






TECHNICAL ASSESSMENT

Project Name: **FR Membrane Barrier**

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

CONTENTS

CONTENTS	2
FOREWORD	3
ASSUMPTIONS	4
GENERAL DESCRIPTION	5
SUPPORTING CONSTRUCTIONS	6
TECHNCIAL ASSESSMENT	7
DETAIL:	8
PRODUCTS PROPOSED	14
SUPPORTING EVIDENCE	15
DECLARATION	17

	Technical Assessment	
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

FOREWORD

Firestop systems are intended to prevent or impede the passage of fire, toxic gasses and smoke through openings created for the passage of building service supplies, blank seals and joint systems. Penetration firestop sealing systems are required to have proven fire resistance performance to relevant European (EN) test standards as required by building regulations and codes. Firestopping must be installed as per manufacturers tested details within the defined scope of the EN test standards.

In the absence of direct test evidence, Approved Document B of the UK Building Regulations, allows for assessments where there is indirect test evidence to support the application.


Should a manufacturers' assessment not be acceptable or where no supporting evidence is available to support the application and an Engineering Judgement is required, the detail should be referred to an independent third party, suitably qualified Fire Engineer.

Polyseam raise a manufacturer's Technical Assessments based on integrity, and where required insulation, following the guidance and principles as outlined in the Passive Fire Protection Forum (PFPF) "Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence". This technical assessment should be read in its entirety. A Fire Engineer should be engaged and scrutinize the document including the basis of the test evidence and give the overall approval or reject if necessary.

Polyseam have issued this assessment on the basis of test data and interpretation of information received at the time of issue. If contradictory evidence becomes available to the assessing authority, the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly, the assessment evaluation is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence.

The Protecta FR technical solutions can be combined, where the fire seals are built the same, however the fire and sound classifications for the whole seal will be no better than the lowest classification given on any penetrating service, what we term worst case scenario.

The following details are assessments based on utilising fire test conditions evidence where BS EN 1363-1 fire resistance tests general requirements and BS EN 1366-4 for linear seals and will achieve the fire rating stipulated on each of the details.

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025


ASSUMPTIONS

Where possible, fire tested solutions must always be used. This Technical Assessment has been conducted because no specific fire test standard currently exists for this application. However, testing has been carried out in accordance with the relevant guidelines outlined in BS EN 1366-4.

All substrates surrounding the proposed firestop detail within this Technical Assessment must offer fire resistance equal to or greater than the E or EI rating required by this Technical Assessment. The surrounding substrates must remain stable, in place and not impart any load or disturb the proposed detail. With the exception of Protecta FR Partition Walls, this Technical Assessment does not assess the fire performance of the surrounding substrates or other Passive Fire Protection elements. Polyseam take no responsibility for the performance of the substrate and the proposed detail will be limited by the performance of the surrounding substrates. It is assumed these checks have been carried out by the sponsor prior to this Technical Assessment.


It is assumed the details provided are correct and accurate at the time of this Technical Assessment and this Technical Assessment must be checked and accepted by the sponsor or any Authority Having Jurisdiction prior to any installation.

Any details provided in this Technical Assessment must be installed by a competent person and no deviations must be made from this Technical Assessment.

 Protecta	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

GENERAL DESCRIPTION

The Protecta® FR Membrane Barrier is designed to provide 60 minutes fire resistance to linear voids between roofing moisture membranes and roof tiles, when used in combination with fire classified partition walls in loft compartment spaces, to avoid a fire spreading between one loft compartment to another, hence reducing risk to human and animal life and drastically reduce fire damage by containing a fire within the compartment of origin. The Protecta® FR Membrane Barriers are installed on both sides of partition walls, and includes graphite strips which expands during fire and closes the air gap between the membrane and the roof tiles. Without such protection, a fire has the potential to spread above the partition walls through the open-air gap.

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

SUPPORTING CONSTRUCTIONS

The specific elements of the supporting construction are as follows:

Flexible Wall:

- The wall must have a minimum thickness of 95mm and comprise steel or timber studs lined on both faces with minimum 1 layer of 12.5 mm thick boards.
- The wall must be classified in accordance with EN13501-2 for the required fire resistance period.

Rigid Wall:



- The wall must have a minimum thickness of 95mm and comprise concrete, aerated concrete or masonry, with a minimum density of 350kg/m³.
- The wall must be classified in accordance with EN13501-2 for the required fire resistance period.

FR Board Partition Wall:

- The wall must be installed as per the details contained in our Protecta® FR Board Partition Wall Technical Data Sheet and ETA 23/0496.

LIMITING DIMENSIONS

The system is tested and assessed to close maximum 25mm airgaps between moisture membranes and roofing tiles.

