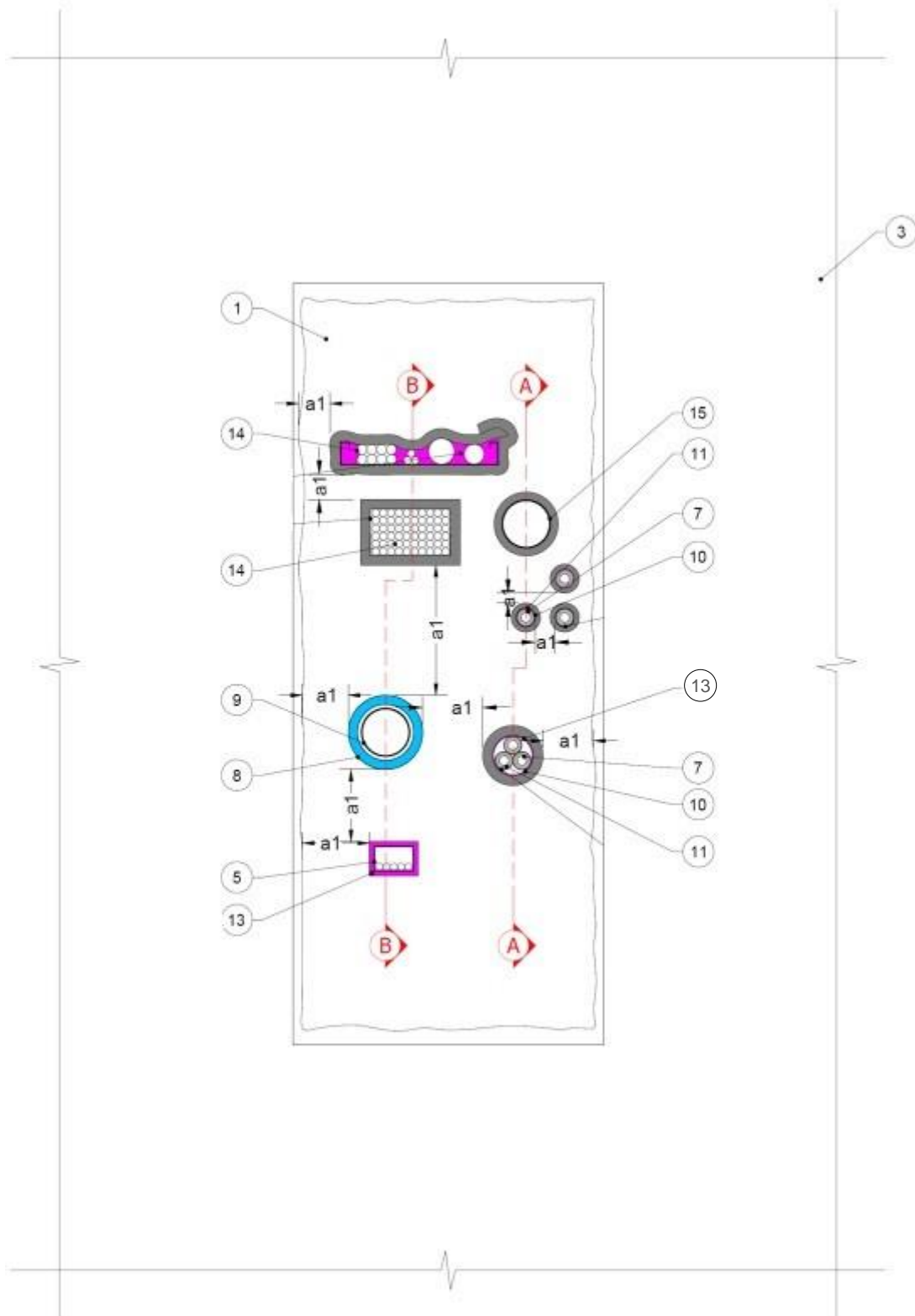


Figure 4 Various installation methods for PROMASEAL® bulkhead batts in floors



**Figure 5 PROMASEAL® Bulkhead Batt fitted to apertures in walls ( $a1 = 40\text{mm min}$ )**

Note: The cable tray can be installed as close as possible to the edge of the batt (< 40 mm) if the tray is supported by a fire rated backing wall.

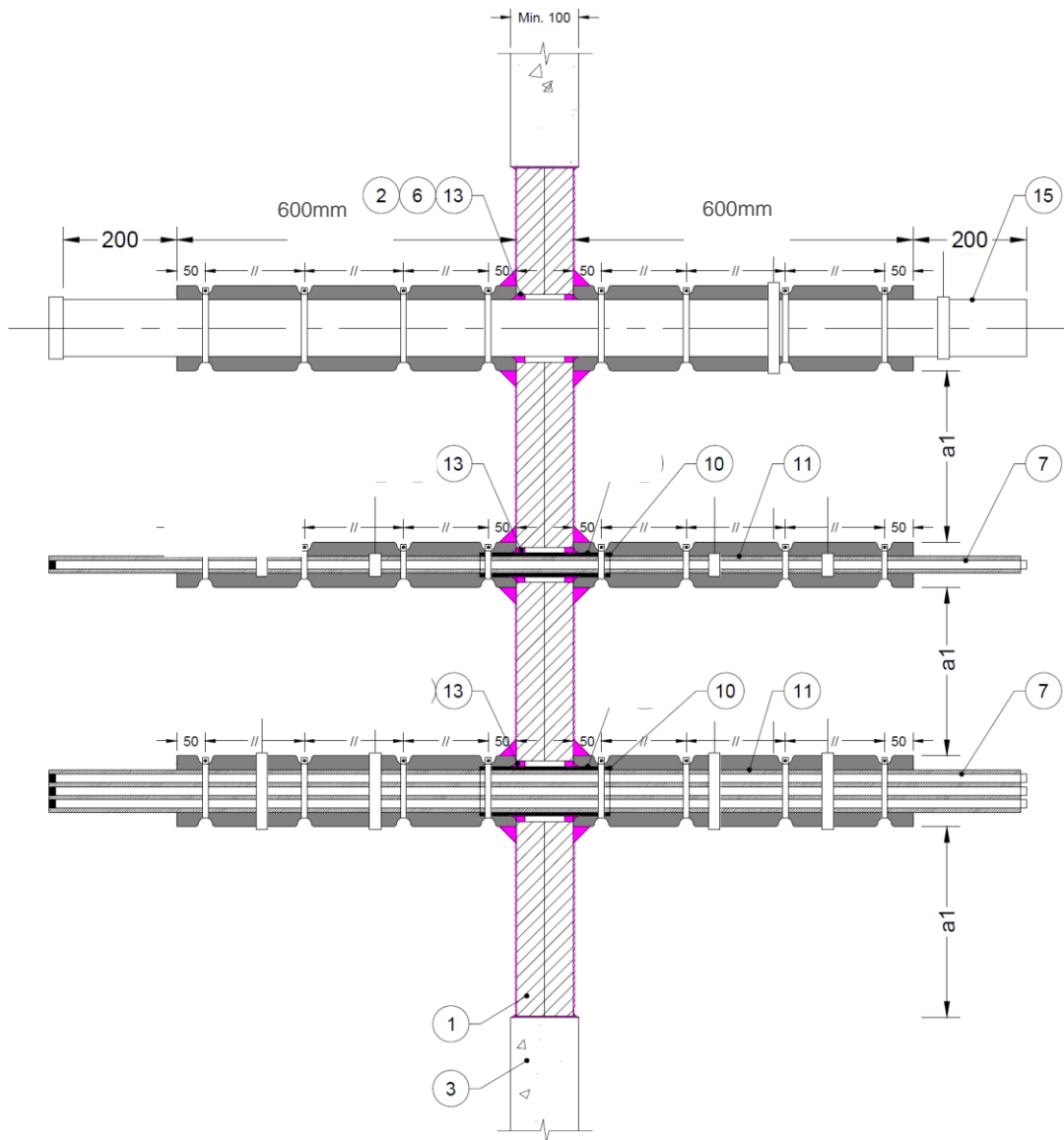
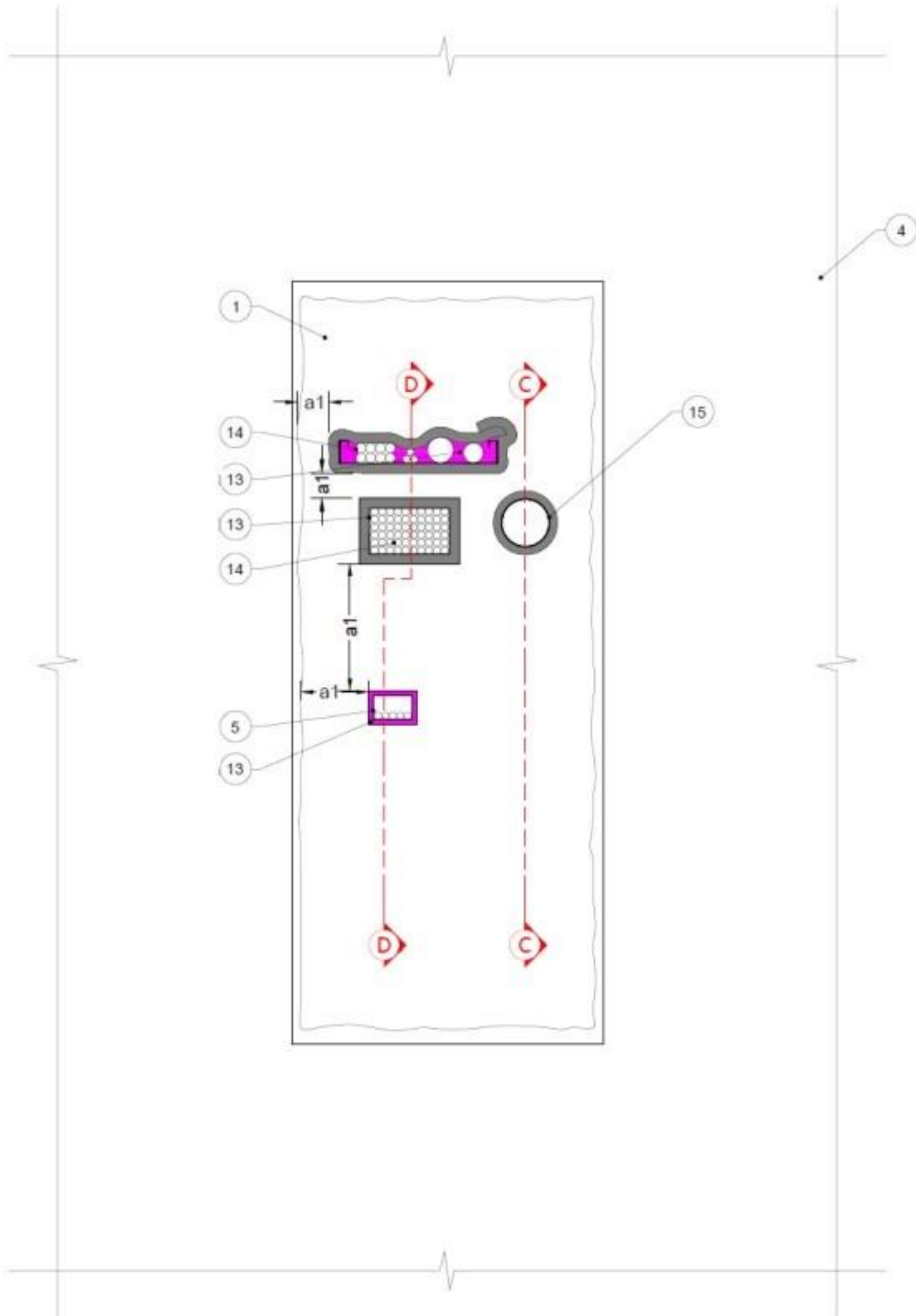


Figure 6 PROMASEAL® Bulkhead Batt in walls (Section A-A)





**Figure 8 PROMASEAL® Bulkhead Batt fitted to apertures in floors ( $a_1 = 40$  mm min)**

Note: The cable tray can be installed as close as possible to the edge of the batt (< 40 mm) if the tray is supported by a fire rated backing wall.

