

CERTIFICATE NUMBER 102.5

CERTIFICATE OF APPROVAL

This is to certify that Promat Australia Pty Ltd has carried out the certification of PROMASEAL® FCS & FC fire collars in accordance with the Jensen Hughes FireMark scheme rules document – ATS00 – for the certification of passive fire protection products in Australia. The products have also been assessed against the requirements of the specific product Technical Schedule ATS20 and are approved for use subject to the conditions outlined in this document.

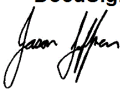
Promat Australia Pty Ltd

1-17 Scotland Rd, Mile End South, SA 5031, Australia

Certified product	Technical schedule	Approved standard
PROMASEAL® FCS & FC fire collars	ATS20	AS 1530.4:2014 AS 4072.1:2005 (R2016)

Jensen Hughes project number: CER200014
On behalf of Jensen Hughes

DocuSigned by:



DFD1B30AAE994A5...

JASON JEFFRESS

Vice President



Issue date	6 June 2022
Re-issued date	21 October 2025
Certificate valid to	6 June 2027

1.0 Introduction

This certificate of approval is for the use of PROMASEAL® FCS & FC fire collars for the fire protection of various plastic pipe penetrations. The products have been assessed against the requirements of Technical Schedule ATS20 and are approved for use as a fire resisting penetration sealing system.

The detailed scope is given in the tables in the approval matrix in section 2 of this certificate. These show the approved application of the collars for uPVC, HDPE, Coestilen® HDPE, Fastflow uPVC, Raupiano and Valsir Triplus pipes penetrating through various wall and floor systems protected with the PROMASEAL® FCS collars and PROMASEAL® FC collars.

Fire resistance levels (FRLs) are provided in accordance with AS 1530.4:2014 for each of the applications for the collars.

The product is approved based on satisfying the requirements in Table 1 and the factory production control (FPC) audits carried out for each location where the product is manufactured for the Australian market. The audit report has been prepared and is retained in a confidential file by Jensen Hughes. General details are provided in Table 2.

This approval relates to the ongoing production of PROMASEAL® FCS & FC fire collars. The product and/or its immediate packaging is identified with the manufacturer's name, the product name or number, the Jensen Hughes FireMark name or the Jensen Hughes FireMark name and mark – together with the Jensen Hughes FireMark certificate number and application where appropriate. The product is only deemed certified if it carries these details. Further details of product installation can be provided as applicable.

All other products identified in this report are not the focus of this certification and should not be considered as having product certification.

All work and services carried out by Jensen Hughes are subject to and conducted in accordance with our standard terms and conditions. These are available on request.

Table 1 Basis of evidence

Evidence	Comments
Evidence of relevant testing provided.	See Appendix A
Testing carried out within the last 5 years to validate ongoing quality and performance of the product	Yes
Independent sampling of tested product for traceability	Yes
Batch number confirmed	Yes
The deemed-to-satisfy requirements of technical schedule met	Yes
The manufacturing facilities accredited to ISO 9001:2015	Yes

Table 2 FPC audit report

Item	Detail
Audit company	Jensen Hughes
Audit objectives	<p>The objective of the audit is to:</p> <ul style="list-style-type: none"> + determine the conformity of the client's management system, or parts of it, with audit criteria + determine the ability of the management system to ensure the client meets applicable contractual requirements + determine the effectiveness of the management system to ensure the client can reasonably expect to achieve their specified objectives + determine adequate process control of product manufacturing + as applicable, identify areas for potential improvement in the management system.
Date of inspection	10 September 2024
Outcome	The audit satisfied the requirements of the Jensen Hughes FireMark scheme.

2.0 Formal scope of product certification

General product description

The circular based PROMASEAL® Retrofit Collar (FCS type) ,that is shown in Figure 1, is designed to be fitted around installed pipes that pass through floor slabs and have been tested with plastic pipes up to 100 mm diameter. The larger opening within the collars will accommodate pipes (and uPVC pipe fittings) that have differing outside diameters. The split type collar can be retrofitted where necessary. It is available in a range of sizes to suit plastic pipes up to 110mm outside diameter.

A representative image of the product is shown here.



Figure 1 Circular based PROMASEAL® Retrofit Collar (FCS type)

The square based PROMASEAL® Retrofit Collar (FC type) ,that is shown in Figure 2, is multipurpose collar designed for use with concrete slabs, masonry, lightweight walls and lined ceilings.

The split type collar can be retrofitted where necessary. It is available in a range of sizes to suit plastic pipes up to 315 mm outside diameter.

Note that PROMASEAL® Retrofit Collars above 150mm have a circular base.

A representative image of the product is shown here.

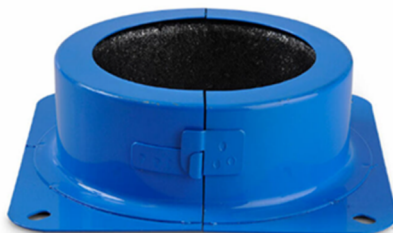


Figure 2 Square based PROMASEAL® Retrofit Collar (FC type)

General requirements

- + The floor slabs must be incorporated with or without LYSAGHT BONDEK® steel deck, 266 mm thick Promat SYSTEMLINE™ 2G floor/ceiling system and 100 mm thick PROMASEAL® Bulkhead sealer system installed in a minimum 120 mm thick concrete slab.
- + Pipes may be located as close as 40 mm collar-to-collar.
- + Pipes must be supported at 500 mm and 1500 mm from the support element.
- + The proposed schedule of components and construction information is shown in Table 25 and Figure 3 to Figure 23.

Approval matrix

Table 3 uPVC pipes protected with PROMASEAL® FCS collars in floors – fitting in collar body

Pipe material	Outside Diameter (OD) (mm)	Pipe wall thickness (mm)	FCS collar code	FRL ¹		
				120 mm slab ²	150 mm slab ²	175 mm slab ²
uPVC	43	2.6	FCS40	-/120/120	-/180/180	-/240/240
	48.4	3.5	FCS40	-/120/120	-/120/120	-/120/120
	56	2.2-3.0	FCS50	-/120/120	-/180/180	-/240/240
	60.7	3.8	FCS50	-/120/120	-/120/120	-/120/120
	69	2.8	FCS65	-/120/120	-/180/180	-/240/240
	110	3.4	FCS100	-/120/120	-/180/180	-/240/240
¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FCS collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. ² AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm, 150 mm and 175 mm will achieve FRLs of -/120/120, -/180/180 and -/240/240 respectively.						

Table 4 uPVC pipes protected with PROMASEAL® FC collars in floors

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²		
					120 mm slab ³	150 mm slab ³	175 mm slab ³
uPVC	43	2.5	FC40	Figure 7, Figure 10, Figure 11 and Figure 18 ¹	-/120/120	-/180/180	-/240/240
	56	2.7	FC50		-/120/120	-/180/180	-/240/240
	69	3.4	FC65		-/120/120	-/180/180	-/240/240
	83	3.7	FC80		-/120/120	-/180/180	-/240/240
	110	3.5	FC100		-/120/120	-/180/180	-/240/240
	161	5.0	FC150		-/120/120	-/180/120	-/240/120
	225	6.6	FC225	Figure 9, Figure 10, Figure 11 and Figure 18 ¹	-/120/120	-/180/180	-/240/240
	251	6.0	FC250		-/120/120	-/180/180	-/240/240
	315	10.0	FC300		-/120/120	-/180/180	-/180/180

¹ Figure 18 for applications up to -/120/120

² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL.

³ AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm, 150 mm and 180 mm will achieve FRLs of -/120/120, -/180/180 and -/240/240 respectively.

Note: When FC collars are used to protect pipe penetrations through BONDEK® steel deck concrete floors, the voids in the BONDEK® deck that the collars go over when fixed shall be filled to the edge of the collar with PROMASEAL® AN Acrylic sealant.