	Technical Assessment	
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025


TECHNCIAL ASSESSMENT

Based on a detailed analysis of our fire test data as listed in test evidence, Polyseam are able to provide EI 60 fire resistance to linear voids between roofing membranes and roof tiles, above partition walls. The seal, Protecta® FR Membrane Barrier, is suitable to be used with the partition walls (supporting constructions) described on page 6.

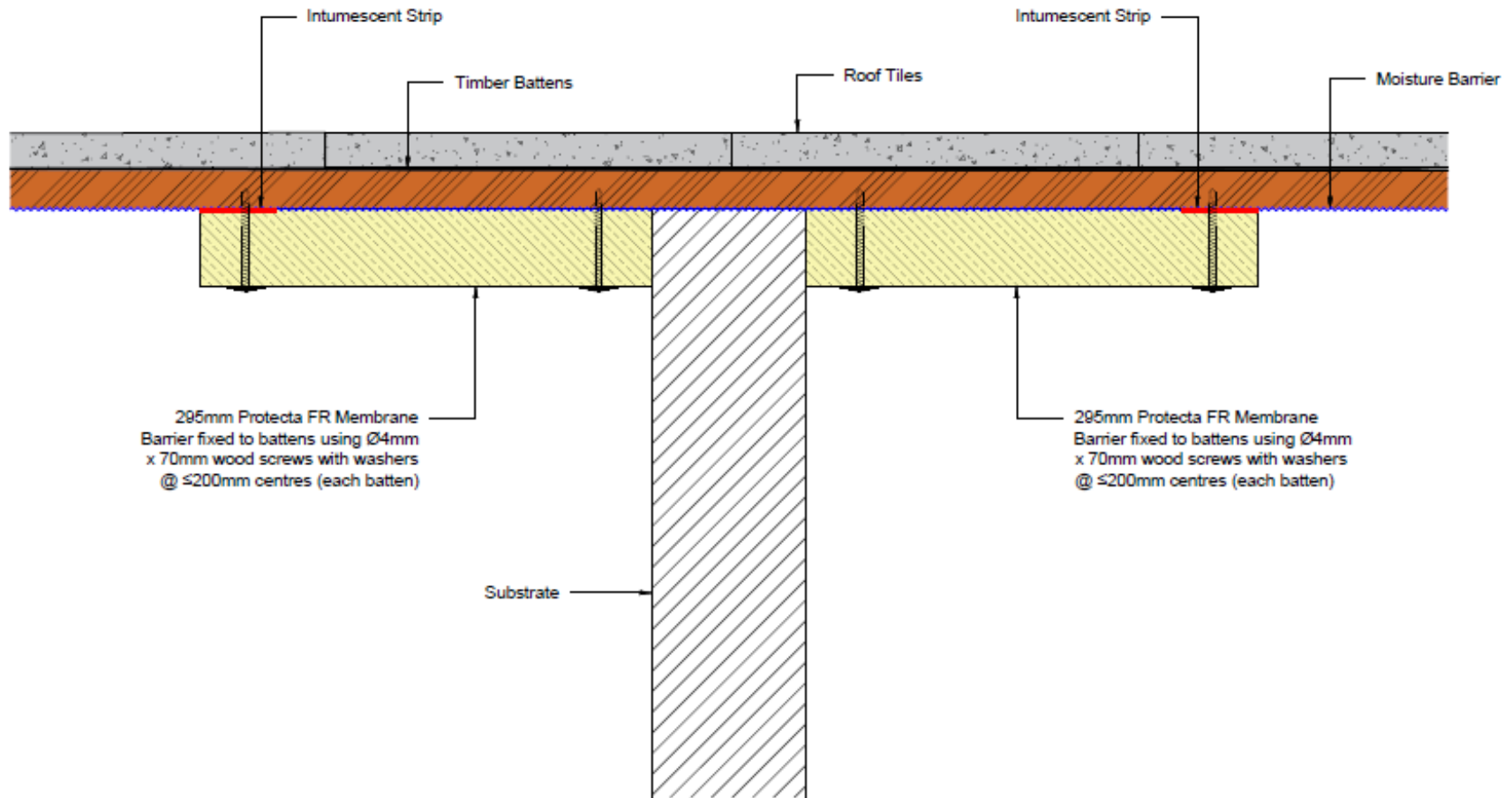
INSTALLATION INSTRUCTIONS

Polyseam recommends the following installation to achieve a fire classification of EI 60, limited by the fire classification of the partition wall:


- Install the Protecta® FR Membrane Barriers on both sides of the partition wall, with the graphite strip within the barriers positioned towards the membrane and away from the partition wall. Use fixings into the roofing battens at $\leq 200\text{mm}$ centres, with $\geq 70\text{mm} \times 4\text{mm}$ timber screws and 25mm penny washers, 30mm in from both edges. A pilot hole maybe required to be drilled into the timber batten to prevent splitting. Please refer to drawing PS-FRMB-01 on page 8.
- Where roofing rafters are closer to the partition wall than 300mm, the membrane barriers must be installed to both sides of the rafters. The membrane barrier outside the rafter should be minimum 100mm wide and contain the graphite strip. The gap between the partition wall and the rafters must be sealed with the cut offs from the membrane barriers, and if additional gaps needs to be sealed, Protecta® FR Board 50mm 1-S may be used, with the coated side facing downwards, fixed to the roofing battens as described above. Please refer to drawing PS-FRMB-02 on page 9 and PS-FRMB-03 on page 10.
- Where roofing rafters are closer to the partition wall than 50mm, the gap between the partition wall and the rafters may be sealed with membrane barriers friction fitted, flush to the bottom of the rafter. Membrane barrier joints and abutting edges should be sealed with Protecta® FR Acrylic. The exposed rafter should be protected with Protecta® Interior Paint FR-1 at minimum 220 microns DFT. Install the remaining membrane barrier as a continuation to the other side of the rafter, fixed to the roofing battens as described above. Please refer to drawing PS-FRMB-04 on page 11.
- Where roofing rafters are closer to the partition than 30mm, the gap between the partition wall and the rafters may be sealed by installing an offcut of the FR Membrane barrier installed as a pattress affixed to the underside of the rafter. Use fixings into the rafter at $\leq 200\text{mm}$ centres, with 80mm x 5mm timber screws and 25mm penny washers. A pilot hole maybe required to be drilled into the timber to prevent splitting. Membrane barrier joints and abutting edges should be sealed with Protecta® FR Acrylic. The exposed rafter should be protected with Protecta® Interior Paint FR-1 at minimum 220 microns DFT. Install the remaining membrane barrier as a continuation to the other side of the rafter, fixed to the roofing battens as described above. Please refer to drawing PS-FRMB-05 on page 12.
- Please allow a 5mm airgap in front of the edges of the graphite strips in the membrane barriers, to enable the graphite strips to fully activate during a fire.
- Where the compartment wall changes direction, the battens may be situated too far from the substrate to obtain the required fixings or be suitable to accommodate the standard FR Membrane Barrier detail. Where this occurs please refer to drawing PS-FRMB-06 on page 13. Corner pieces can be used as a whole piece or cut in half across the width to suit the opposite corner.

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

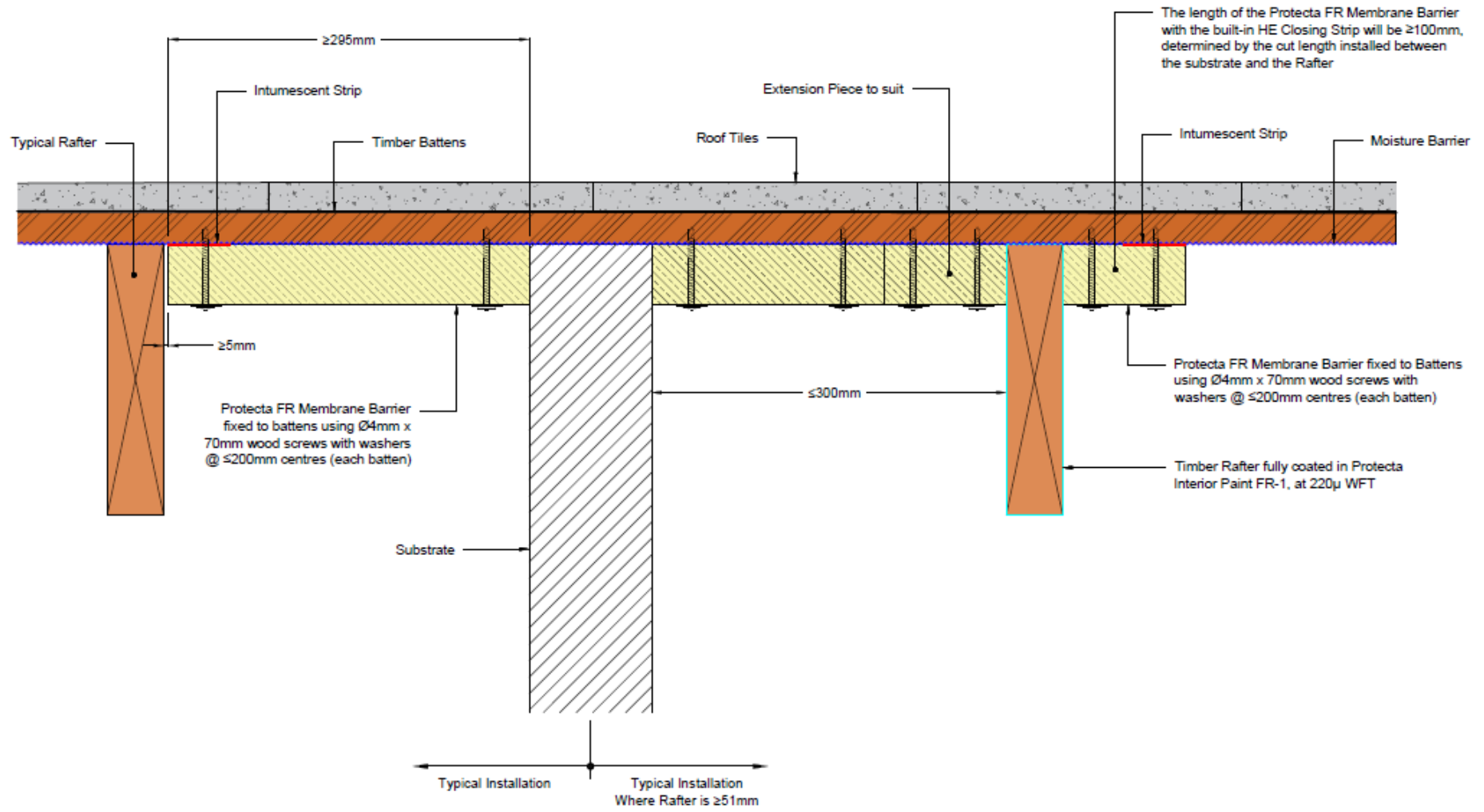
DETAIL:




Drawing Number: PS-FRMB-01 Rev A – Typical Wall to FR Membrane Barrier Closure Detail

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

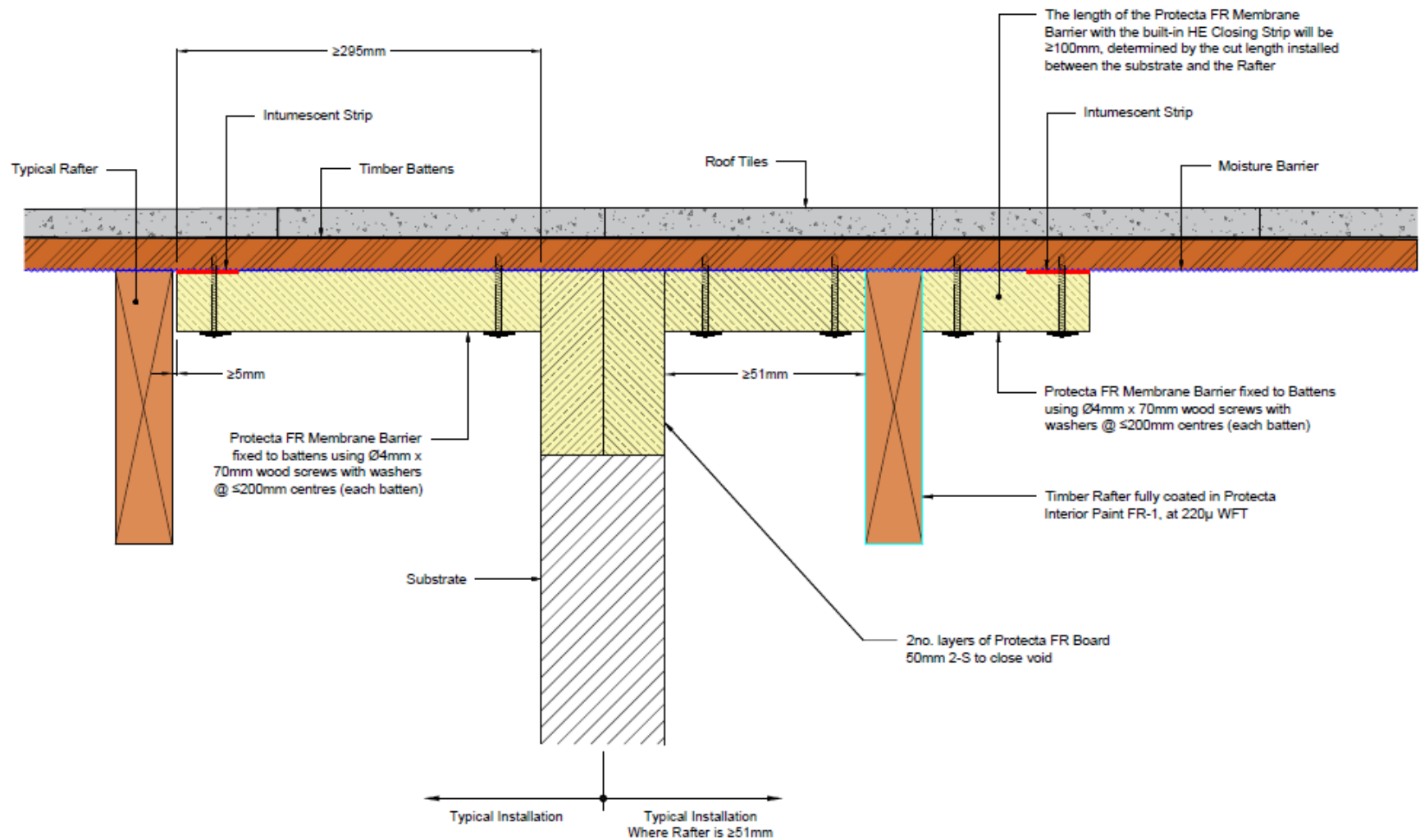
DETAIL:




Drawing Number: PS-FRMB-02 Rev A – Typical Wall to FR Membrane Barrier Closure Detail

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

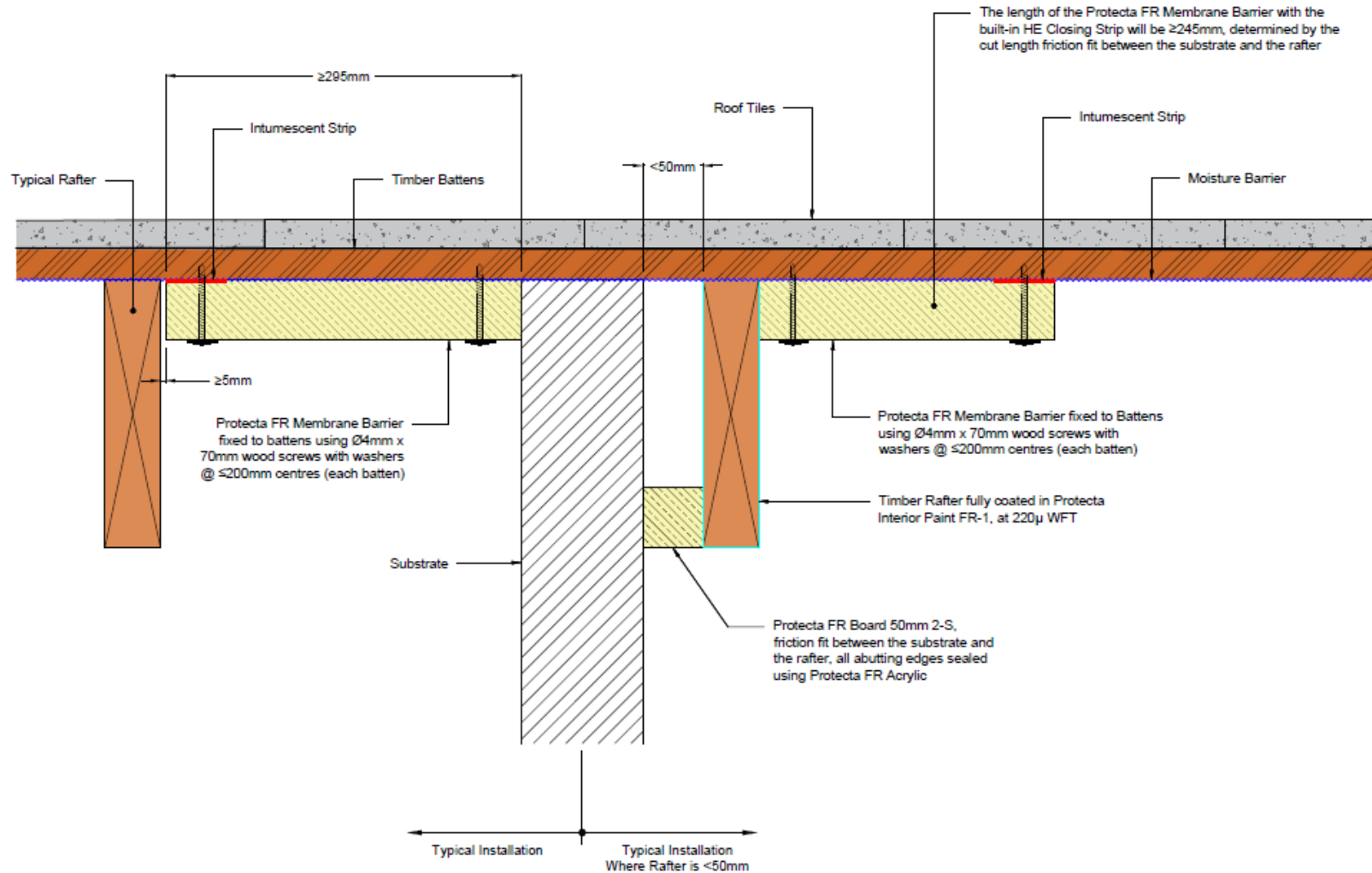
DETAIL:





Drawing Number: PS-FRMB-03 Rev A – Typical Wall to FR Membrane Barrier Closure Detail with Void above Wall