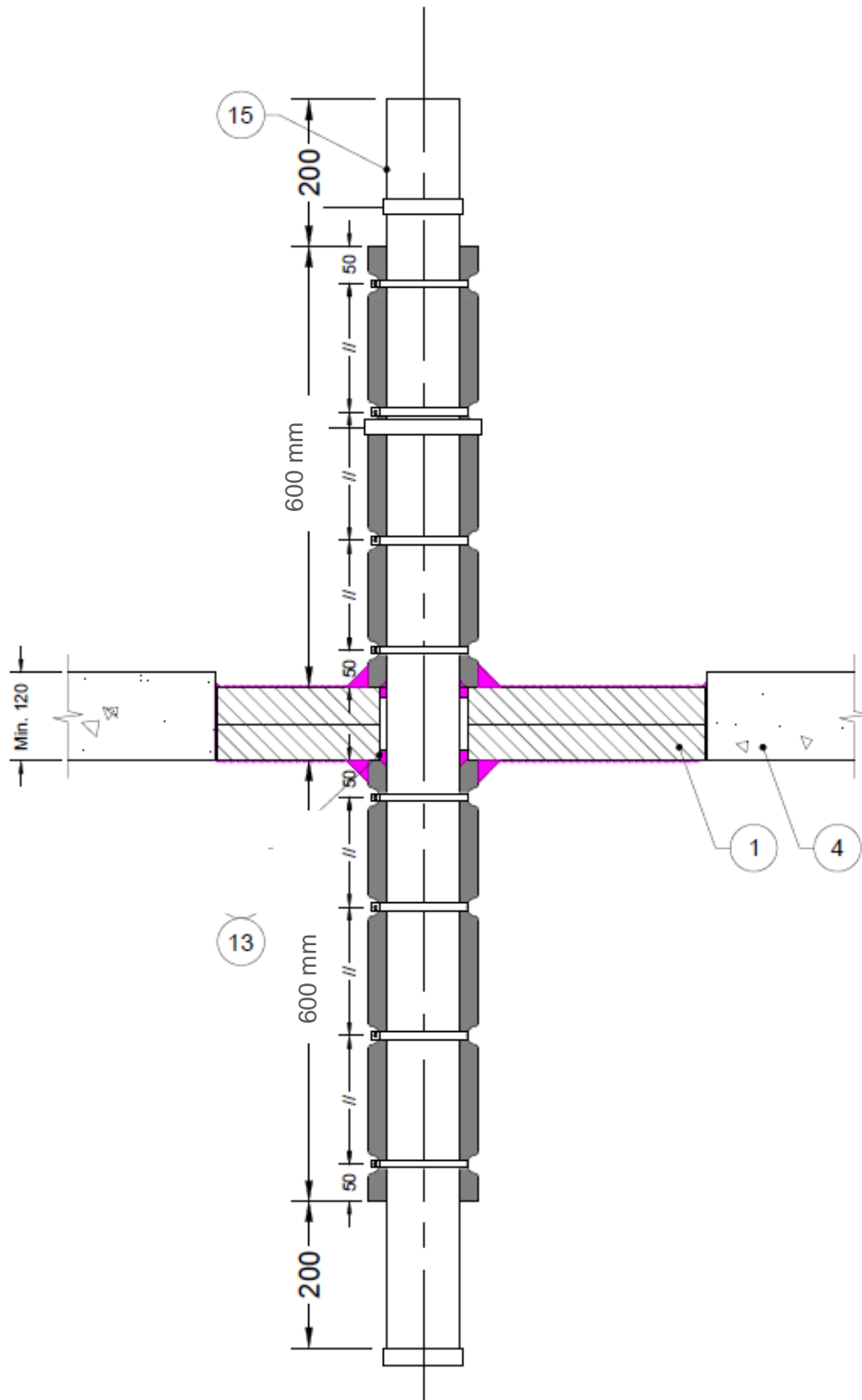


Figure 9 PROMASEAL® Bulkhead Batt in floors (Section C-C)



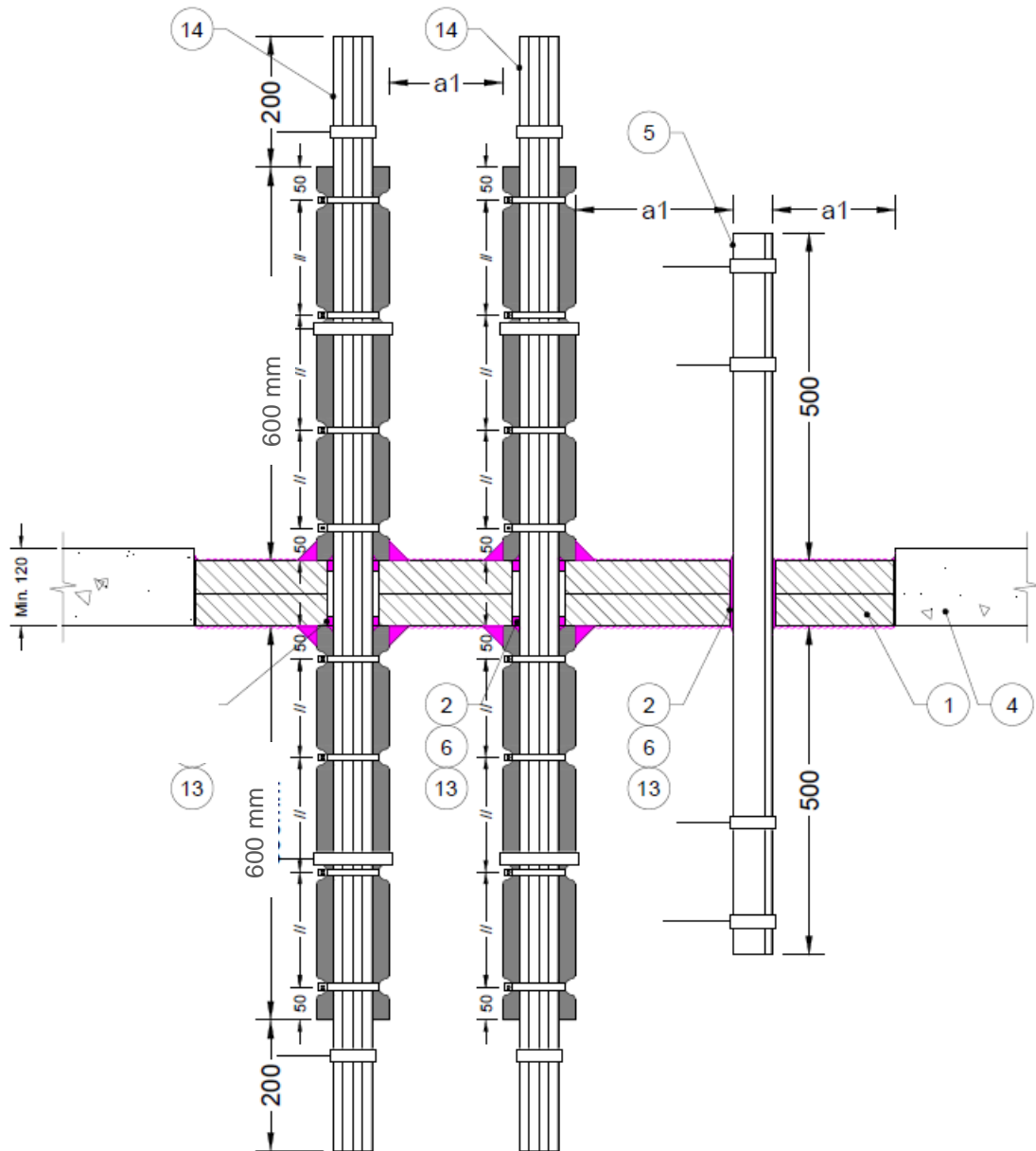


Figure 10 PROMASEAL® Bulkhead Batt in floors (Section D-D)