Table 5 HDPE pipes protected with PROMASEAL® FC collars in floors

Pipe material	Outside Diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²		
					120 mm slab ³	150 mm slab ³	175 mm slab ³
HDPE	40.6	2.6	FC40	Figure 7, Figure 10, Figure 11 & Figure 18 ¹	-/120/120	-/180/180	-/240/240
	56.0	2.2-3.0	FC50		-/120/120	-/180/180	-/180/180
	63.5	3.3	FC65		-/120/120	-/180/180	-/240/240
	75.0	3.0	FC80		-/120/120	-/180/180	-/240/240
	110.0	3.4-5.88	FC100		-/120/120	-/180/180	-/240/240
	125.0	3.4	FC125		-/120/120	-/180/180	-/180/180
	150.0	5.0	FC150		-/120/120	-/180/180	-/180/180
	254.0	10.0	FC250	Figure 9, Figure 10, Figure 11 & Figure 18 ¹	-/120/120	-/180/180	-/240/240
	315.0	12.2	FC300		-	-/180/180	-/240/240
	320.0	10.0	FC300		-	-	-/120/120

¹ Figure 18 for applications up to -/120/120

² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL.

³ AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm, 150 mm and 180 mm will achieve FRLs of -/120/120, -/180/180 and -/240/240 respectively.

Note: When FC collars are used to protect pipe penetrations through BONDEK® steel deck concrete floors, the voids in the BONDEK® deck that the collars go over when fixed shall be filled to the edge of the collar with PROMASEAL® AN Acrylic sealant.

Table 6 PEX pipes protected with PROMASEAL® FC collars in floors

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²		
					120 mm slab ³	150 mm slab ³	175 mm slab ³
PEX	50	As per tested system in A-22-027	FC50	Figure 7, Figure 10, Figure 11 & Figure 18 ¹	-/120/120	-/180/180	-/180/180

¹ Figure 18 for applications up to -/120/120

² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL.

³ AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm, 150 mm and 180 mm will achieve FRLs of -/120/120, -/180/180 and -/240/240 respectively.

Table 7 dBlue PHILMAC pipes protected with PROMASEAL® FC collars in floors

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²		
					120 mm slab ³	120 mm slab ³	120 mm slab ³
dBlue PHILMAC Pipe	160	4.9	FC150	Figure 7, Figure 10, Figure 11 & Figure 18 ¹	-/120/120	-/180/180	-/240/180

¹ Figure 18 for applications up to -/120/120

² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL.

³ AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm, 150 mm and 180 mm will achieve FRLs of -/120/120, -/180/180 and -/240/240 respectively.

Table 8 uPVC pipes protected with PROMASEAL® FC collars in 128 mm walls

Pipe material	Outside Diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²
uPVC	43.6	2.4	FC40	Figure 3, Figure 4 & Figure 18 ¹	-/240/180
	55.7	2.2	FC50		-/120/120
	69.4	3.2	FC65		-/180/180
	82.5	3.0	FC80		-/120/120
	110	4.3	FC100		-/120/120
	161	4.56	FC150		-/180/120
	250.1	6.56	FC250	Figure 5, Figure 6 & Figure 18	-/180/180
	315	8.2	FC300		-/180/180

¹ Figure 18 for applications up to -/120/120

² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 128 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.

Table 9 HDPE pipes protected with PROMASEAL® FC collars in 128 mm walls

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²
HDPE	40.9	3.15	FC40	Figure 3, Figure 4 & Figure 18 ¹	-/180/180
	63.5	3.3	FC65		-/120/120
	75	4.0	FC80		-/120/120
	110.4	5.0	FC100		-/120/120
	125	6.0	FC150		-/120/120
	252	8.0	FC250	Figure 5, Figure 6 & Figure 18 ¹	-/120/120
	317	13.5	FC300		-/180/180

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ²
¹ Figure 18 for applications up to -/120/120 ² The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL). Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs. Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 128 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.					

Table 10 dBlue PHILMAC pipes protected with PROMASEAL® FC collars in 128 mm walls

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
dBlue PHILMAC	125	4.6	FC125	Figure 3, Figure 4 & Figure 18 ¹	-/120/120
	160	4.9	FC150		-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 128 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.

Table 11 uPVC pipes protected with PROMASEAL® FC collars in 116 mm walls

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
uPVC	43.4	2.4	FC40	Figure 3 & Figure 4	-/120/120
	56.3	2.4	FC50		-/120/120
	68.7	3.0	FC65		-/120/120
	83.4	3.5	FC80		-/120/120
	110.4	3.7	FC100		-/120/120
	250	6.5	FC250	Figure 5, Figure 6 & Figure 18 ¹	-/120/120
	316	7.8	FC300		-/120/120

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL). Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs. Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 116 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.					

Table 12 HDPE pipes protected with PROMASEAL® FC collars in 116 mm walls

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
HDPE	40	3.15	FC40	Figure 3 & Figure 4	-/120/120
	65	3.3	FC65		-/120/120
	80	4.0	FC80		-/120/120
	110	5.0	FC100		-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 116 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.

Table 13 Insulated drink line LDPE pipes protected with PROMASEAL® FC collars in 116 mm walls

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
Insulated drink line containing LDPE flexible tubes: Two large opaque, Eight medium opaque, One small opaque, 19 mm thick foam insulation	95.9	As per tested system in A-24-003	FC100	Figure 3 & Figure 4	-/120/120

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
<p>¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).</p> <p>Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.</p> <p>Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 116 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.</p>					

Table 14 uPVC pipes with fibre optic and CAT6 cables protected with PROMASEAL® FCS collars in 128 mm walls

Pipe material	Outside Diameter (OD) (mm)	Pipe wall thickness (mm)	FCS collar code	Refer figure	FRL ¹
uPVC with 30 mm bunch of fibre optic cables and 30 mm bunch of CAT6 cables	113.8	5.1	FCS100	Figure 3 & Figure 4	-/120/120
<p>¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).</p> <p>Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.</p> <p>Services can be installed in concrete or masonry wall. Where the separating element is constructed of concrete or masonry, the separating element must not be less than 128 mm thick and have an established FRL as per AS 3600:2018 for concrete elements or AS 3700:2018 for masonry elements by others.</p>					

Table 15 uPVC pipes protected with PROMASEAL® FC fire collars in Speedpanel wall

Pipe material	Pipe Diameter (OD mm)	Pipe wall thickness (mm)	FC collar code	Min. wall depth (mm)	Refer figure	FRL ¹
uPVC	42.8	2.2	FC40	78 mm	Figure 12, Figure 13, Figure 14, Figure 15, Figure 16, Figure 17 & Figure 18	-/120/120
	55.7	2.2	FC50			
	68.9	2.8	FC65			
	82.5	3.0	FC80			
	110.0	4.3	FC100			

Pipe material	Pipe Diameter (OD mm)	Pipe wall thickness (mm)	FC collar code	Min. wall depth (mm)	Refer figure	FRL ¹
	158.0	4.3	FC150		Figure 15, Figure 16, Figure 17 & Figure 18	
¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).						

Table 16 HDPE pipes protected with PROMASEAL® FC fire collars in Speedpanel wall

Pipe material	Pipe diameter (OD mm)	Pipe wall thickness (mm)	FC collar code	Min. wall depth (mm)	Refer figure	FRL ¹
HDPE	40.9	3.15	FC40	78 mm	Figure 12, Figure 13, Figure 14, Figure 15 Figure 18	-/120/120
	55.7	3.4	FC50			
	63.5	3.3	FC65			
	110.4	5.0	FC100			

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Table 17 HDPE pipes protected with PROMASEAL® FC fire collars in Speedpanel wall

Pipe material	Nominal pipe diameter (OD mm)	Nominal pipe wall thickness (mm)	Fire collar	Min. wall depth (mm)	Refer figure	FRL ¹
HDPE	56	3.0	FC65	78 mm	Figure 12, Figure 13, Figure 14, Figure 15, Figure 16, Figure 17 & Figure 18	-/120/120
	75	4.0	FC80			
	110	5.0	FC100			
	125	6.0	FC150			
	160	7.5	FC150			
	200	7.0	FC200			
	250	8.0	FC250			

Pipe material	Nominal pipe diameter (OD mm)	Nominal pipe wall thickness (mm)	Fire collar	Min. wall depth (mm)	Refer figure	FRL ¹
¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).						