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

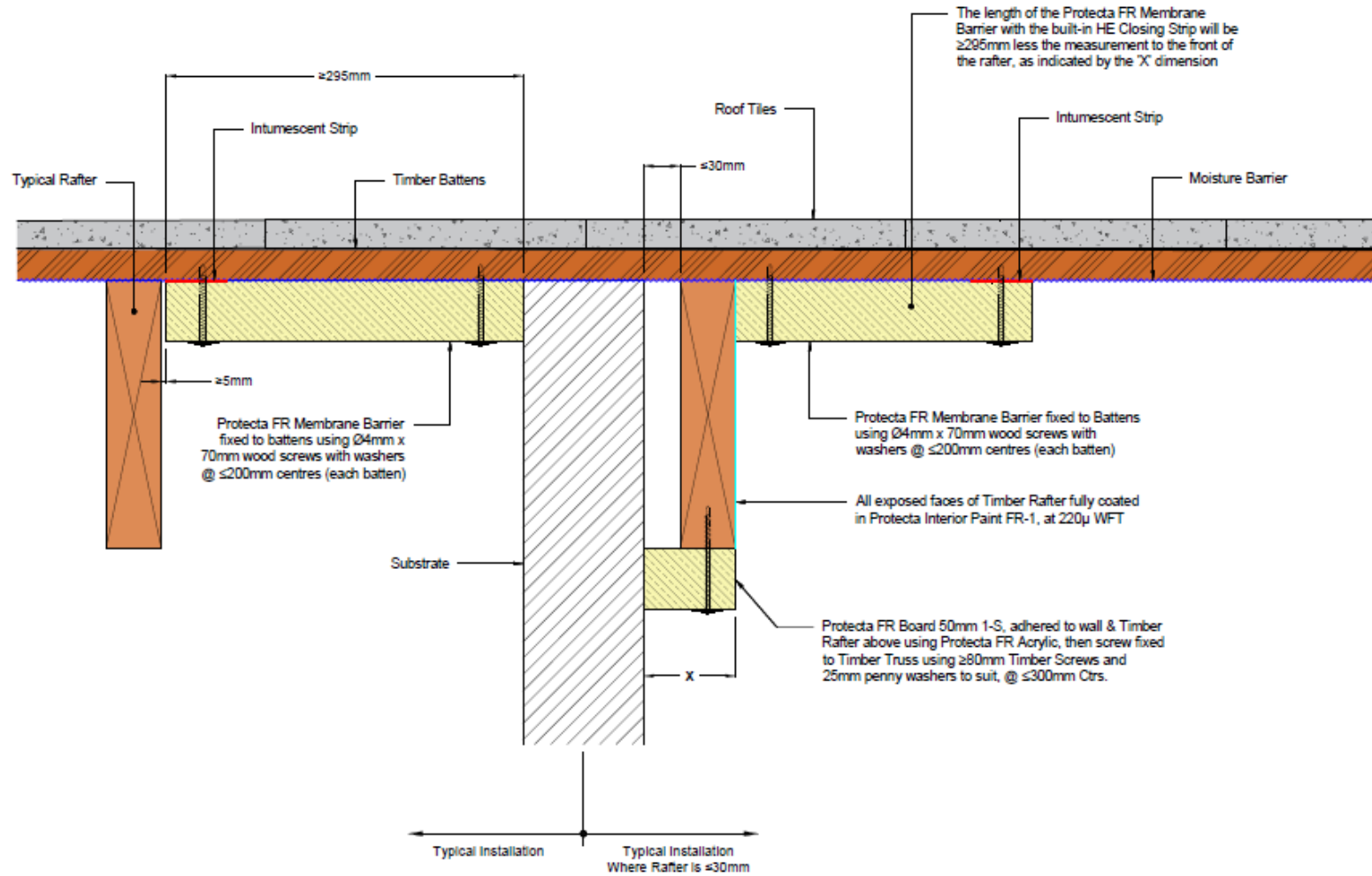
DETAIL:




Drawing Number: PS-FRMB-04 Rev A – Typical Wall to FR Membrane Barrier Closure Detail Protecting Rafter

	<h2>Technical Assessment</h2>	
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