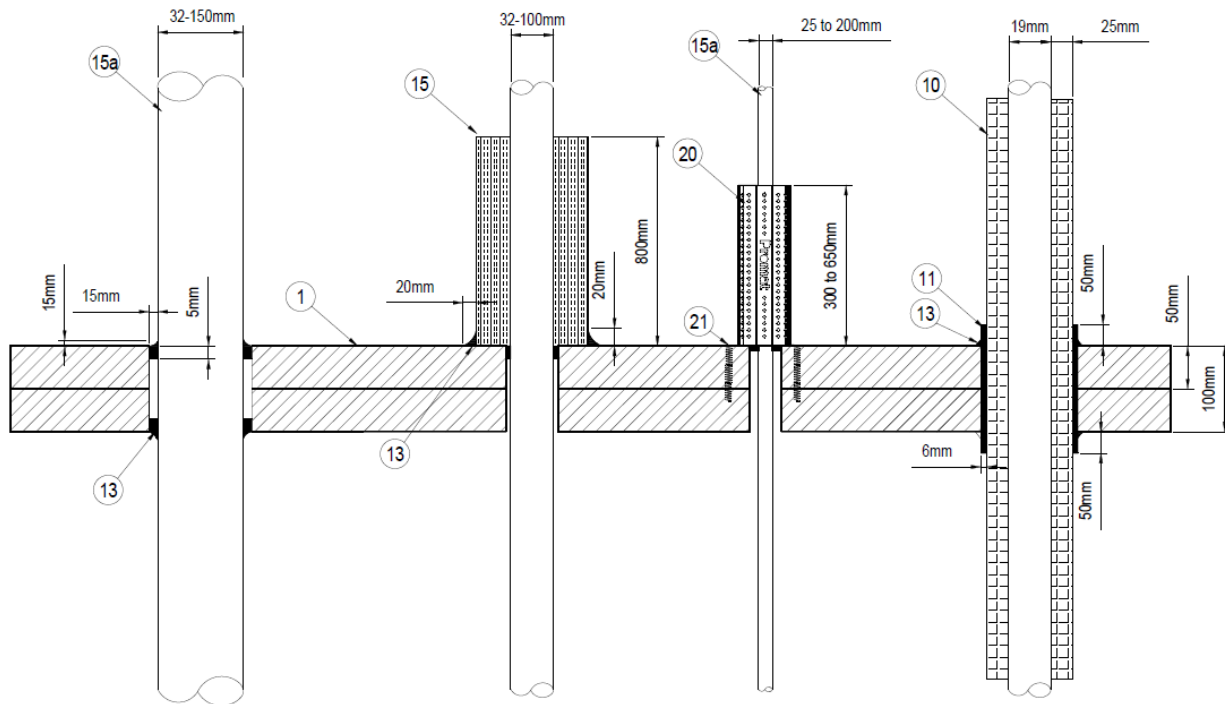


Figure 11 Horizontal PROMASEAL® bulkhead batts penetrated by various pipe types

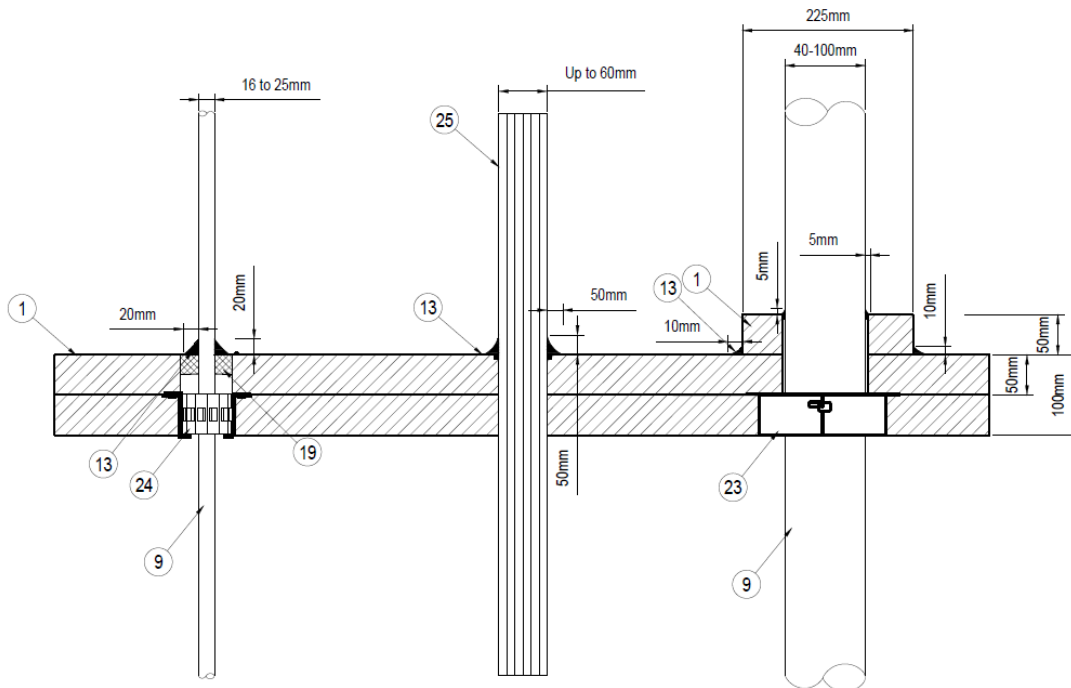


Figure 12 Horizontal PROMASEAL® bulkhead batts penetrated by various pipe types

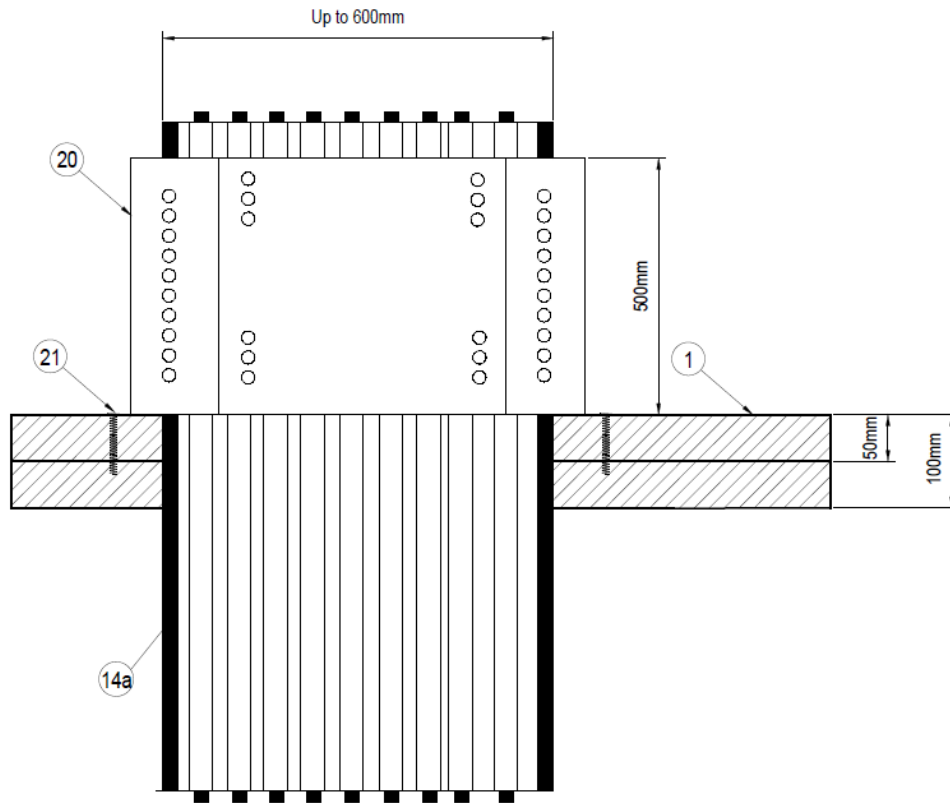


Figure 13 PROMASEAL® bulkhead batts penetrated by cable trays

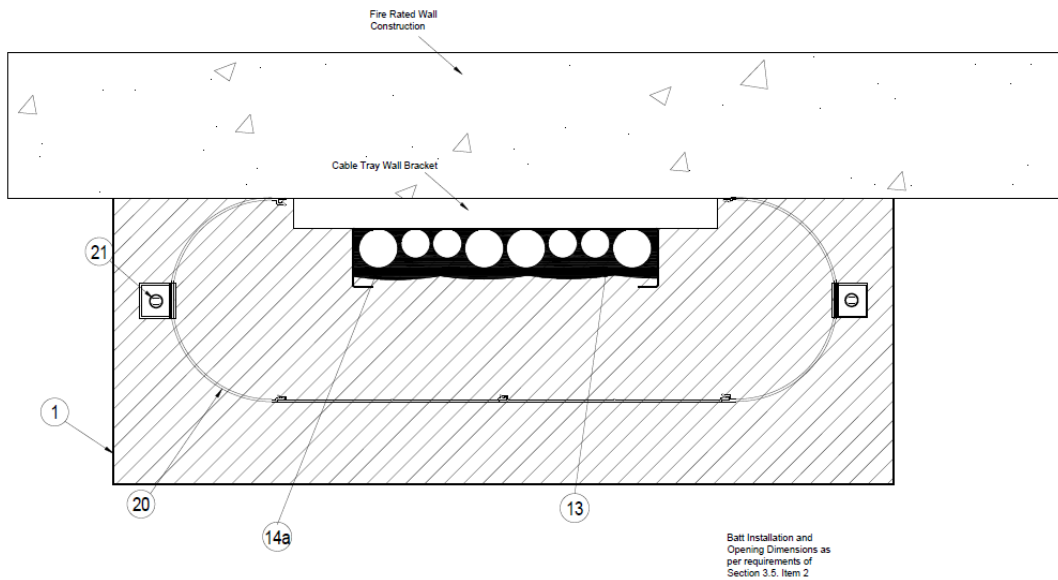


Figure 14 Cable tray/Batt against wall installation

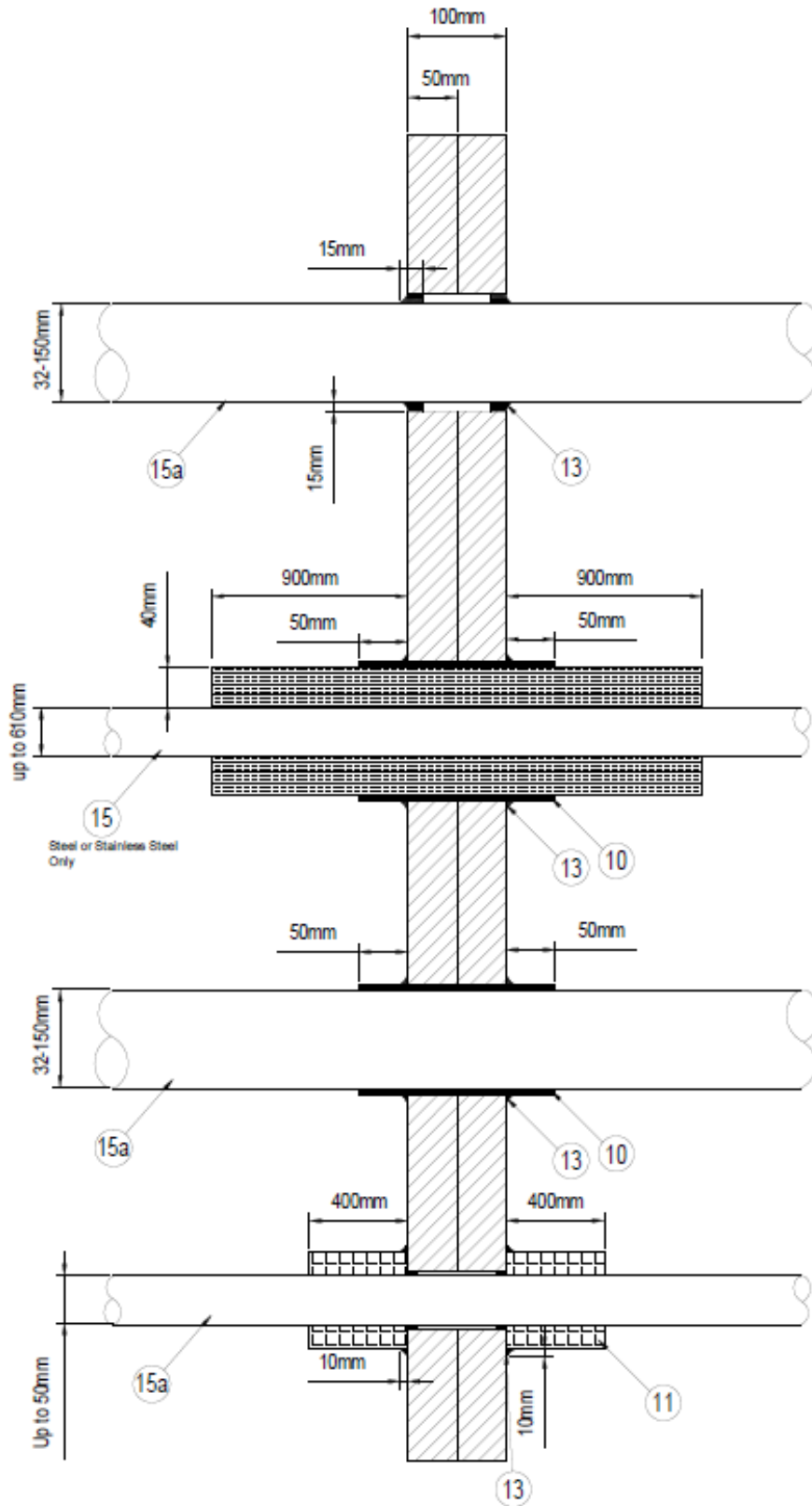


Figure 15 Vertical PROMASEAL® bulkhead batts penetrated by various pipe types

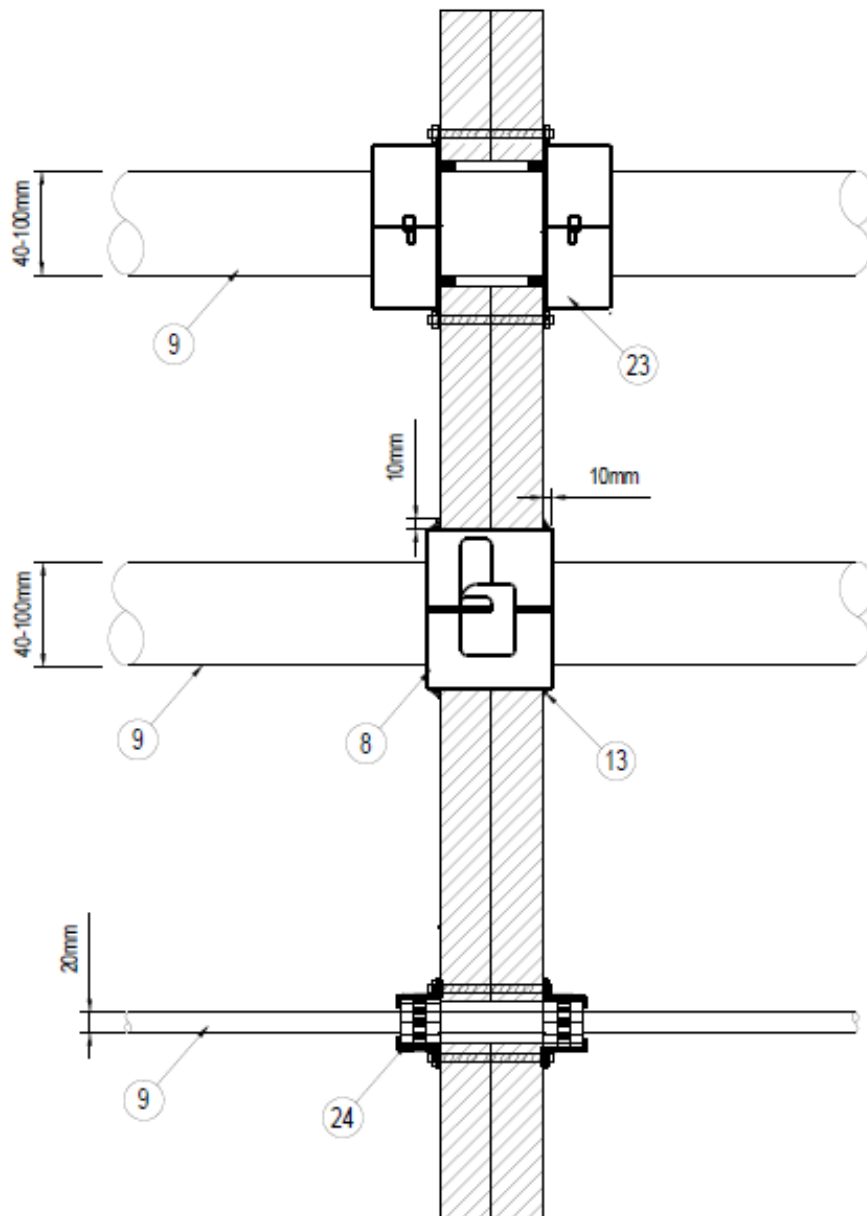


Figure 16 Vertical PROMASEAL® bulkhead batts penetrated by various pipe types