Table 18 uPVC pipes protected with PROMASEAL® FC collars installed in 94 mm thick PROMATECT® 100 wall

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
uPVC	43.6	2.4	FC40	Figure 3 & Figure 4	-/90/90
	55.7	2.2	FC50		-/90/60
	69.4	3.2	FC65		-/90/60
	82.5	3.0	FC80		-/90/60
	110	3.4	FC100		-/90/60

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Table 19 uPVC pipes protected with PROMASEAL® FC collars installed in 104 mm thick PROMATECT® 100 wall

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
uPVC	43.6	3.1	FC40	Figure 3 & Figure 4	-/120/120
	111.4	3.9	FC100		-/120/90

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Table 20 uPVC pipes protected with PROMASEAL® FC collars installed in 90 mm thick single layer plasterboard wall system

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
uPVC	43.6	2.4	FC40	Figure 3 & Figure 4	-/60/60
	55.7	2.2	FC50		-/60/45
	69.4	3.2	FC65		-/60/45
	82.5	3.0	FC80		-/60/45
	110	3.7	FC100		-/60/45

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Table 21 uPVC pipes protected with PROMASEAL® FC collars installed in 266 mm thick Promat SYSTEMPANEL-FR floor/ceiling system

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
uPVC	42.5	3.61	FC40	Figure 7, Figure 10 & Figure 11	-/120/120
	55.7	2.2	FC50		-/120/120
	69.4	3.2	FC65		-/120/120
	82.5	3.0	FC80		-/120/120
	110	3.8	FC100		-/120/120
	160	4.03	FC150		-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Table 22 HDPE pipes protected with PROMASEAL® FC collars installed in 266 mm thick Promat SYSTEMPANEL-FR floor/ceiling system

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Refer figure	FRL ¹
HDPE	64.0	3.8	FC65	Figure 7, Figure 10 & Figure 11	-/120/120
	110.5	4.92	FC100		-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Note: When FC collars are used to protect pipe penetrations through wall systems with timber studs, penetrations must have not less than a 100 mm clearance from the timber studs.

Table 23 uPVC pipes protected with PROMASEAL® FC collars installed in 100 mm thick in PROMASEAL® Bulkhead sealer batts

Pipe material	Outside diameter (OD) (mm)	Pipe wall thickness (mm)	FC collar code	Backing block size	Refer figure	FRL ¹
uPVC	43.21	3.2	FC40	120 mm × 120 mm × 50 mm	Error! Reference source not found., Error! Reference source not found. & Error! Reference source not found.	-/120/120
	55.7	3.11	FC50	190 mm × 190 mm × 50 mm		-/120/120
	67.7	3.2	FC65			-/120/120
	82.5	3.0	FC80			-/120/120
	110	3.8	FC100			-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

Table 24 HDPE pipes protected with PROMASEAL® FC collars installed in 100 mm thick in PROMASEAL® Bulkhead sealer batts in minimum 120 mm thick concrete slab in accordance with AS 3600:2018

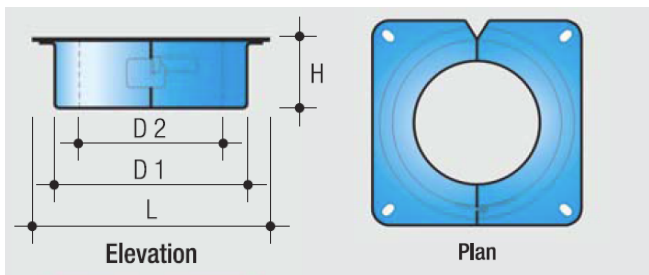
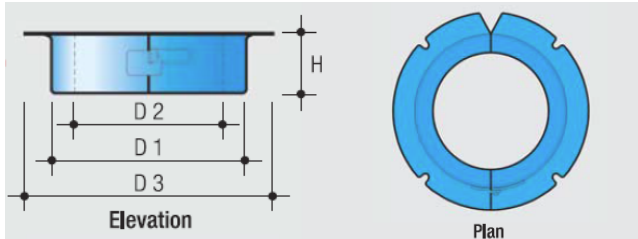
Pipe material	Pipe diameter (OD mm)	Pipe wall thickness (mm)	FC collar code	Backing block size	Refer figure	FRL ¹²
HDPE	40.46	2.93	FC40	120 mm × 120 mm × 50 mm	Error! Reference source not found., Error! Reference source not found. & Error! Reference source not found.	-/120/120
	56.0	2.2-3.0	FC50	190 mm × 190 mm × 50 mm		-/120/120
	63.5	3.3	FC65			-/120/120
	75.0	3.0	FC80			-/120/120
	110.0	3.4-5.88	FC100			-/120/120

¹ The listed FRL is the maximum FRL assigned to the service penetrations when protected with the FC collars as per section 10 of AS 1530.4:2014. The system FRL needs to be determined in conjunction with the FRL of the separating element. The lowest index between the FRL of the service penetration and separating element will be the assigned system FRL. The FRL of the separating element must be established either through testing or assessment by an Accredited Testing Laboratory (ATL).

² AS 3600:2018 indicates that normal weight concrete floor slabs with minimum thicknesses of 120 mm will achieve an FRL of -/120/120.

Table 25 Schedule of components

ID	Description				
1	Name	uPVC pipe			
	Size	Pipe material	Nominal outside diameter OD (mm)	Pipe wall thickness (mm)	
		uPVC	43	2.2-2.6	
			55	2.2-3.0	
			69	2.8-3.2	
83			3.0-3.4		
110			3.4-4.3		
161			4.5-6.5		
225			6.5		
251			6-6.5		
315			8.2-10		
Installation	Pipes to be supported at 500 mm and 1500 mm from the support element.				
2	Name	HDPE pipes			
	Diameter	Pipe Material	Nominal outside diameter OD (mm)	Pipe wall thickness (mm)	
		HDPE	40.9	3.15	
			50.0	3.0	
			56.0	3-3.4	
			63.5	3.3	
			75.0	3-4.0	
			110	4.3-5.0	
			125	3.9-6.0	
			150	4.9	
			254	8.0-10	
			317	13.5	
			Installation	Pipes to be supported at 500 mm and 1500 mm from the support element.	

ID	Description																																																															
3	Name	PROMASEAL® FC Fire Collar																																																														
	Configuration																																																															
	Size	<table><thead><tr><th rowspan="2">Code No.</th><th rowspan="2">Pipe Nom. Size (mm)</th><th colspan="3">Body (mm)</th><th>Flange (mm)</th></tr><tr><th>H</th><th>D1</th><th>D2</th><th>L</th></tr></thead><tbody><tr><td>FC 40</td><td>40</td><td>43</td><td>77</td><td>45</td><td>112</td></tr><tr><td>FC 50</td><td>50</td><td>43</td><td>90</td><td>58</td><td>125</td></tr><tr><td>FC 65</td><td>65</td><td>43</td><td>103</td><td>71</td><td>138</td></tr><tr><td>FC 80</td><td>80</td><td>43</td><td>123</td><td>85</td><td>158</td></tr><tr><td>FC 100</td><td>100</td><td>53</td><td>150</td><td>112</td><td>185</td></tr><tr><td>FC 150</td><td>150</td><td>73</td><td>200</td><td>162</td><td>235</td></tr><tr><td>FC 250*</td><td>250</td><td>120</td><td>316</td><td>254</td><td>380Ø</td></tr><tr><td>FC 300*</td><td>300</td><td>160</td><td>402</td><td>318</td><td>466Ø</td></tr></tbody></table> <p>*FC250 and FC300 have circular bases</p>					Code No.	Pipe Nom. Size (mm)	Body (mm)			Flange (mm)	H	D1	D2	L	FC 40	40	43	77	45	112	FC 50	50	43	90	58	125	FC 65	65	43	103	71	138	FC 80	80	43	123	85	158	FC 100	100	53	150	112	185	FC 150	150	73	200	162	235	FC 250*	250	120	316	254	380Ø	FC 300*	300	160	402	318	466Ø
	Code No.	Pipe Nom. Size (mm)	Body (mm)			Flange (mm)																																																										
H			D1	D2	L																																																											
FC 40	40	43	77	45	112																																																											
FC 50	50	43	90	58	125																																																											
FC 65	65	43	103	71	138																																																											
FC 80	80	43	123	85	158																																																											
FC 100	100	53	150	112	185																																																											
FC 150	150	73	200	162	235																																																											
FC 250*	250	120	316	254	380Ø																																																											
FC 300*	300	160	402	318	466Ø																																																											
Installation	Fixings are listed in item 8.																																																															
4	Name	PROMASEAL® FCS Fire Collar																																																														
	Configuration																																																															