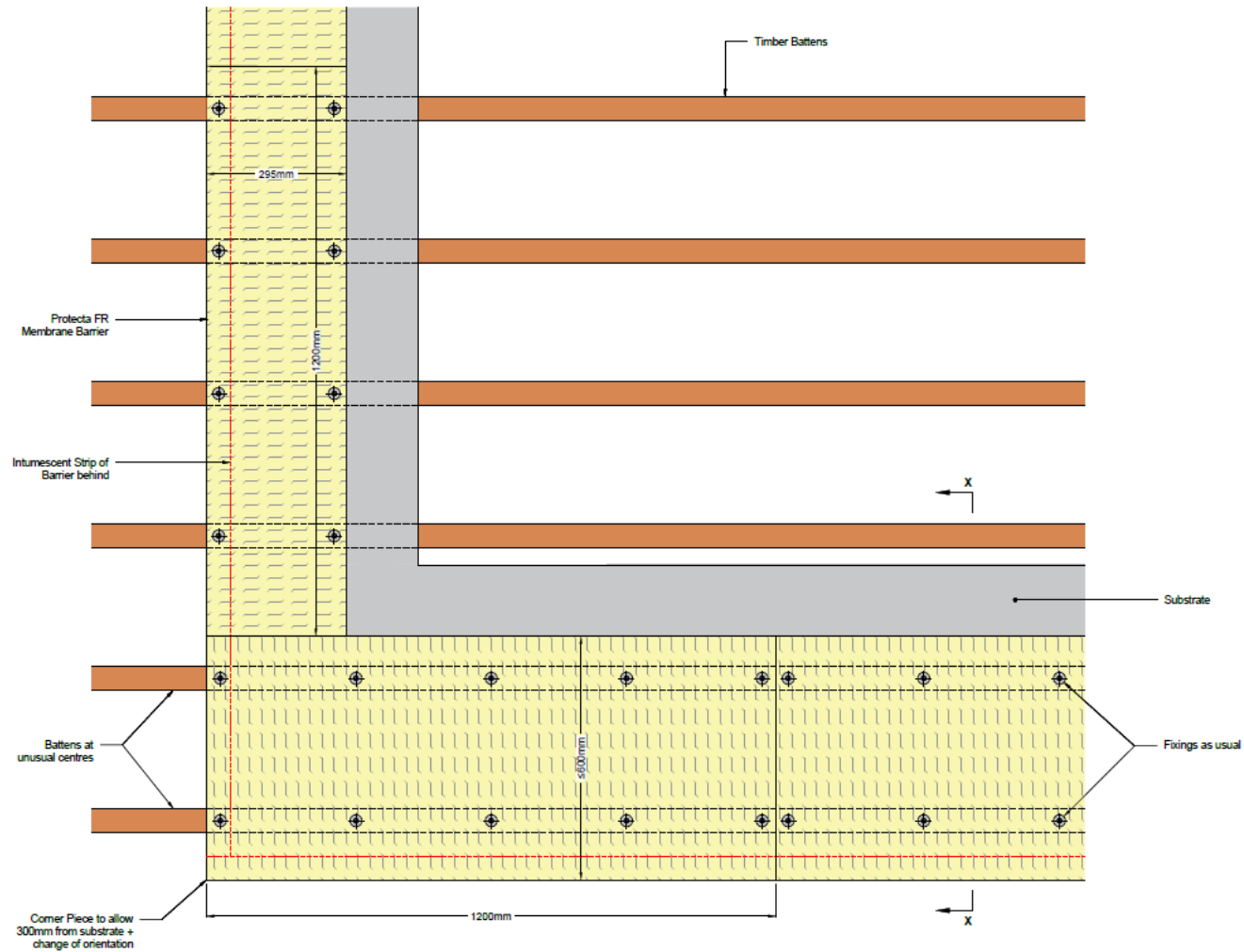
DETAIL:




Drawing Number: PS-FRMB-05 Rev A – Typical Wall to FR Membrane Barrier Reduced Gap to Rafter

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

DETAIL:



Drawing Number: PS-FRMB-06 Rev A – Alternative Orientation Junction

	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

PRODUCTS PROPOSED

1. General Requirements:

- Ensure that the surface of all surrounding construction is free from all loose contaminants, dust and grease.
- Please refer to individual products Technical Data Sheet for further guidance.

2. Protecta® FR Membrane Barrier & FR Board:

- Ensure installation is in accordance to the installation instructions on page 7 and the technical drawings on pages 8 to 11.
- Protecta FR Board can be over-painted with most emulsion or alkyd (gloss) paints.

3. Protecta® FR Acrylic:



- Apply the sealant with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

4. Protecta® Interior Paint FR 1:

- Before painting ensure the surface to be painted is clean, dry and free from grease, dirt, dust, and other contaminants. Remove any old or flaking paint until you have a sound surface; if in doubt remove all existing coatings.
- Interior Paint FR-1 can normally be applied without a primer, but there are a few exceptions. Interior Paint FR-1 should not be applied directly onto gloss paints. Knots and stains should be sealed before applying Interior Paint FR-1. Refer to the Technical Data sheet for more information.
- The paint is not intended for application on bituminous substrates or substrates that can exude certain oils and plasticizers or solvents, and is not recommended for use in constant humid areas.
- The paint's durability is expected to be at least 12 years making it a cost-effective option when compared with normal paints with limited durability.
- Do not apply in very damp or humid conditions or extremes of temperature.

5. Protecta® FR Coating:

- Apply the coating over the FR Board as and when required.