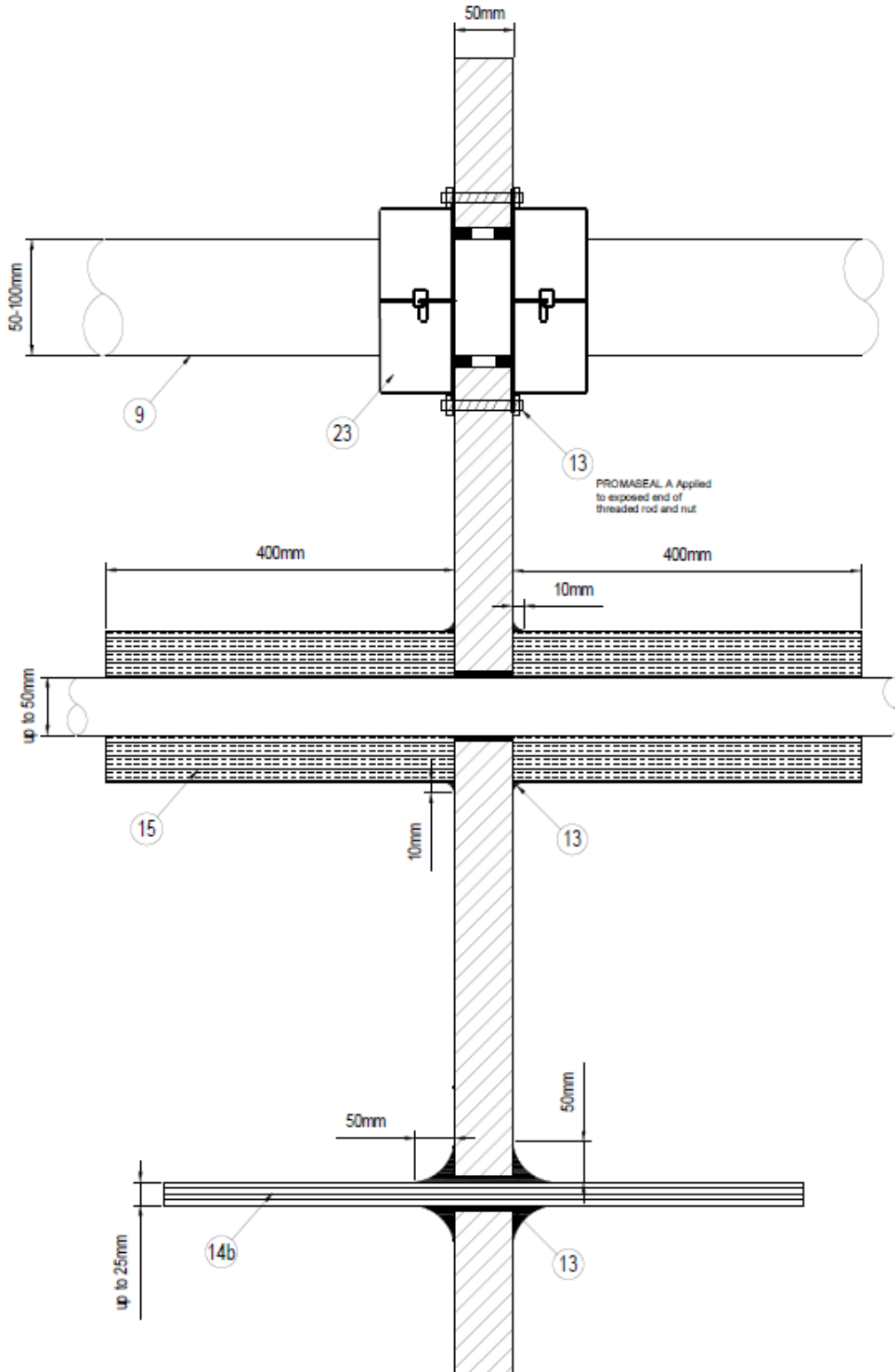


Figure 18 Vertical PROMASEAL® bulkhead batts penetrated by various pipe types

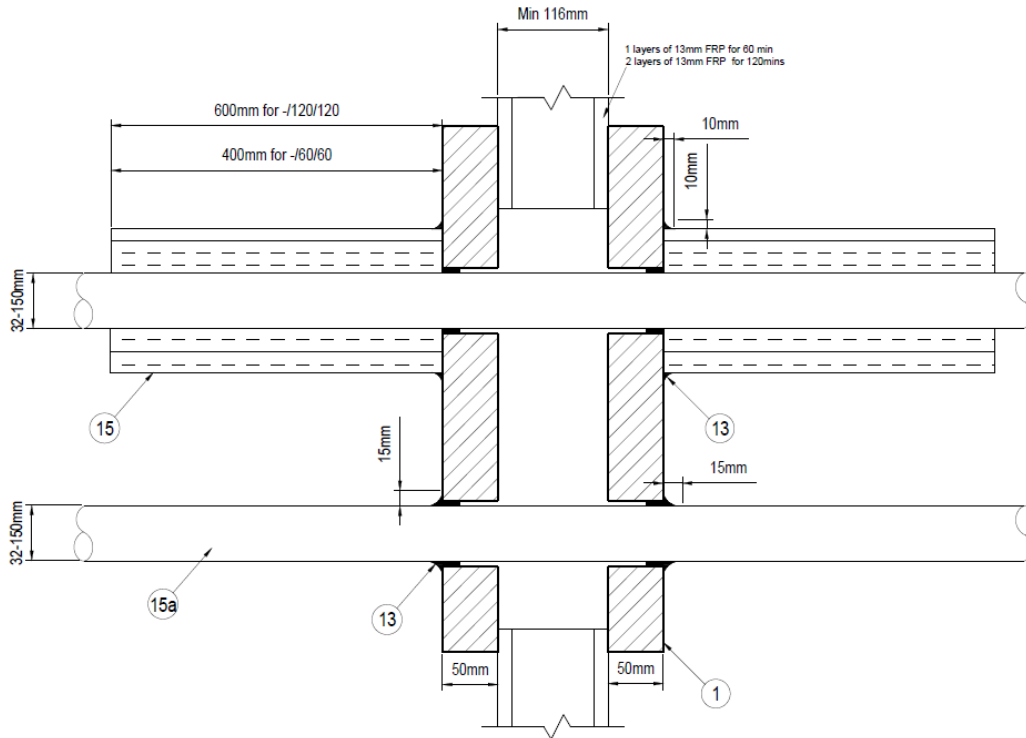


Figure 19 PROMASEAL® bulkhead batts in walls penetrated by various pipe types

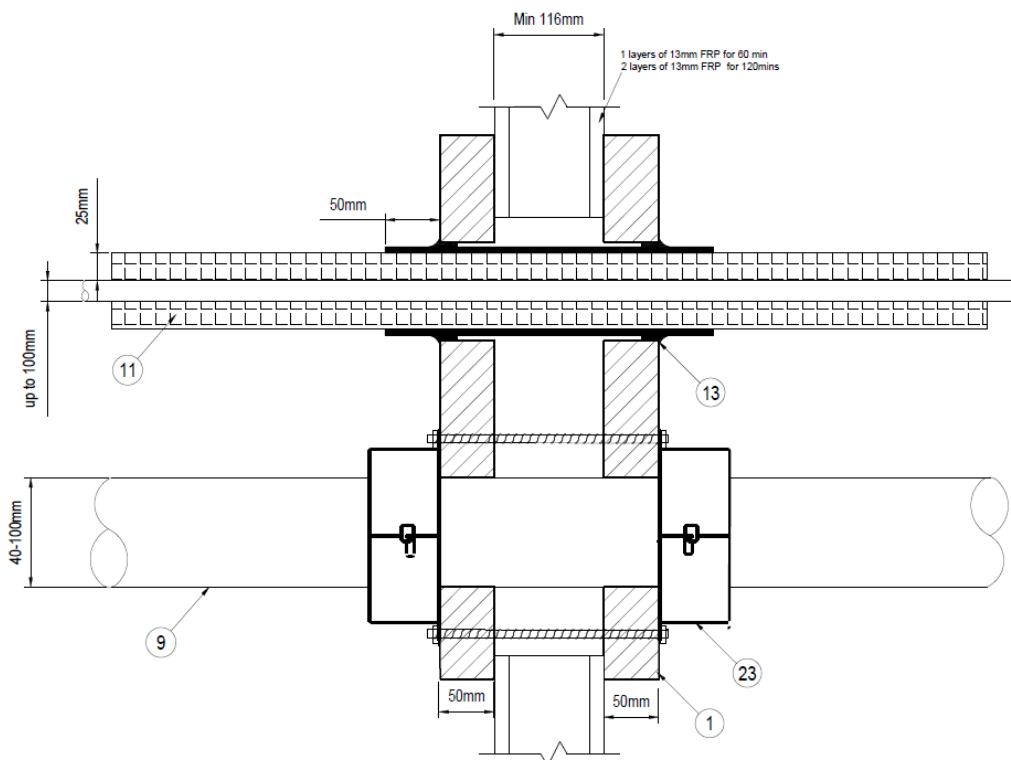


Figure 20 PROMASEAL® bulkhead batts in walls penetrated by various pipe types



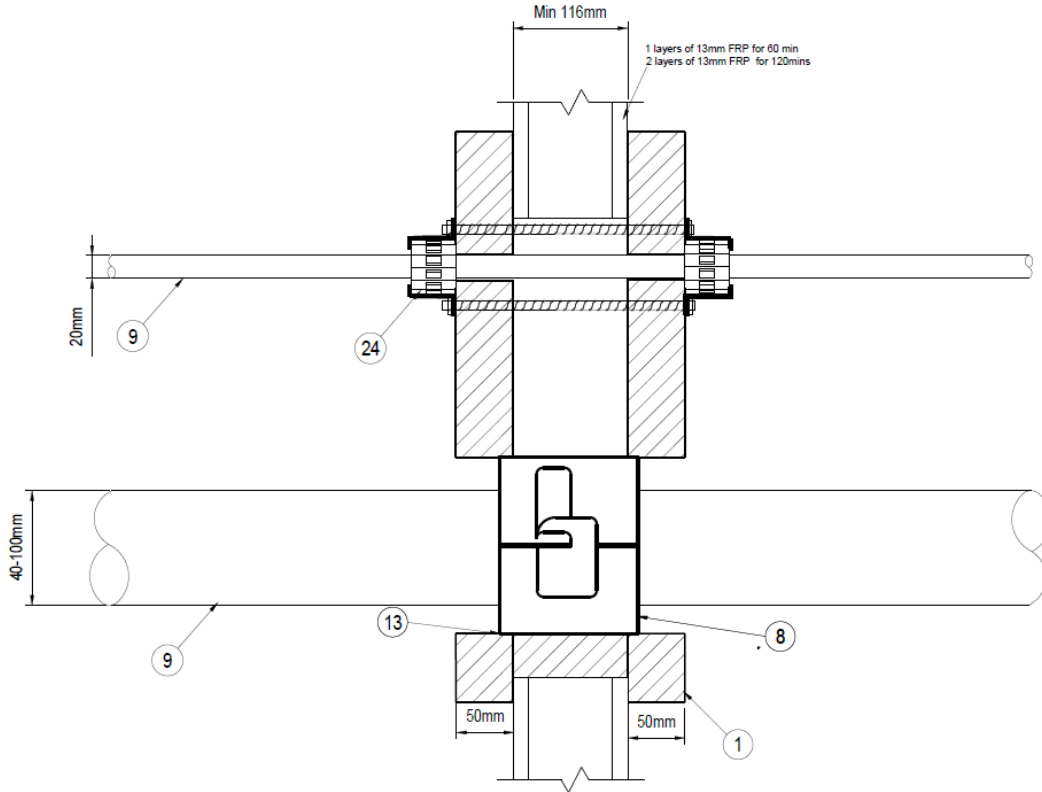


Figure 21 PROMASEAL® bulkhead batts in walls penetrated by various pipe types

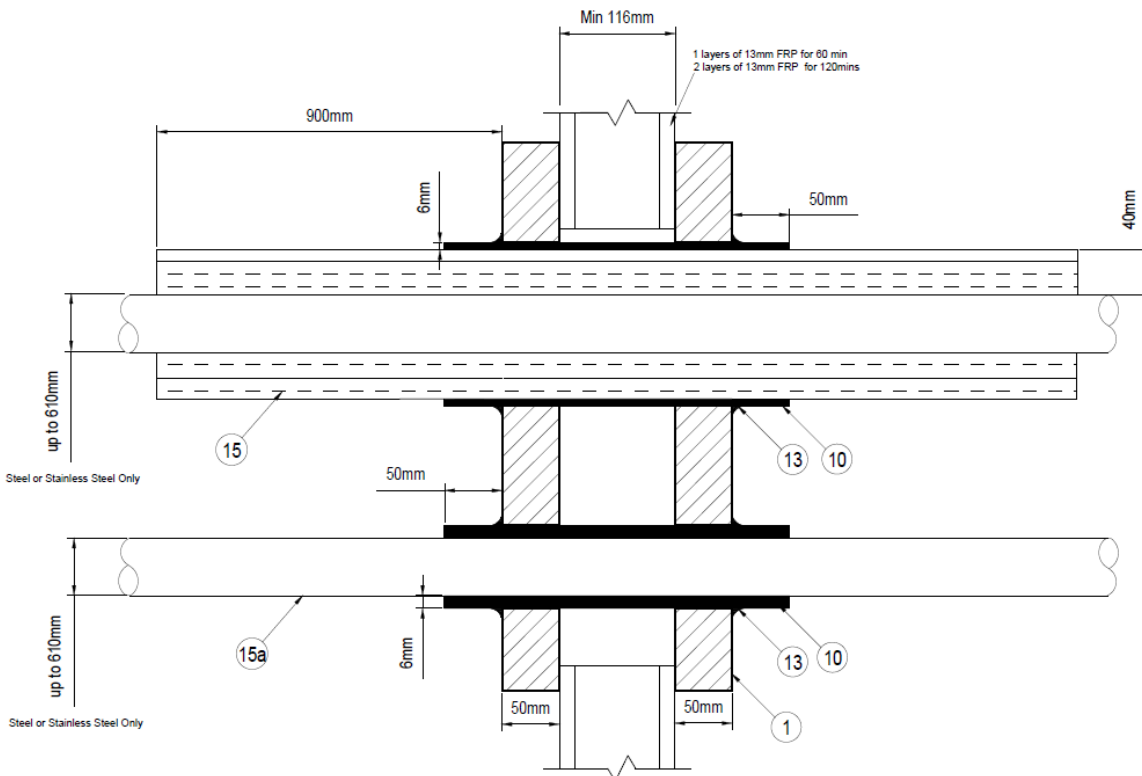


Figure 22 PROMASEAL® bulkhead batts in walls penetrated by various pipe types

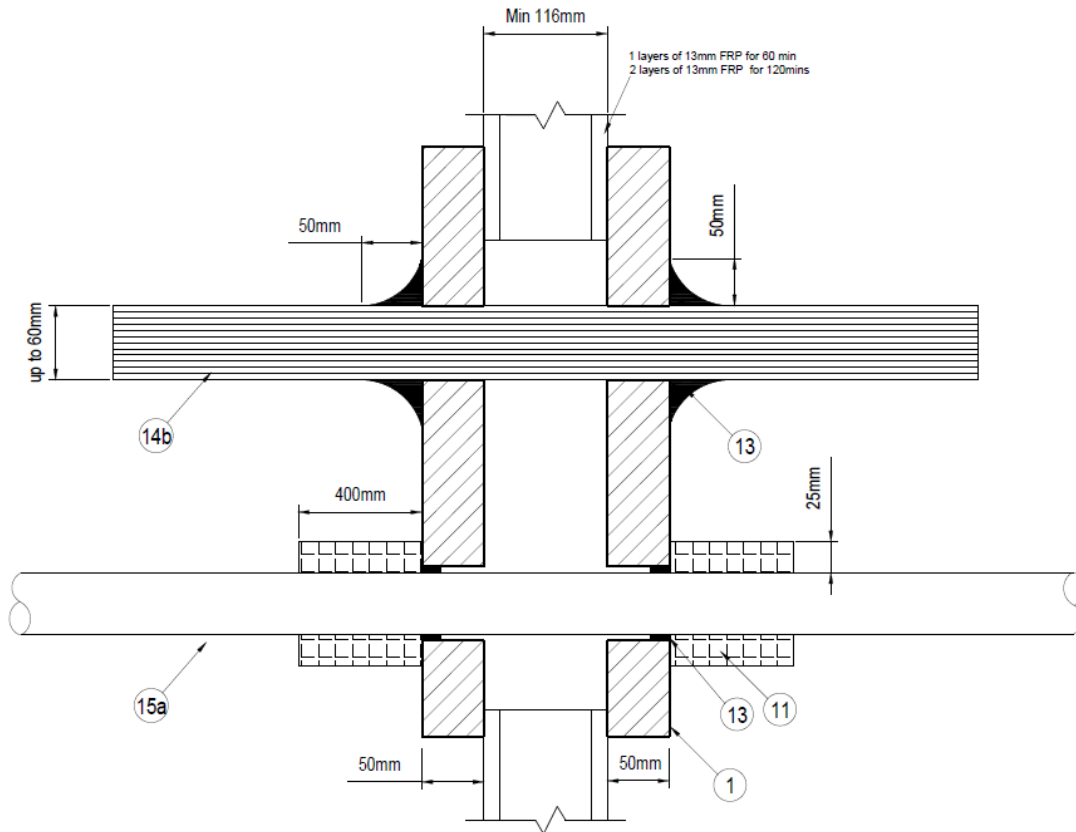