ID	Description						
	Size	Code No.	uPVC pipe nom. (mm)	HDPE pipe nom. (mm)	Body (mm)		Flange (mm)
					H	D1	D2
							D3
		FCS40	40	50	43	84	56
		FCS50	50	56	43	98	70
		FCS65	65	75	43	113	84
		FCS100	100	100	53	167	127
5	Installation	Fixings are listed in item 8.					
	Name	Sealant					
	Product	PROMASEAL® A Acrylic sealant					
6	Installation	<p>Applied at the 2 mm-5 mm annular gaps between supporting walls or floors and pipes.</p> <p>Gap between edge of pipe and inner surface of collar sealed with a fillet of sealant.</p> <p>The voids in the BONDEK® steel deck that the collars go over when fixed are filled to the edge of the collar with PROMASEAL® AN Acrylic sealant.</p>					
	Name	Supporting plasterboard lined wall					
7	Specification	<p>Framed wall comprising min. 64 mm steel studs clad with one layer of 13 mm on each side for one hour plasterboard wall systems or two layers of 13 mm or 16 mm thick fire grade plasterboard each side for two hour plasterboard wall system.</p>					
	Name	Supporting floor slab					
	Specification	<p>Minimum 120 mm thick reinforced concrete slab in accordance with AS 3600:2018 with or without LYSAGHT BONDEK® steel deck</p> <p>NOTE: Not all pipes can be used with LYSAGHT BONDEK® steel deck. Only FC40 – FC100 can be used.</p> <p>or</p> <p>266 thick Promat SYSTEMPANEL-FR floor/ceiling system</p> <p>or</p> <p>100 mm thick PROMASEAL® Bulkhead sealer system installed in minimum 120 mm thick concrete slab.</p>					

ID	Description			
8	Name	Collar Fixing		
		Collar Code	Floor	Plasterboard lined wall
		FC/FCS 40, 50, 65, 80, 100	6 mm × 25 mm dynabolt or 20 mm Masonry Hammer in anchors or 6 mm × 35 mm DBZ	Fixed to both sides with 4-off 6g × 40 mm coarse thread bugle head screws
		FC 150	Fixed to underside with 4-off 6.5 mm × 35 mm dynabolt fasteners	Fixed to each other through the wall using 4-off 10g × 40 mm long stitching screws with a 3/16 washer
9		FC 250, 300	Fixed to underside using 8-off 6.5 mm × 50 mm long masonry anchors.	Fixed to each other (through the wall) with 8-off 8 mm × 150 mm long nut bolt with a washer at each end
				Where collar fixed through one layer of 25 mm PROMATECT® board, fixed with four 10g × 40 mm coarse thread bugle head screws.
				For multiple pipe penetrations, adjacent collar flanges must not overlap. In cases where collar flanges of adjacent pipes may overlap, the flange shall be cut in a single straight line in a manner to avoid overlap as shown in Figure 17.
9	Name	Coestilen® HDPE		
	Size	Pipe material	Outside diameter (mm)	Pipe wall thickness (mm)
		Coestilen® HDPE	56	3.0 (nom.)
			75	4.0 (nom.)
			110	5.0 (nom.)
			125	6.0 (nom.)
			160	7.5 (nom.)
			200	7.0 (nom.)
			250	8.0 (nom.)

ID	Description	
10	Name	PROMATECT® 100 and PROMATECT® 250
	Thickness	One layer of minimum 25 mm thick each side of Speedpanel Panels.
	Installation	<p>Board may be installed in one or more pieces. If board installed in multiple pieces, joins in board to be sealed with sealant (item 5). Installed such that aperture in board is the same as the aperture in the Speedpanel wall.</p> <p>For 1 × 25 mm thick systems, fixed to Speedpanel panels with 10g × 40 mm coarse thread bugle head screws at 100 mm maximum centres.</p> <p>Daub of sealant (item 5) located at edge of plasterboard, between board and wall.</p> <p>Gap between board and Speedpanel produced by Speedpanel profile to be filled with sealant (item 5). Fillet of sealant (item 5) applied from top edge of board to Speedpanel.</p> <p>Annular gap around pipe filled to depth of board with sealant (item 5).</p>
11	Name	Speedpanel Wall
	Thickness	78 mm
	Pipe Aperture	Aperture in wall for pipe services to be as tested in EWFA 2517300.2 or maximum 5 mm greater than pipe diameter.
	Specification	Speedpanel wall shall be as tested in EWFA 2517300.2.
12	Name	Speedpanel Channel
	Material	Galvanised mild steel
	Size	83 mm wide × 58 mm high × 1.2 mm thick
	Sealant	Gap between channel and Speedpanel produced by Speedpanel profile to be filled with sealant (item 5).

System figures

The leaders in the drawings represent the items listed in **Error! Reference source not found..** All measurements, unless indicated, are in millimeters

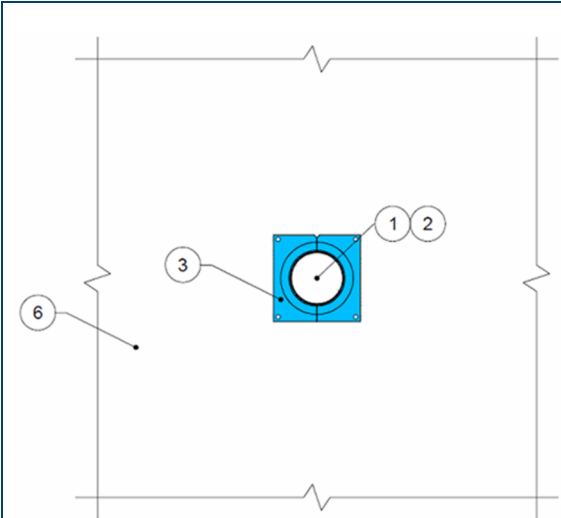


Figure 3 - Plastic pipe with PROMASEAL® FC 40 – 150 collars (wall elevation)

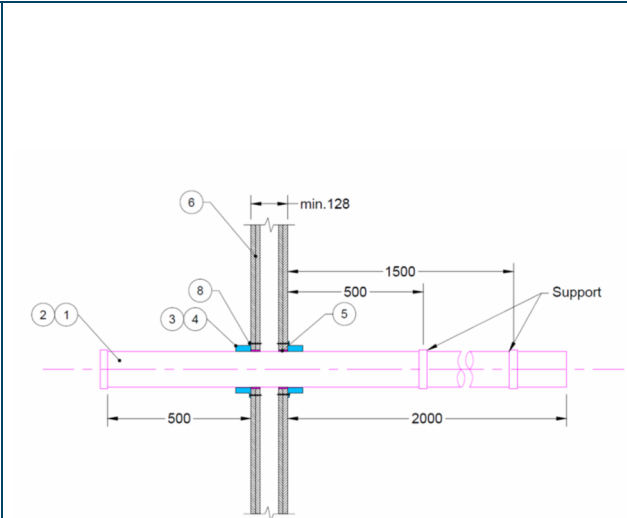


Figure 4 - Plastic pipes with PROMASEAL® FC 40-150 collars (wall side view)