Figure 23 PROMASEAL® bulkhead batts in walls penetrated by various pipe types

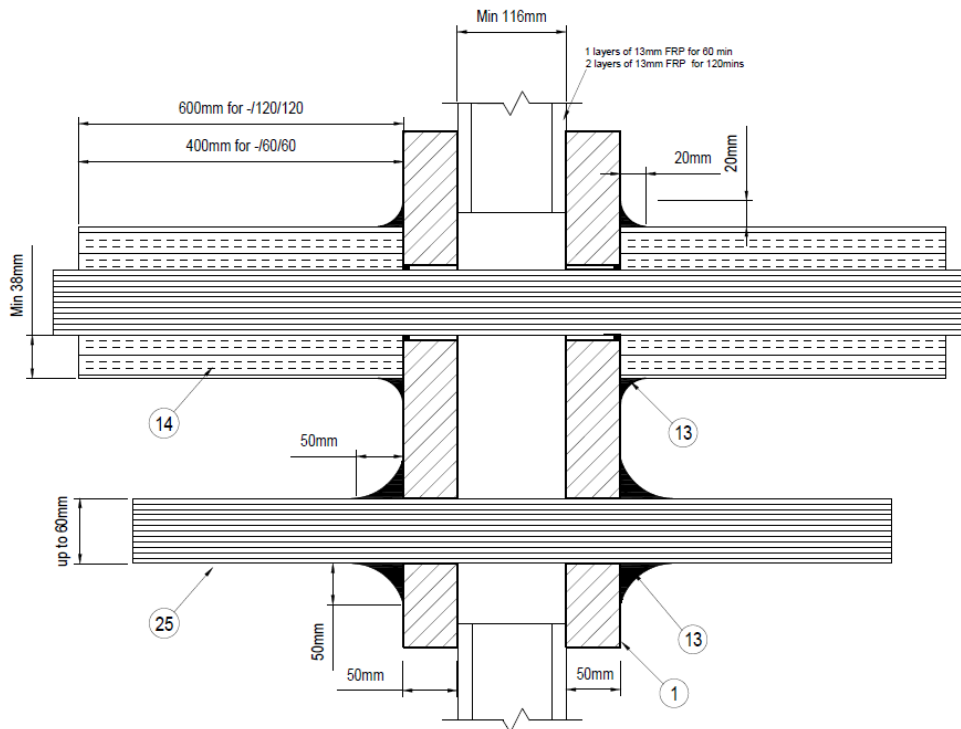
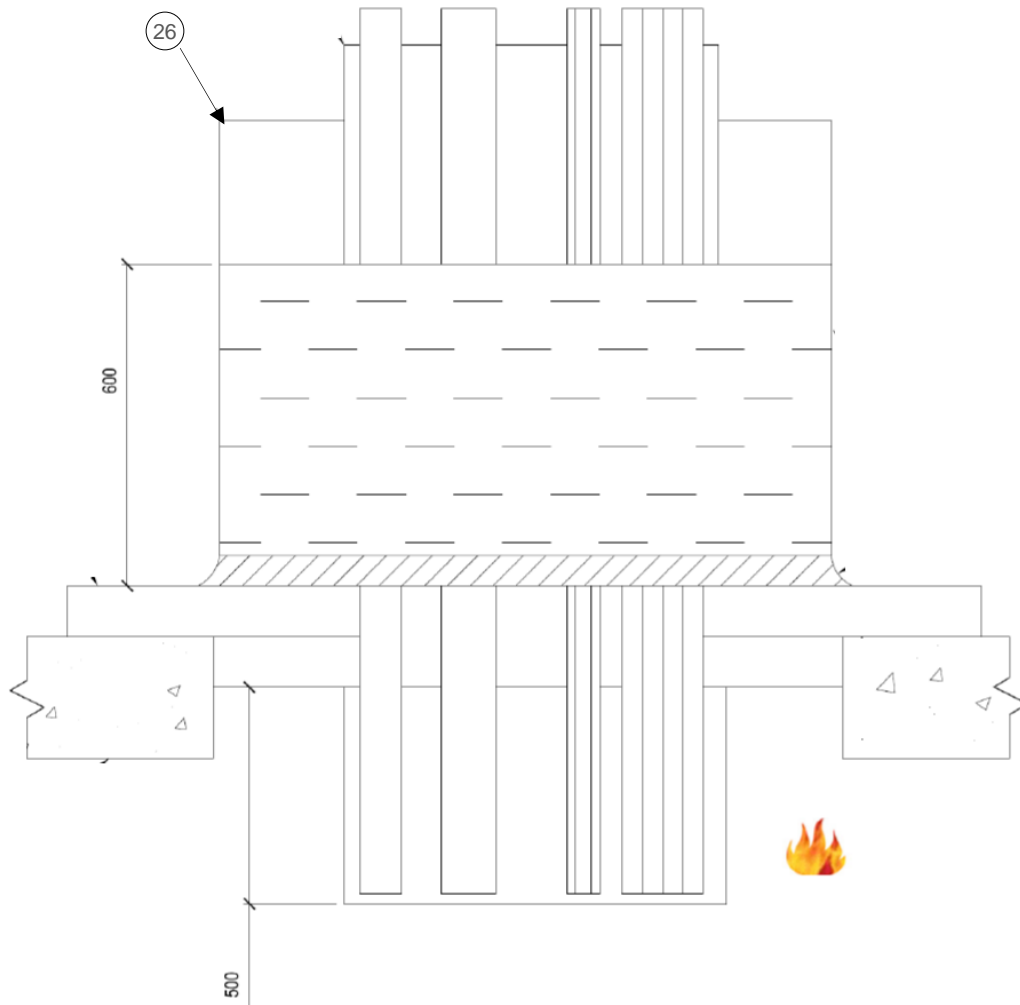
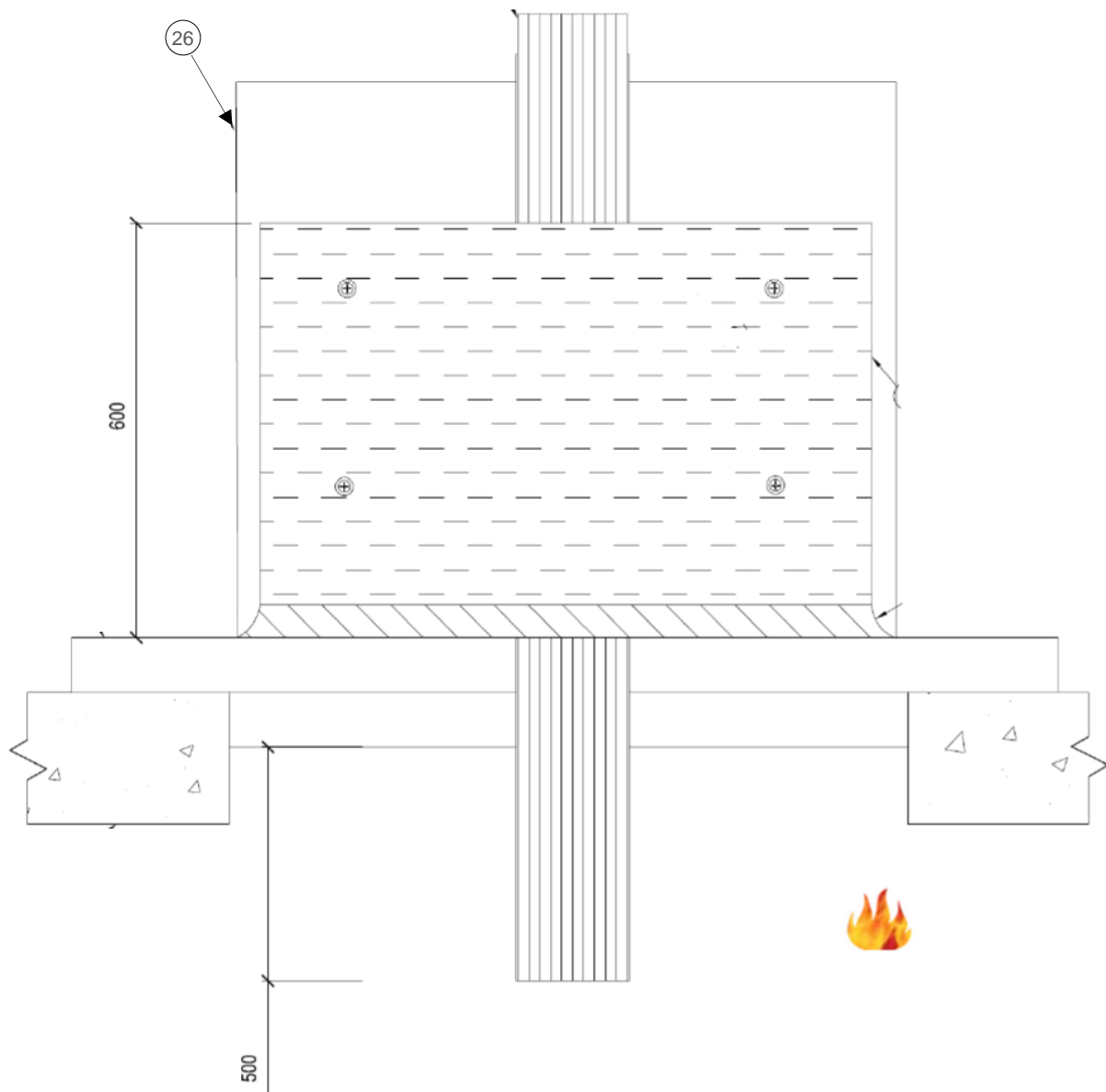


Figure 24 PROMASEAL® bulkhead batts in walls penetrated by various pipe types



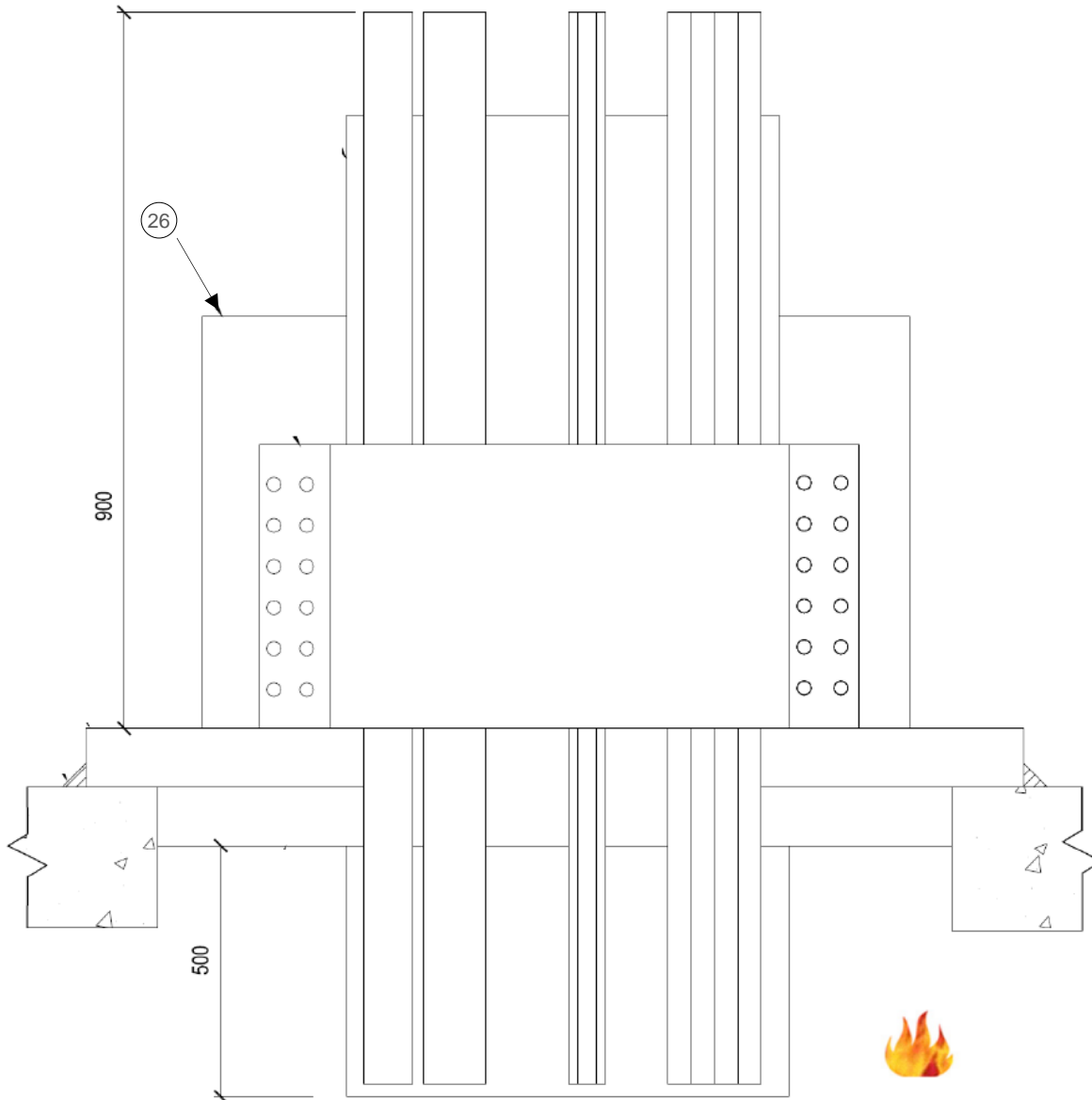
**Figure 25 PROMASEAL® bulkhead batts in floors or walls penetrated by D1 cables as tested in A-20-032**

Note: The cable tray/cables can be installed hard against the edge of the aperture



**Figure 26 PROMASEAL® bulkhead batts in floors or walls penetrated by D2 cables as tested in A-20-38**

Note: The cable tray/cables can be installed hard against the edge of the aperture



**Figure 27** PROMASEAL® bulkhead batts with PROMASHIELD® 65 in floors or walls penetrated by D1 cables as tested in A-19-008

Note: The cable tray/cables can be installed hard against the edge of the aperture

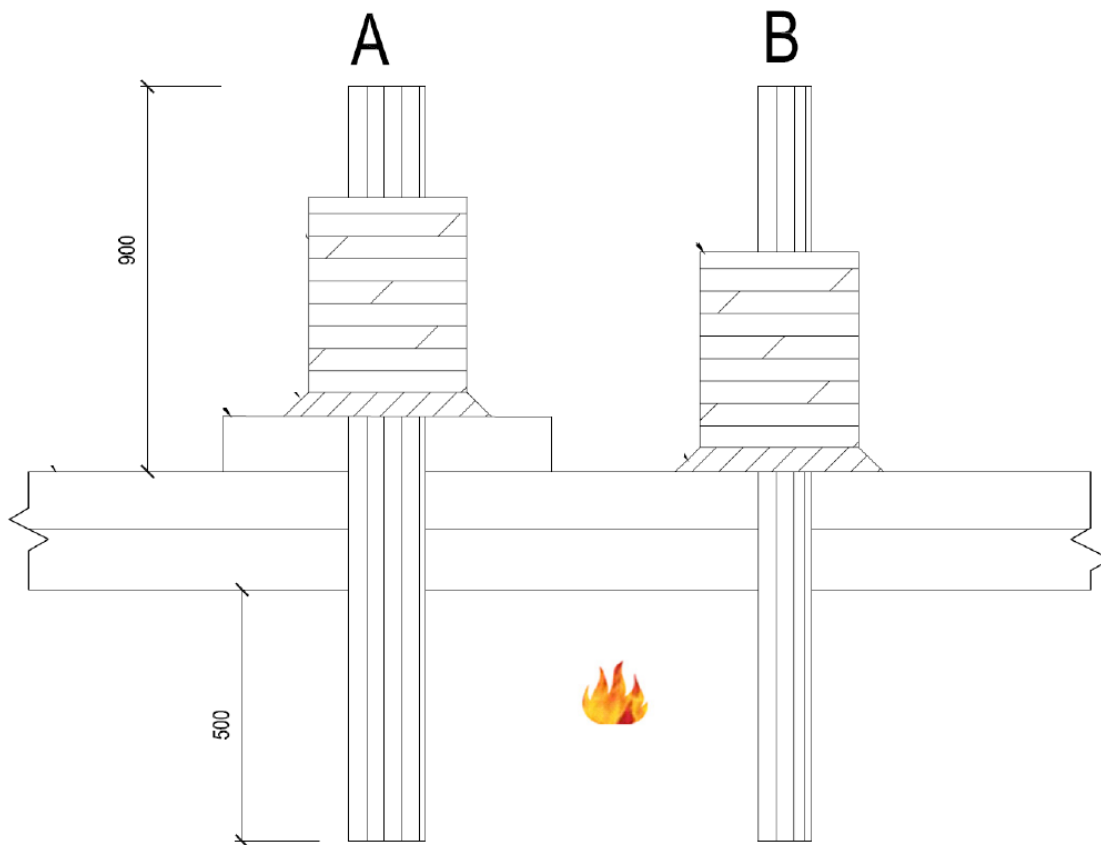


Figure 28 PROMASEAL® bulkhead batts in floors or walls penetrated by Co-axial cables as tested in A-19-018

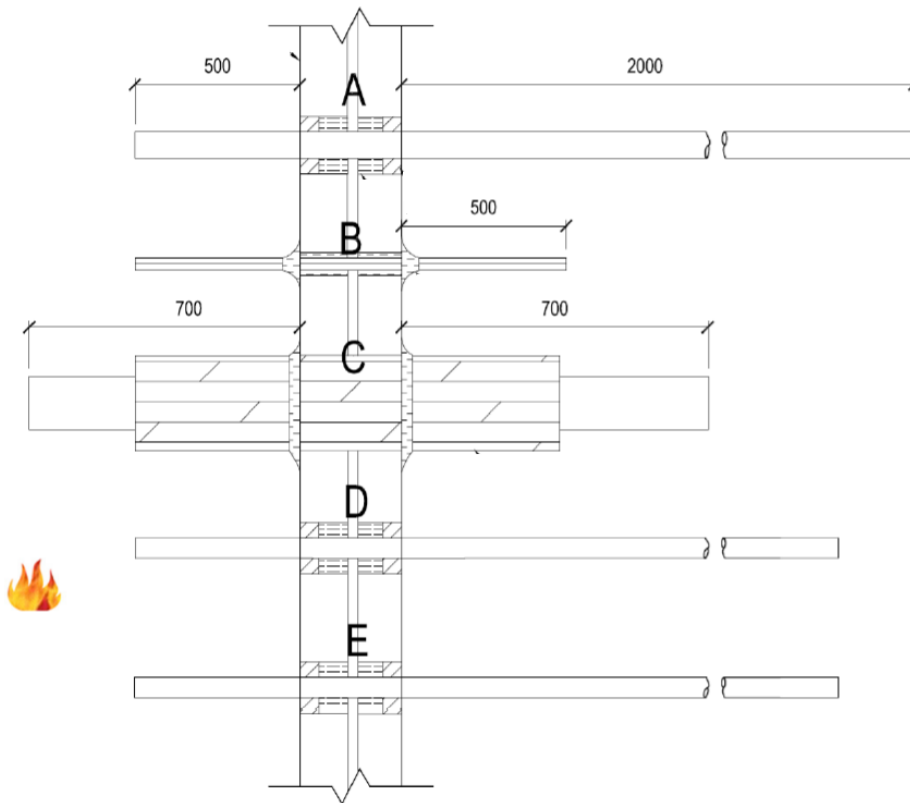


Figure 29 PROMASEAL® bulkhead batts in walls penetrated by various pipes as tested in A-20-22

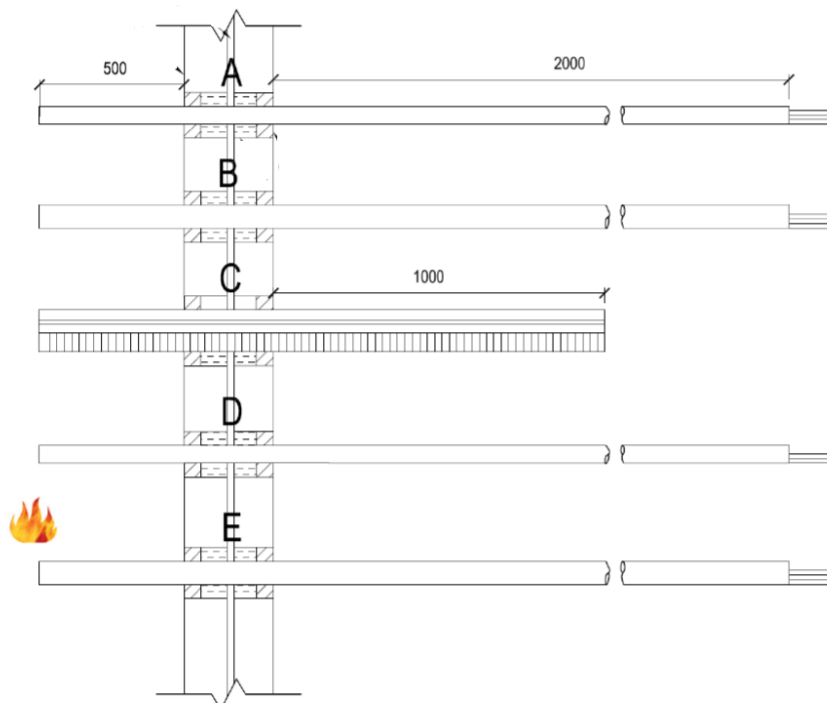


Figure 30 PROMASEAL® bulkhead batts in walls penetrated by various pipes as tested in A-19-035A

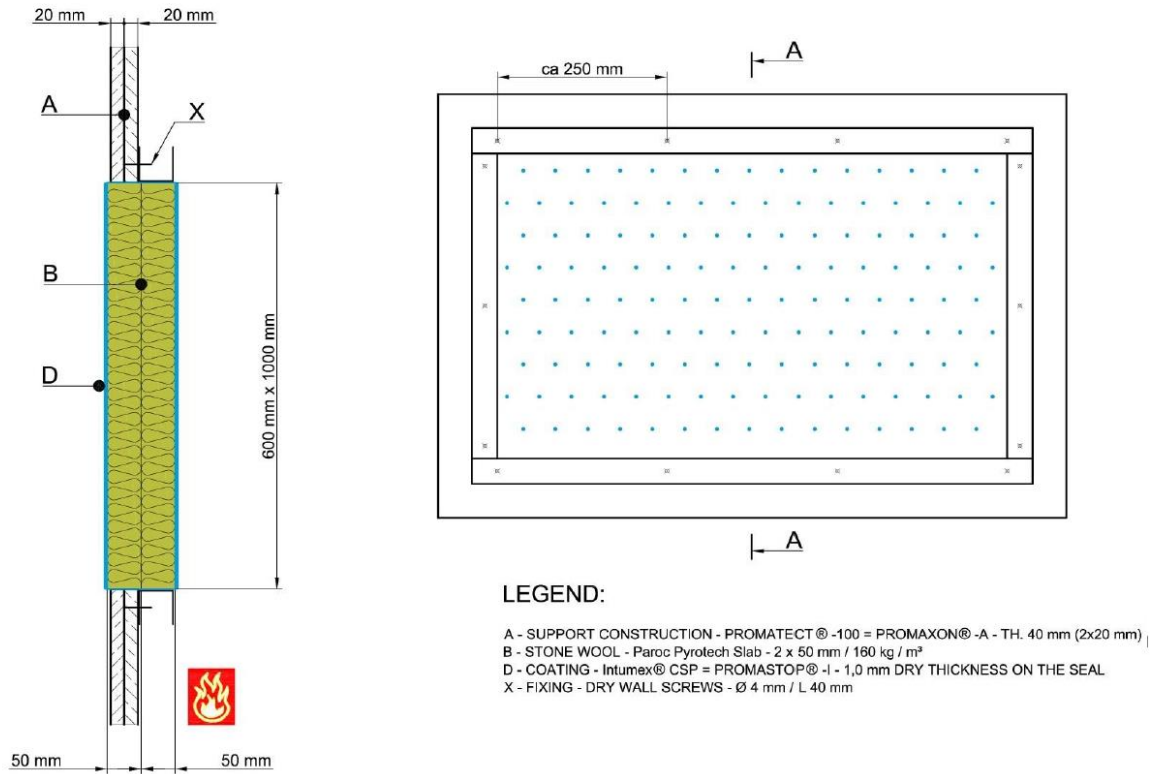


Figure 31 PROMASEAL® bulkhead batts in PROMATECT® 100 wall system as tested in Pr-12-2.076