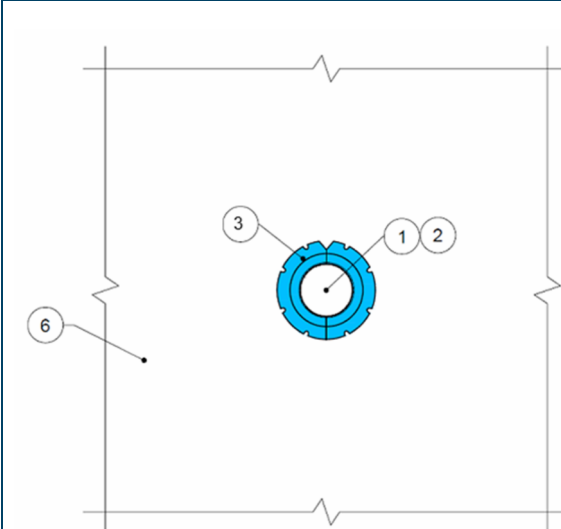


Figure 5 - Plastic pipes with PROMASEAL® FC 250-300 collars (wall elevation)

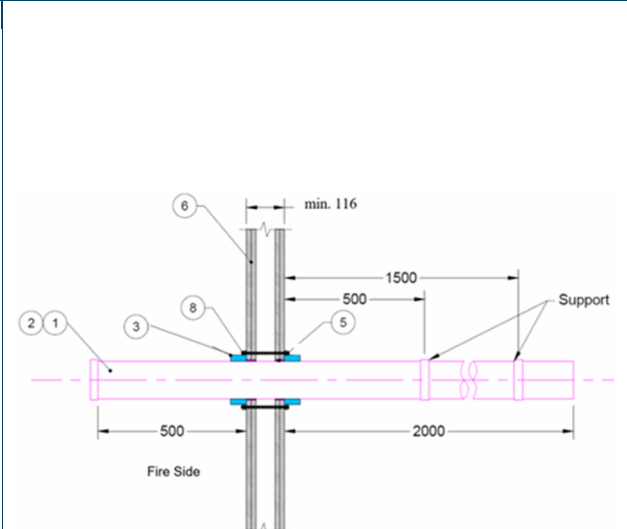


Figure 6 - Plastic pipes with PROMASEAL® FC 250-300 collars (wall side view)

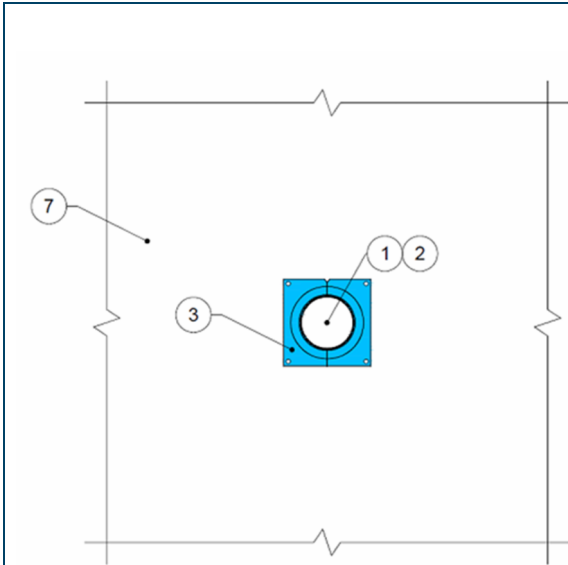


Figure 7 - Plastic pipe with PROMASEAL® FC 40 – 150 collars (floor underside plan view)

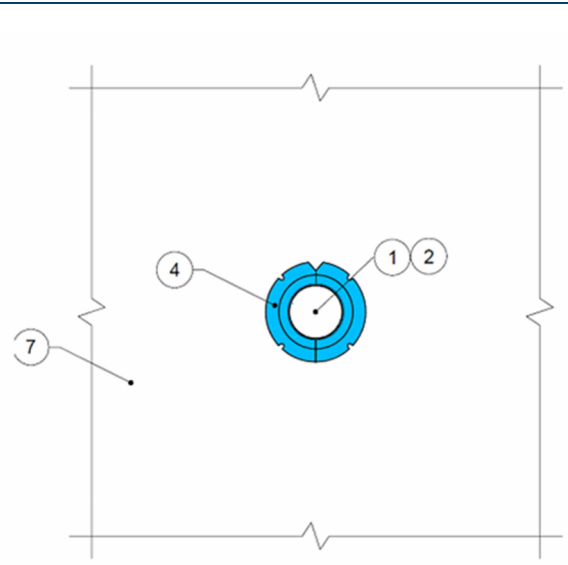


Figure 8 - Plastic pipe with PROMASEAL® FCS 40 – 100 collars (floor underside plan view)

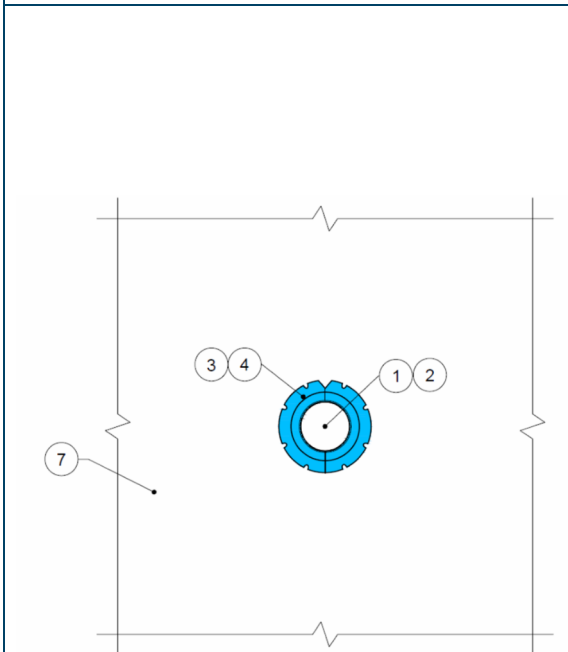


Figure 9 - Plastic pipe with PROMASEAL® FCS 250-300 collars (floor underside plan view)

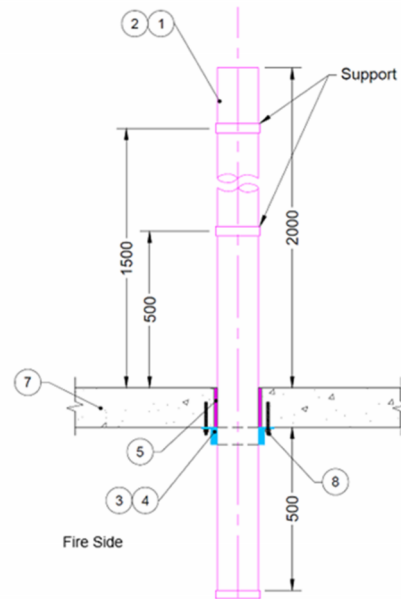


Figure 10 - Plastic pipes with PROMASEAL® FC collars
(floor side view)

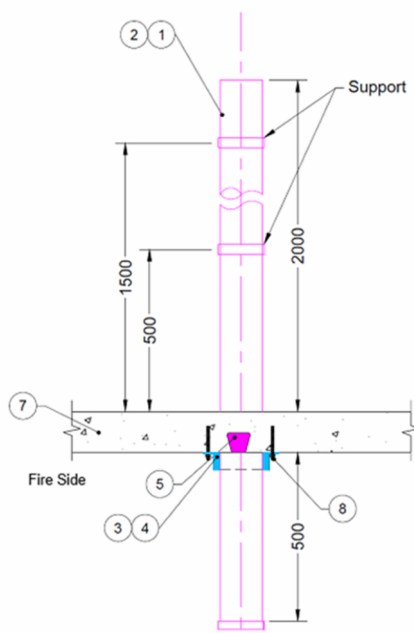


Figure 11 - Plastic pipes with PROMASEAL® FC collars in floors with Bondek® steel deck

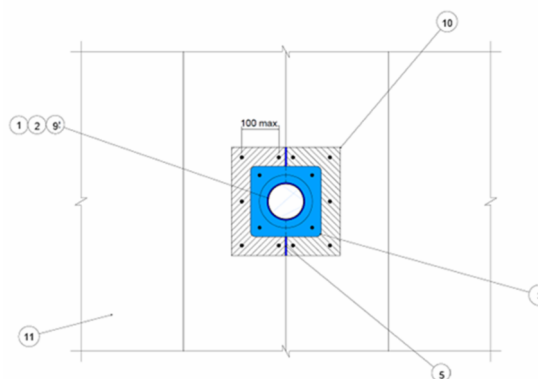


Figure 12 - Plastic pipes up to Ø110 mm (elevation)

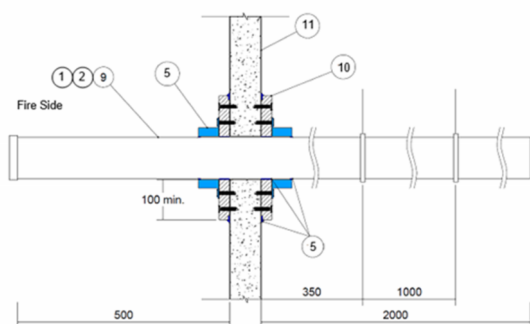


Figure 13 - Plastic pipes up to Ø110 mm (side view)

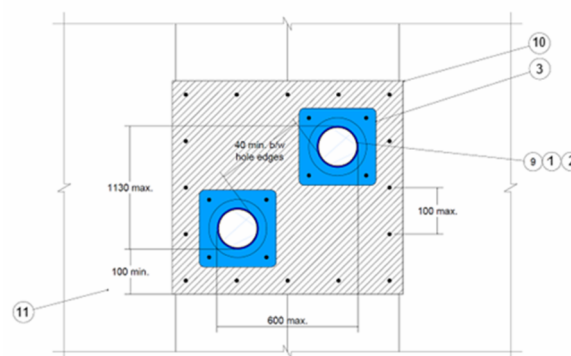


Figure 14 - Apertures in Speedpanel with multiple plastic pipes up to Ø110 mm

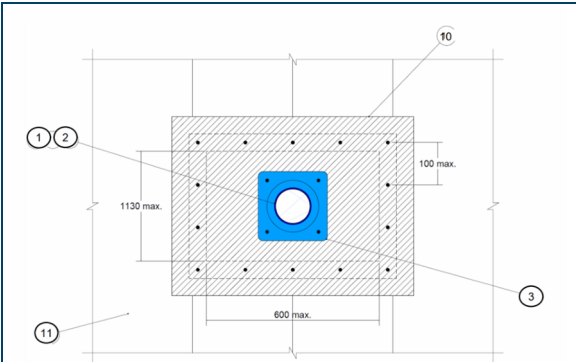


Figure 15 - Apertures in Speedpanel with plastic pipes up to Ø250 mm (elevation)

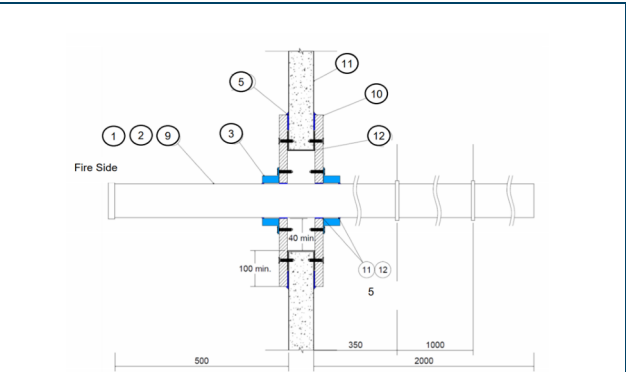


Figure 16 - Apertures in Speedpanel with plastic pipes up to Ø250 mm (side view)

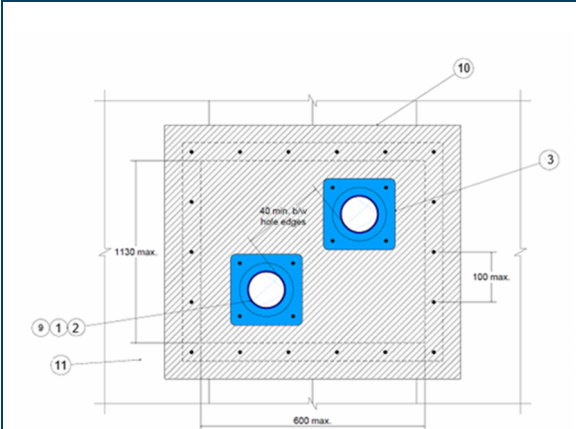


Figure 17 - Apertures in Speedpanel with plastic pipes up to Ø250 mm

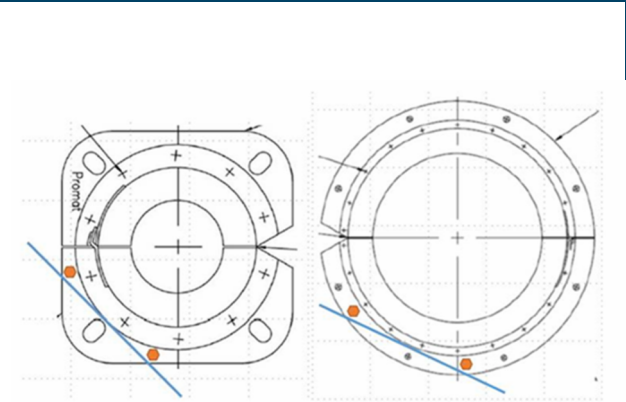


Figure 18 - Altered collar flange of FC Collars. Straight line cut shown in blue and additional 2 fixings shown in orange. For applications up to -/120/120.