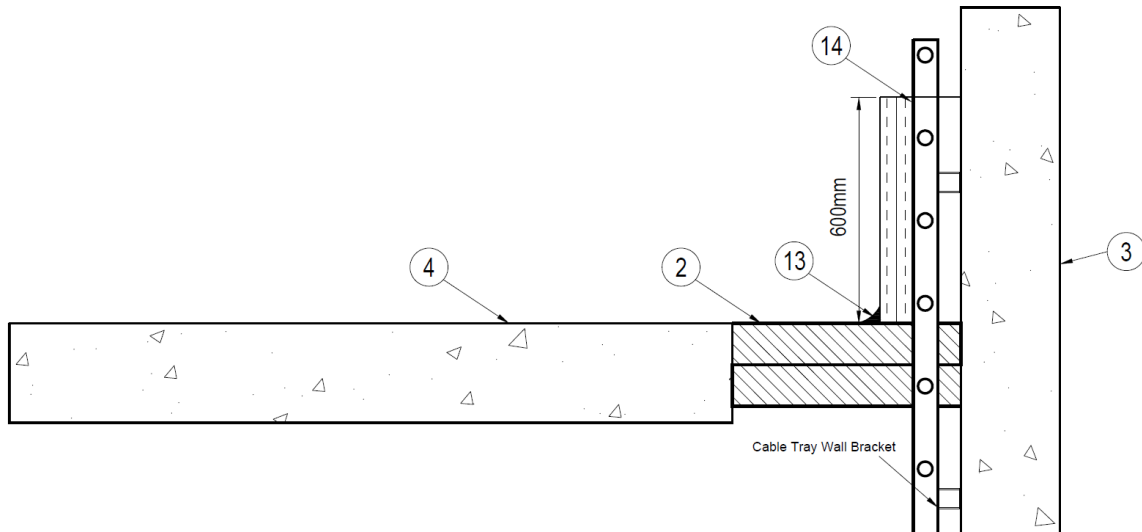
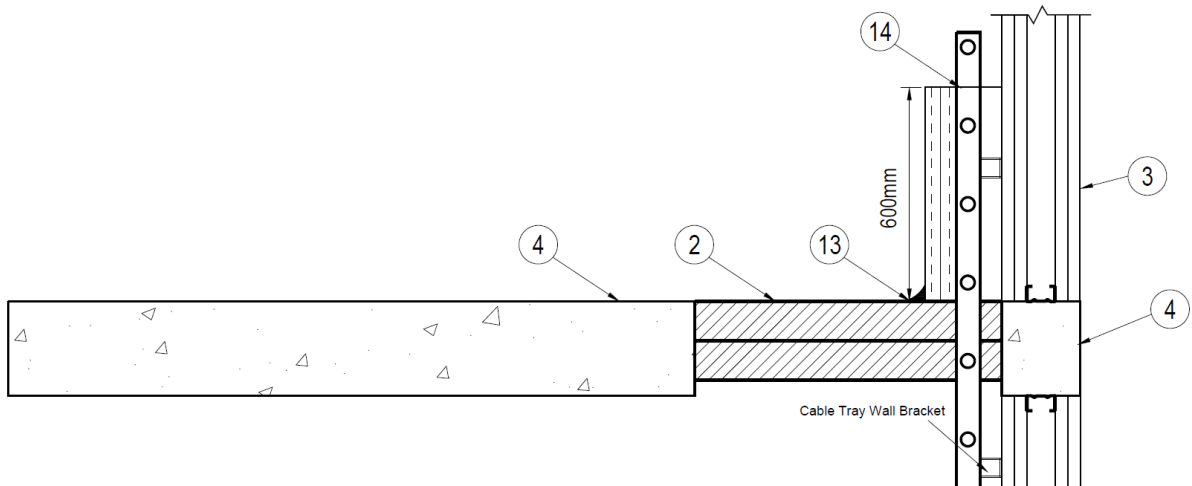
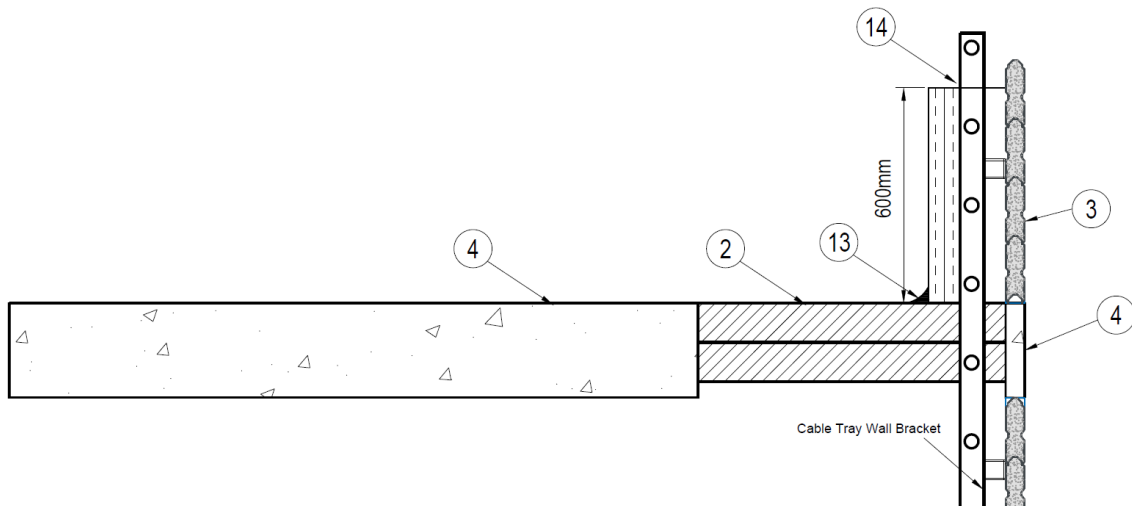


Figure 32 Cable tray penetrating PROMASEAL® bulkhead batts against rigid side wall Installation

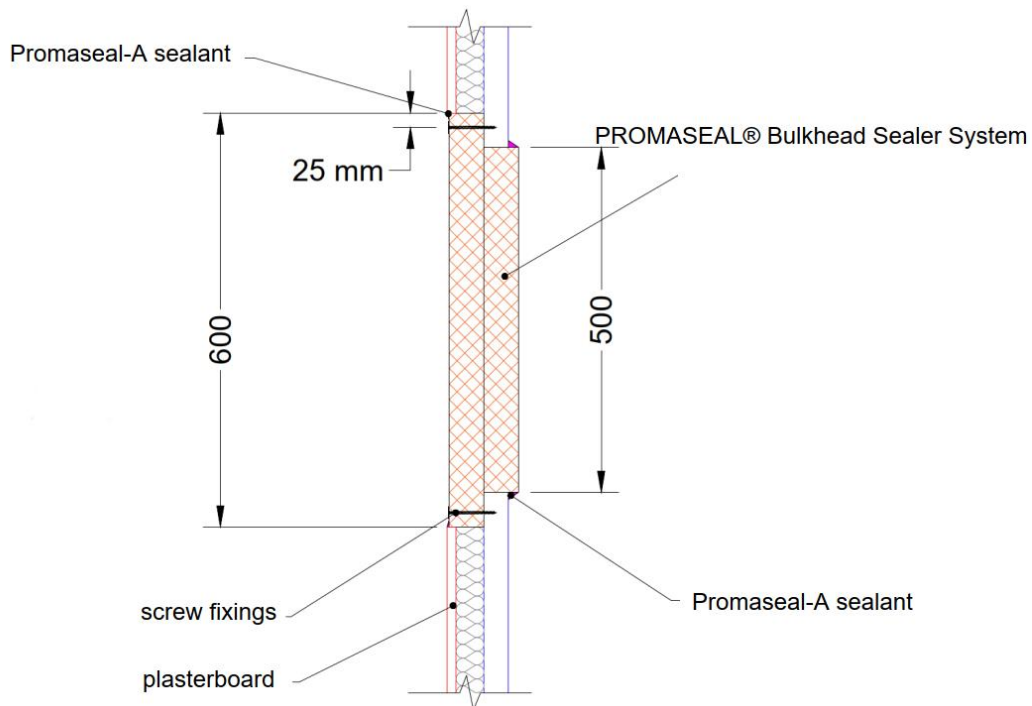




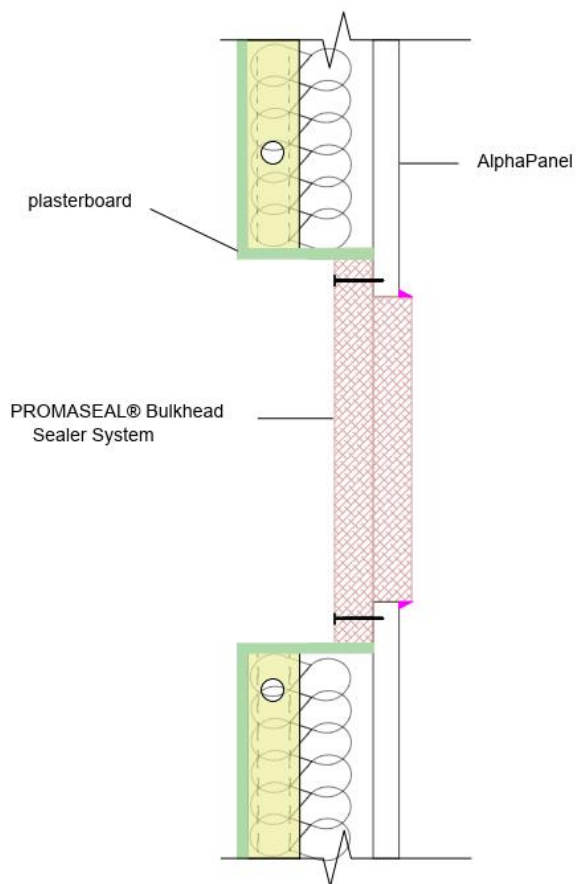
**Figure 33** Cable tray penetrating PROMASEAL® bulkhead batts against plasterboard side wall Installation



**Figure 34** Cable tray penetrating PROMASEAL® bulkhead batts against Speedpanel side wall Installation



**Figure 35 PROMASEAL® bulkhead batt in 88 mm thick wall systems with a 13 mm plasterboard and single AlphaPanel**



**Figure 36 PROMASEAL® bulkhead batt in wall systems thicker than 88 mm with a 13 mm plasterboard and single AlphaPanel**

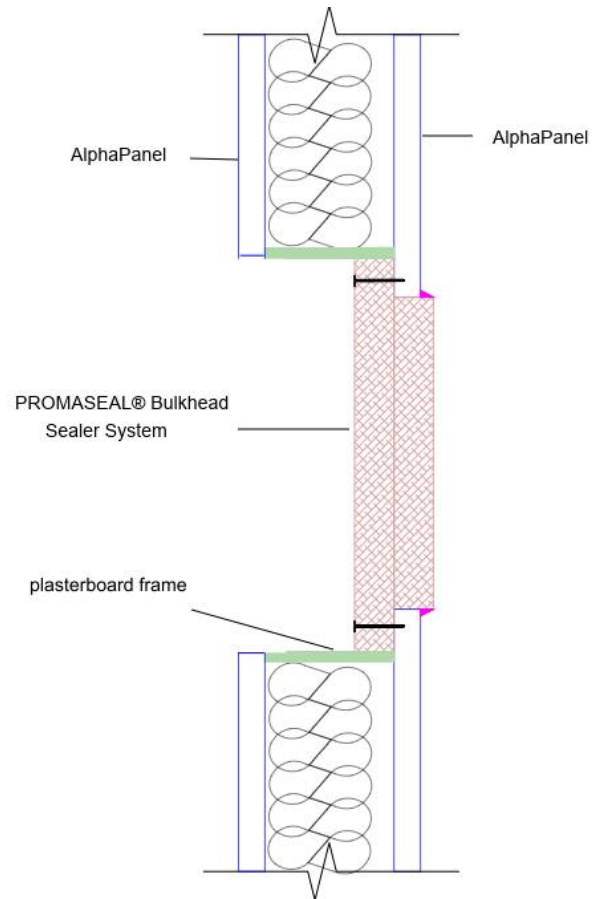


Figure 37 Blank seal in wall systems with two AlphaPanels

## 4.6 Assessment outcome

The referenced assessment demonstrates that the performance of multiple plastic and metal cables and pipe penetrations of various diameters penetrating a PROMASEAL® Bulkhead Sealer system – if subjected to a fire resistance test in accordance with AS 1530.4:2014 and AS 4072.1: 2005 – are expected to achieve the FRLs defined in Table 6.

**Table 6 Assessment outcome**

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 1	Page 30
	W1-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/120/120	Figure 2 Figure 5 Figure 6 Figure 7	Page 31 Page 33 Page 34 Page 35
	W1-2	Brass	PROMASEAL® A	32-100		-/120/-	Figure 19 to Figure 24	Page 45 to Page 47
	W1-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/120/120		
	W1-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-		
	W1-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/120/120		
	W1-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/120/90		
	W1-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100		-/120/60		
	W1-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insulation		-/120/120		
	W1-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/120/120		
W1-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100	-/180/180 <sup>1</sup>				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>• Min 116 mm double layer plasterboard</li> <li>• Masonry wall</li> <li>• Concrete wall</li> <li>• Min 75 mm AAC wall</li> <li>• 78 mm Speedpanel</li> <li>• PROMATECT 100 wall system</li> </ul>	W1-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 1	Page 30
	W1-12	PEX	PROMASEAL® Conduit Collar	20		-/120/120	Figure 2	Page 31
	W1-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 900 mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/120/120	Figure 5	Page 33
	W1-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/120/-	Figure 6	Page 34
	W1-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/120/120	Figure 7	Page 35
	W1-16	Fibre optic 12 core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/120/120	Figure 19 to Figure 24	Page 45 to Page 47
	W1-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	As per AS1530.4 Appendix D1		-/120/120		
	W1-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	As per AS1530.4 Appendix D2		-/120/120		
	W1-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	80 x 50 20% full		-/120/120		
	W1-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>• Min 116 mm double layer plasterboard</li> <li>• Masonry wall</li> <li>• Concrete wall</li> <li>• Min 75 mm AAC wall</li> <li>• 78 mm Speedpanel</li> <li>• PROMATECT 100 wall system</li> </ul>	W1-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022	-/120/120	Figure 29	Page 52
	W1-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/120/120		
	W1-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/120/90		
	W1-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/120/90		
	W1-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
	W1-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/120/120		
	W1-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 116 mm double layer plasterboard</li> <li>Masonry wall</li> <li>Concrete wall</li> <li>Min 75 mm AAC wall</li> <li>78 mm Speedpanel</li> <li>PROMATECT 100 wall system</li> </ul>	W1-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
<ul style="list-style-type: none"> <li>Min 90 mm thick single layer plasterboard wall</li> <li>AAC wall</li> <li>Concrete wall</li> <li>Masonry wall</li> </ul>	W2-0	Unpenetrated batt	PROMASEAL® A		FP6115 and A-15-973	-/60/60	Figure 5 to Figure 7	Page 33 to Page 35
	W2-1	uPVC + FC	-	50-100		-/60/60		
	W2-2	Bundle or single TPS Cables + 50 mm cone	-	up to 25 mm dia		-/60/60		
	W2-3	50 mm copper +Wrap	-	up to 50 mm		-/60/60		
<ul style="list-style-type: none"> <li>Min 116 mm single layer plasterboard wall</li> </ul>	W3-0	Unpenetrated batt	PROMASEAL® A			-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30 Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W3-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400mm long on each face	32-100 mm	A-15-973 and FP6115	-/60/60		
	W3-2	Brass	PROMASEAL® A	32-100		-/60/-		
	W3-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400mm long on each face	32-150		-/60/60		
	W3-4	Copper or Steel	PROMASEAL® A	32-150		-/60/-		
	W3-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insul		-/60/60		
	W3-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50 mm		-/60/60		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 116 mm single layer plasterboard wall	W3-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100 mm	A-15-973 and FP6115	-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W3-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/60/60		Page 31
	W3-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/60/60		Page 33
	W3-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/60/60		Page 34
	W3-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/60/60		Page 35
	W3-12	PEX	PROMASEAL® Conduit Collar	20 mm		-/60/60		Page 45 to Page 47
	W3-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 400mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/60/60		
	W3-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/60/-		
	W3-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/60/60		
	W3-16	Fibre optic 12 core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/60/60		
	W3-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool @ 400mm long on each face	As per AS1530.4 Appendix D1		-/60/60		



Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 116 mm single layer plasterboard wall	W3-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400 mm long on each face	As per AS1530.4 Appendix D2	A-15-973 and FP6115	-/60/60	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W3-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 400 mm long on each face	80 × 50 20% full		-/60/60		Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W3-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam		-/60/60		
• Min 130 mm XLam CLT wall panel	W4-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30
	W4-1	Brass	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/90/90		Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W4-2	Brass	PROMASEAL® A	32-100		-/90/-		
	W4-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/90/90		
	W4-4	Copper or Steel	PROMASEAL® A	32-150		-/90/-		
	W4-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/90/90		
	W4-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/90/90		
	W4-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100		-/90/60		
	W4-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/90/90		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1	Page 30
	W4-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/90/90	Figure 2	Page 31
	W4-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/90/90	Figure 5	Page 33
	W4-12	PEX	PROMASEAL® Conduit Collar	20		-/90/90	Figure 6	Page 34
	W4-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38 mm thick x 900mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/90/90	Figure 7	Page 35
	W4-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/90/-	Figure 19 to Figure 24	Page 45 to Page 47
	W4-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/90/90		
	W4-16	Fibre optic 12core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/90/90		
	W4-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D1		-/90/90		
	W4-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D2		-/90/90		
W4-19	Cable Trunking	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	80 x 50 20% full	-/90/90				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and FRT210159 R1.1	-/90/90	Figure 1 Figure 2 Figure 5 Figure 6 Figure 7 Figure 19 to Figure 24	Page 30 Page 31 Page 33 Page 34 Page 35 Page 45 to Page 47
	W4-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022 and FRT210159 R1.1	-/90/90	Figure 29	Page 52
	W4-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/90/90		
	W4-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/90/90		
	W4-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/90/90		
	W4-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		A-19-035A and FRT210159 R1.1		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT wall panel</li> </ul>	W4-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A and FRT210159 R1.1	-/90/90	Figure 30	Page 52
	W4-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/90/90		
	W4-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/90/90		
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-0	Unpenetrated batt	PROMASEAL® A		A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 35 to Figure 37	Page 55 to Page 56
	W5-1	Brass	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-100		-/120/120		
	W5-2	Brass	PROMASEAL® A	32-100		-/120/-		
	W5-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long on each face	32-150		-/120/120		
	W5-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-		
	W5-5	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	19 + 25 mm insulation		-/120/120		
	W5-6	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	50		-/120/90		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-7	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	100	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/60	Figure 35 to Figure 37	Page 55 to Page 56
	W5-8	Trefoil Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	3 × 19 + 25 mm insul		-/120/120		
	W5-9	uPVC pipe	PROMASEAL® Retrofit (FC) or Wall Collar (FCW)	40-100		-/120/120		
	W5-10	HDPE pipe	PROMASEAL® Retrofit (FC)	40-100		-/120/120		
	W5-11	HDPE pipe	PROMASEAL® Wall Collar (FCW)	40-100		-/120/120		
	W5-12	PEX	PROMASEAL® Conduit Collar	20		-/120/120		
	W5-13	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap + 38mm thick x 900mm long mineral wool (PROMASEAL SupaWrap) on each face	up to 610 mm		-/120/120		
	W5-14	Steel / Stainless steel	PROMASEAL® FlexiWrap in annular gap	up to 610 mm		-/120/-		
	W5-15	Copper with 400mm Nitrile Rubber lagging on each face	PROMASEAL® A	up to 50 mm		-/120/120		
	W5-16	Fibre optic 12core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/120/120		
	W5-17	Power cables (with or without cable tray support)	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D1		-/120/120		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-18	Telecommunication Cables (with or without cable tray support)	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	As per AS1530.4 Appendix D2	A-18-039, A-18-054, EWFA 25948.7, EWFA 37930500, A-15-982 and EWFA 37930500	-/120/120	Figure 35 to Figure 37	Page 55 to Page 56
	W5-19	Cable Trunking	PROMASEAL® A + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long on each face	80 × 50 20% full		-/120/120		
	W5-20	Bundles or single TPS Cables + 50mm cone of PROMASEAL A	PROMASEAL® A	up to 60 mm diam		-/120/120		
	W5-21	PEX pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® AG intumescent sealant protection.	Up to 20 mm dia.	A-20-022	-/120/120	Figure 29	Page 52
	W5-22	TPS pipes	100 mm PROMASEAL® Bulkhead Batts wall barrier separated with PROMASEAL® AN acrylic sealant protection.	2 × 1.5 mm <sup>2</sup>		-/120/120		
	W5-23	Type B copper pipe	100 mm PROMASEAL® Bulkhead Batts wall barrier with PROMASEAL® SupaWrap on each side and continuous through the wall.	Up to 80 mm dia.		-/120/90		
	W5-24	PEX/Al/PEX	100 mm PROMASEAL® Bulkhead sealer system separated with PROMASEAL® AG intumescent sealant protection.	Up to 16 mm dia		-/120/90		
	W5-25	uPVC conduit filled with up to four CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia	A-19-035A	-/120/120	Figure 30	Page 52

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 88 mm thick AlphaPanel wall<sup>2</sup></li> </ul>	W5-26	uPVC conduit filled with up to six CAT6A data cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia	A-19-035A	-/120/120	Figure 30	Page 52
	W5-27	uPVC conduit filled with up to two 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated with PROMASEAL® AG intumescent sealant protection.	Up to 25 mm dia		-/120/120		
	W5-28	uPVC conduit filled with up to four 2.5 mm <sup>2</sup> core TPS electrical cables	100 mm PROMASEAL® Bulkhead sealer system wall barrier separated by 16 mm air gap with PROMASEAL® AG intumescent sealant protection.	Up to 32 mm dia		-/120/120		
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-0	Unpenetrated batt	PROMASEAL® A		EWFA 25948.7, A-16-084 (1000 mm x 500 mm friction fit no angles), A-16-055 (800x1500 with angles), EWFA 25948.7 and A-17-063	-120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-1	Brass	PROMASEAL® A® + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long above and below	32-100 mm		-/120/120		
	S1-2	Brass	PROMASEAL® A®	32-100		-/120/-		
	S1-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	32-150		-/120/120		
	S1-4	Copper or Steel	PROMASEAL® A	32-150		-/120/-		
	S1-5	Copper or Steel	PROMASEAL® A + PROMASHIELD	25-100		-/120/120		
	S1-6	Copper or Steel	PROMASEAL® A + PROMASHIELD	125-200		-/120/90		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-7	Copper or Steel	PROMASEAL® A + PROMASEAL SupaWrap 800 mm long top side only	32-100	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles), A-16-055 (800×1500 with angles), EWFA 25948.7 and A-17-063	-/120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-8	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	Up to 19 + 25 mm insul		-/120/120		
	S1-9	13mm Fibre optic 24core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/120/120		
	S1-10	Power cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D1		-/120/120		
	S1-11	Telecommunication Cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D2		-/120/120		
	S1-12	Cable Trunking	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	80 × 50 (20% full)		-/120/120		
	S1-13	Power cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D1		-/120/120		
	S1-14	Telecommunication cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D2		-/120/120		
	S1-15	uPVC pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100		-/120/120		



Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor: (Two batts inside aperture) or (One batts inside aperture, one on top) or (Two batts on top of aperture)</li> </ul>	S1-16	HDPE Pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles),	-/120/120	Figure 8 to Figure 14	Page 36 to Page 40
	S1-17	PEX	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	16, 20 & 25 mm	A-16-055 (800×1500 with angles),	-/180/180		
	S1-18	uPVC conduit filled with Fibre Optics	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm	EWFA 25948.7 and A-17-063	-/180/180		
	S1-19	uPVC conduit filled with Electrical Cables	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/180/60		
<ul style="list-style-type: none"> <li>Min 75 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-20	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant	50 mm × 600 mm	A-20-032	-/120/120	Figure 25 and Figure 32 to Figure 34	Page 48 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-21	AS 1530.4:2014 Appendix D2 telecommunication cables (with or without cable tray)	Backing wall – Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	-	A-20-038	-/120/120	Figure 26 and Figure 32 to Figure 34	Page 49 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 75 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-22	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)		-	A-19-008	-/90/90	Figure 27 and Figure 32 to Figure 34	Page 50 and Page 53 to Page 54
<ul style="list-style-type: none"> <li>Min 120 mm concrete floor (installation as per above slab/batt configurations)</li> </ul>	S1-23	Up to 5 AVA5-50 Co-axial cables		Up to 28.1 mm dia.	A-19-018	-/120/120	Figure 28	Page 51

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
<ul style="list-style-type: none"> <li>Min 130 mm XLam CLT slab</li> </ul>	S2-0	Unpenetrated batt	PROMASEAL® A		EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles), A-16-055 (800×1500 with angles), EWFA 25948.7 and A-17-063	-/90/90	Figure 8 to Figure 14	Page 36 to Page 40
	S2-1	Brass	PROMASEAL® A® + 38mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600mm long above and below	32-100 mm		-/90/90		
	S2-2	Brass	PROMASEAL® A®	32-100		-/90/-		
	S2-3	Copper or Steel	PROMASEAL® A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	32-150		-/90/90		
	S2-4	Copper or Steel	PROMASEAL® A	32-150		-/90/-		
	S2-5	Copper or Steel	PROMASEAL® A + PROMASHIELD	25-100		-/90/90		
	S2-6	Copper or Steel	PROMASEAL® A + PROMASHIELD	125-200		-/90/90		
	S2-7	Copper or Steel	PROMASEAL® A + PROMASEAL SupaWrap 800 mm long top side only	32-100		-/90/90		
	S2-8	Copper with Nitrile Rubber lagging Type Insulation	PROMASEAL® FlexiWrap	Up to 19 + 25 mm insul		-/90/90		
	S2-9	13mm Fibre optic 24core 4 mode	PROMASEAL® A	Bundle up to 60 mm dia		-/90/90		
S2-10	Power cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D1	-/90/90				

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 130 mm XLam CLT slab	S2-11	Telecommunication Cables (with or without tray support)	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	As per AS1530.4 Appendix D2	EWFA 25948.7, A-16-084 (1000 mm × 500 mm friction fit no angles), A-16-055 (800×1500 with angles), EWFA 25948.7 and A-17-063	-/90/90	Figure 8 to Figure 14	Page 36 to Page 40
	S2-12	Cable Trunking	PROMASEAL A + 38 mm thick Mineral Wool (PROMASEAL SupaWrap) @ 600 mm long above and below	80 × 50 (20% full)		-/90/90		
	S2-13	Power cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D1		-/90/90		
	S2-14	Telecommunication cables (with or without tray support)	PROMASEAL A + PROMASHIELD	As per AS1530.4 Appendix D2		-/90/90		
	S2-15	uPVC pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100		-/90/90		
	S2-16	HDPE Pipe	PROMASEAL Retrofit FC Inserted into bottom layer (with backblock)	40-100		-/90/90		
	S2-17	PEX	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	16, 20 & 25 mm		-/90/90		
	S2-18	uPVC conduit filled with Fibre Optics	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/90/90		
	S2-19	uPVC conduit filled with Electrical Cables	PROMASEAL Conduit Collar (CFC) Inserted into bottom layer	20 mm		-/90/60		

Wall/Slab type	Item	Service	Protection Method	Size (mm)	Test reference	FRL	Figure	Page No
• Min 130 mm XLam CLT slab	S2-20	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	50 mm × 600 mm	A-20-032	-/90/90	Figure 25 and Figure 32 to Figure 34	Page 48 and Page 53 to Page 54
	S2-21	AS 1530.4:2014 Appendix D2 telecommunication cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with 600 mm PROMASEAL® SupaWrap top side only and PROMASEAL® A Acrylic sealant Concrete/Masonry/Speed panel/Hebel/FR Plasterboard, or PROMATECT® 100 wall systems	-	A-20-038	-/90/90	Figure 26 and Figure 32 to Figure 34	Page 49 and Page 53 to Page 54
	S2-22	AS 1530.4:2014 Appendix D1 electrical cables (with or without cable tray)	100 mm thick PROMASEAL® Bulkhead sealer system with topside PROMASHIELD® 65 with extender and PROMASEAL® A Acrylic sealant	-	A-19-008	-/90/90	Figure 27 and Figure 32 to Figure 34	Page 50 and Page 53 to Page 54
	S2-23	Up to 5 AVA5-50 Co-axial cables	100 mm thick PROMASEAL® Bulkhead Batts with SupaWrap on the topside with PROMASEAL® A Acrylic sealant and PROMASEAL® AG intumescent sealant.	Up to 28.1 mm dia.	A-19-018	-/90/90	Figure 28	Page 51

<sup>1</sup>FRL is applicable when installed in a separating element that has an established FRL of -/180/180 achieved through a test or an assessment in accordance with AS 1530.4:2014.

<sup>2</sup>The maximum FRL will be governed by the established FRL of the AlphaPanel wall system – refer FAS210067 fire assessment report for established FRLs of AlphaPanel wall systems

For AS 1530.4:2014 Appendix D1 and D2 cables, if the cable tray does not penetrate the PROMASEAL® Bulkhead batt, the cables can be wrapped on their own without including the tray support.

## 5. Validity

Warringtonfire Australia does not endorse the tested or assessed product in any way. The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.

Due to the nature of fire testing and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

The referenced assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are subject to constant review and improvement. It is therefore recommended that this report be reviewed on or, before, the stated expiry date.

The referenced assessment represents our opinion about the performance likely to be demonstrated on a test in accordance with AS 1530.4:2014, based on the evidence referred to in this report.

The referenced assessment is provided to the Promat Australia P/L for its own purposes and we cannot express an opinion on whether it will be accepted by building certifiers or any other third parties for any purpose.