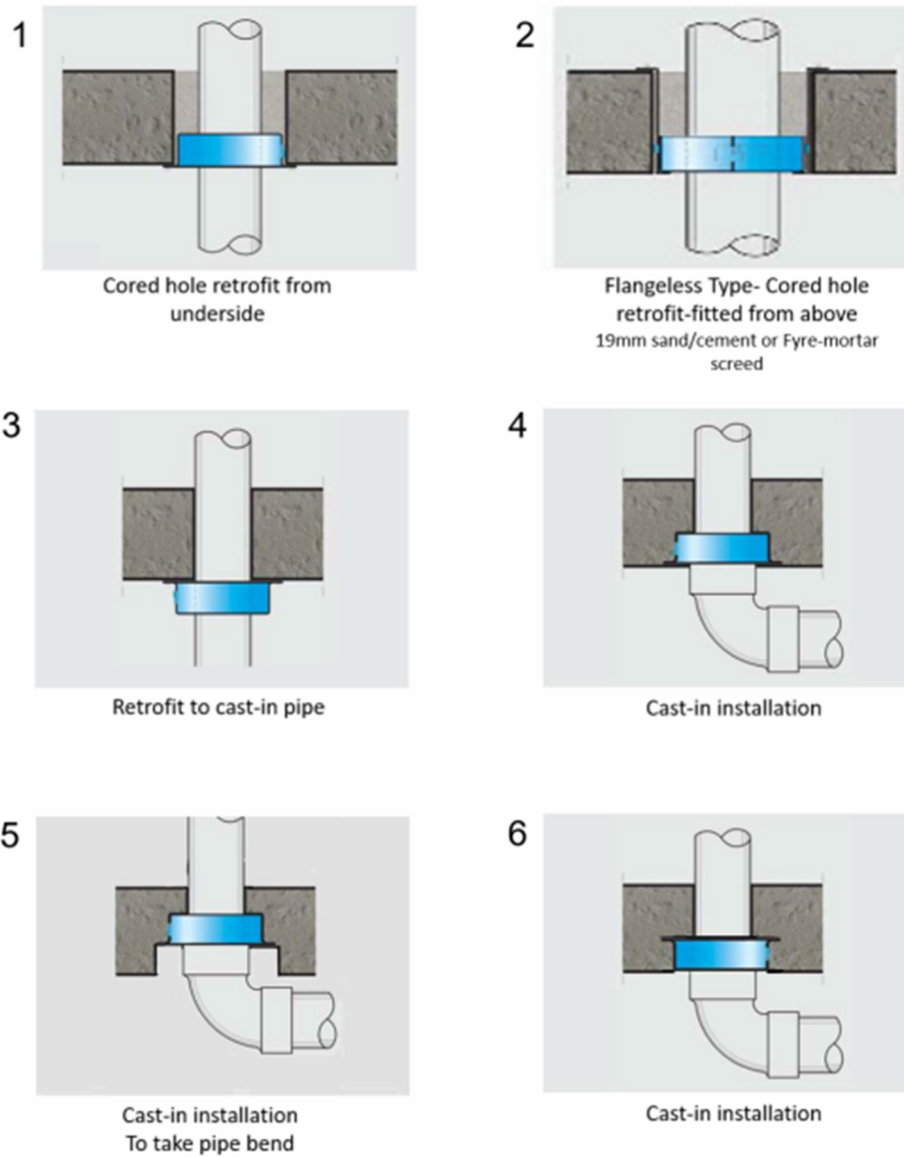


Figure 19 Altered collar fixing methods

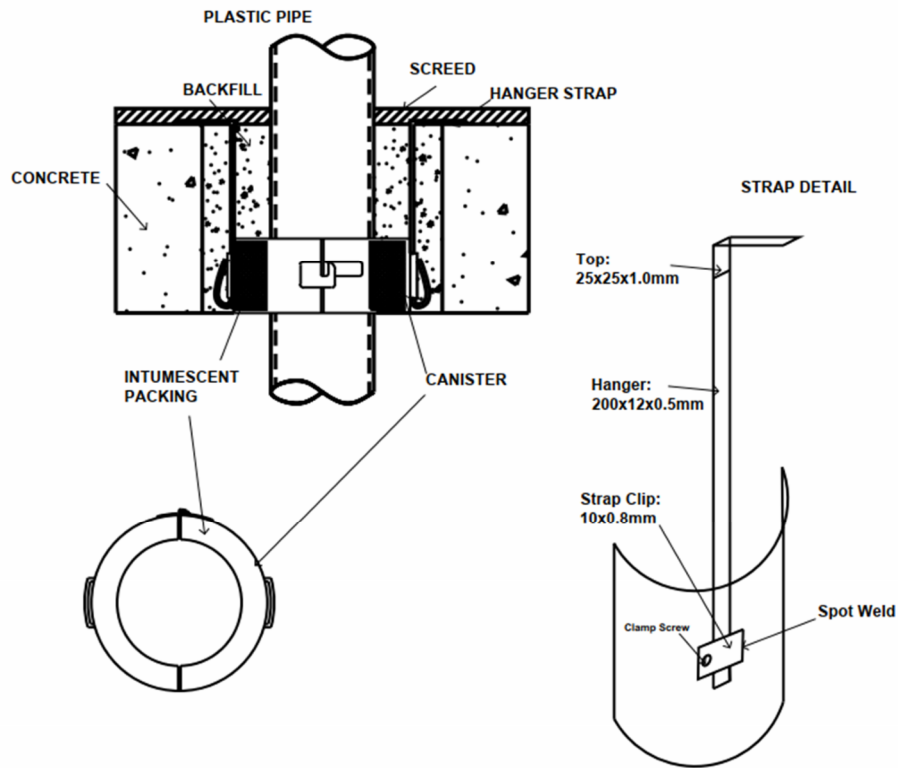


Figure 20 System 2 installation details

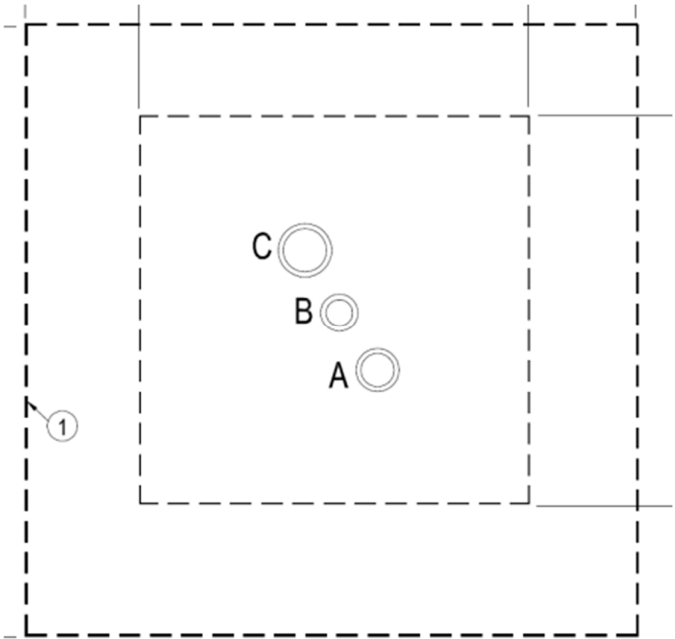


Figure 21 Plastic pipe with PROMASEAL® FC 40 – 65 collars (floor underside plan view)

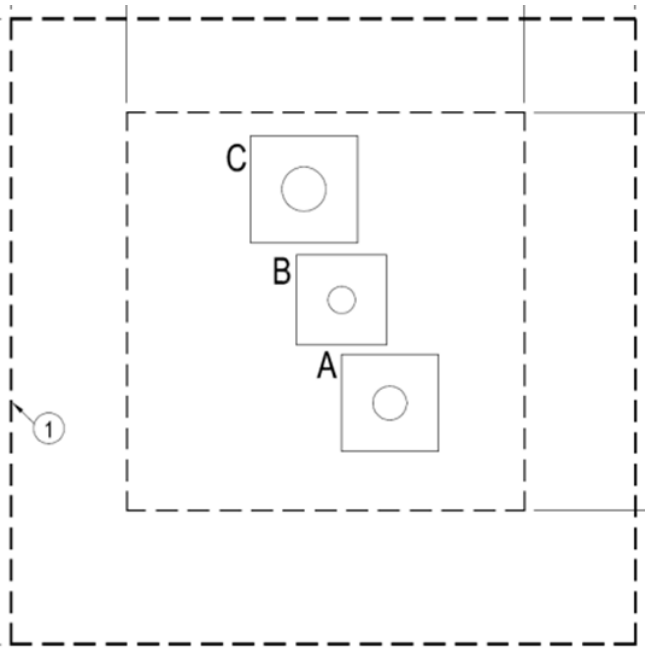


Figure 22 Plastic pipe with PROMASEAL® FC 40 – 65 collars (floor unexposed plan view)

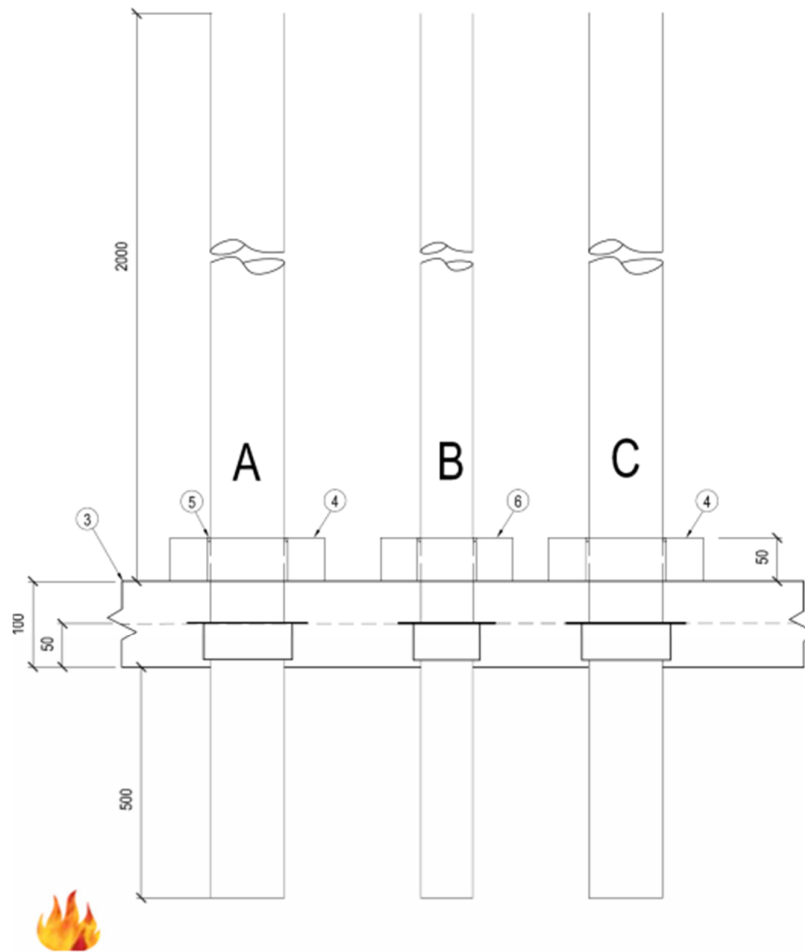


Figure 23 Plastic pipe with PROMASEAL® FC 40 – 65 collars (side view)

3.0 Direct field of application

- + The scope of this certificate is limited to the systems described in the supporting evidence outlined in Table 26 and Table 27.
- + This certificate details the methods of construction, test conditions and results in accordance with AS1530.4:2014 and assessed in accordance with AS 4072.1:2005 (R2016).
- + This certificate is only valid for the certified systems and must not be used for any other purpose. Any changes with respect to size, construction details, loads, stresses, edge or end conditions – other than those identified in this document – may invalidate the certified performance. If there are changes further review and certification will need to be done by Jensen Hughes Fire Testing Pty. Ltd.
- + This certificate is issued on the basis that the certified systems are constructed in accordance with robust quality control procedures, relevant industry regulations, and applicable Australian Standards for material quality, structural design, workmanship, and the proper handling, installation, and finishing of the products on-site. These factors are outside the scope and control of this certificate.

- + The product outlined in this certificate applies to applications relevant to the requirement for fire resistance only.

4.0 Accreditation

The Jensen Hughes FireMark Product Certification scheme operated by Jensen Hughes Fire Testing Pty Ltd is accredited by JASANZ as a Conformity Assessment Body providing Product Certification in the Jensen Hughes FireMark Scheme. Our scope is available on the JASANZ website at [JASANZ register](#).

5.0 Compliance with the National Construction Code

This certificate serves as evidence of suitability and approval, verifying that the building elements referenced have been confirmed in accordance with the relevant Technical Schedules of the FireMark scheme, as well as AS 1530.4:2014 and AS 4072.1:2005. The certification is based on prototypes that have been submitted to the standard fire test, AS 1530.4:2014, or equivalent or more severe testing, achieving the FRL without reliance on active fire suppression systems.

6.0 Validity

Jensen Hughes does not endorse the tested or assessed product in any way. The conclusions of the results in this certificate 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 assessed systems within this certificate are 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 assessed results represent our opinion about the performance of the proposed system/s expected to be demonstrated on a test carried out in accordance with the requirements of the referenced technical schedule.

The client has requested product certification for the specified product under the Jensen Hughes FireMark scheme for their own purposes, and this certificate has been prepared to meet the requirements of the relevant product technical schedule and any disclosed and agreed objectives reflected in the fee proposal. This certificate may be used as Evidence of Suitability in accordance with the requirements of the relevant National Construction Code. However, Jensen Hughes cannot guarantee the following:

- + Whether it will be accepted by the relevant building authorities and / or any other relevant parties.
- + The suitability of the system/s for a specific installation. This must be determined by the installer, builder and / or relevant building authority.

7.0 Authority

Applicant undertakings and conditions of use

Promat Australia Pty Ltd confirms that:

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

General conditions of use

This certificate may only be reproduced in full without modifications by the report sponsor. Copies, extracts or abridgments of this certificate in any form must not be published by other organisations or individuals without the permission of Jensen Hughes Fire Testing Pty Ltd.

Appendix A Overview of test / assessment evidence

Table 26 and Table 27 outline all the fire resistance test evidence and assessed configurations that are detailed in Table 3 to Table 24 that form the basis of approval for the scope outlined in this certificate.

Table 26 Test evidence

Number	Test report number	Test Standard
1	7745	EN 1366 - Part 3
2	2227800.1	AS1530.4-2005
3	2373900	AS1530.4-2005
4	2517300.2	AS1530.4-2005
5	2611300	AS1530.4-2005
6	2878600.1	AS1530.4-2005
7	41088as.1	AS1530.4-1997
8	A-07-487	AS1530.4-2005
9	A-07-508A.1	AS1530.4-2005
10	A-08-527	AS1530.4-2005
11	A-08-528	AS1530.4-2005
12	A-08-531	AS1530.4-2005
13	A-08-532	AS1530.4-2005
14	A-10-672a.1	AS1530.4-2005
15	A-11-734	AS1530.4-2005
16	A-13-852a	AS1530.4-2005
17	A-13-853a	AS1530.4-2005
18	A-14-920	AS1530.4-2005
21	A-17-063	AS1530.4:2014
22	A-17-064	AS1530.4:2014
23	A-18-013	AS1530.4:2014
24	A-18-023	AS1530.4:2014
25	A-19-013A	AS1530.4:2014
26	A-20-016A	AS1530.4:2014

Number	Test report number	Test Standard
27	A-20-024A	AS1530.4:2014
28	A-21-057	AS1530.4:2014
29	A-21-059	AS1530.4:2014
30	F91604-	AS1530.4-1990
31	F91611	AS1530.4-1990
32	F91621	AS1530.4-1990
33	F91624	AS1530.4-1990
34	F91730	AS1530.4-1997
35	F91741	AS1530.4-1997
36	F91742	AS1530.4-1997
37	F91754	AS1530.4-1997
38	F91765	AS1530.4-1997
39	F91783	AS1530.4-1997
40	F91797	AS1530.4-1997
41	FR4115	BS 476: Part 20: 1987
43	FRT210441 R1.0	AS1530.4:2014
45	FSP 1464	AS1530.4-2005
46	FSP 1464A	AS1530.4-2005
47	FSP 1471	AS1530.4-2005
48	FSP 0643	AS1530.4-1997
49	A-13-838	AS 1530.4:2005
50	A-13-851	AS 1530.4:2005
51	FSP 1675	AS 1530.4:2005
52	A-15-959C	AS 1530.4:2005
53	A-16-012	AS 1530.4:2005
54	A-20-039	AS 1530.4:2014
55	A-21-043	AS 1530.4:2014
56	FRT210440 R1.0	AS 1530.4:2014

Number	Test report number	Test Standard
57	A-22-027	AS 1530.4:2014
58	A-23-006	AS 1530.4:2014
59	A-21-002	AS 1530.4:2014

Table 27 Assessment evidence

Number	Assessment report number	Assessment standard
1	29592300 R9.1	AS 1530.4:2014 and AS 4072.1:2005