	Technical Assessment	
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

SUPPORTING EVIDENCE



All fire resistance test data is contained and referenced within Polyseam’s fire resistance test letter report, UK Technical Assessment (UKTA) and our European Technical Assessment (ETA). This Technical Assessment may reference any document and information contained can be found in the following fire stopping and sealing product documentation:

LINEAR JOINT and GAP SEALS:

- FR Acrylic – UKTA 0843-UKTA-22/0032 issued on 14th August 2023
- FR Board – UKTA 0843-UKTA-22/0034 issued on 25th October 2024
- FR Coating – UKTA 0843-UKTA-22/0021 issued on 27th September 2022
- Interior Paint FR-1 – ETA – 21/0044 issued on 01st January 2025
- FR Board Partitions – ETA-23/0496 issued on 22nd August 2023

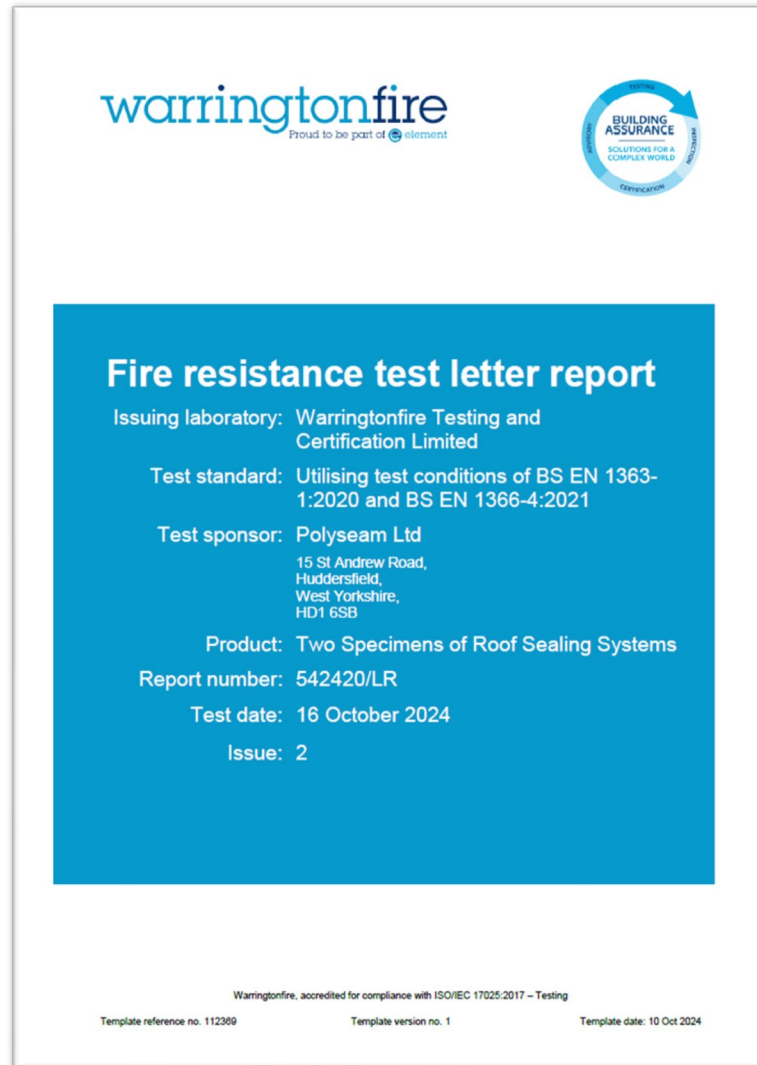
Our assessment would be based on the above approvals and tested details, for apertures tested to more or the same as the site requirements we have for Protecta products contained within the following documentation:


- Supporting Test Evidence detail 1 - Test report WF 542420 which achieves EI 60 Rating, issued on 03rd March 2025.
- Tested according to the principles of BS-EN 1366-4:2021.
- No cotton pad failure within the batten space.

	Technical Assessment	
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

SUPPORTING TEST EVIDENCE DETAIL 1:

Test report WF 542420 which achieves EI 60 Rating, issued on 03rd March 2025





	Technical Assessment	<i>Polyseam.</i>
Assessment Reference: 052502 Rev 3	Protecta FR Membrane Barrier	Date Issued: 19 August 2025

DECLARATION

The assessment is based on the Protecta FR products European Technical Assessment (ETA) and or United Kingdom Technical Assessment (UKTA), issued in accordance with registration (EU) No. 305/2011 on the basis of ETAG 026-2 and 3, edition 2011 used as European Assessment Document (EAD). The supporting applications are tested to EN1366 parts 3, 4 or other applicable standard and are both CE marked and third party accredited by the associated UKAS accredited technical assessment bodies. This assessment supersedes any other assessment revisions generated for the specific customer and or project.

POLYSEAM LIMITED DETAILS

Company	Name and Position	Date	Signature accepting all information given for the purposes of this assessment are correct
Technical Assessment Produced by:	Paul Jennings – PFP Technical Manager	19 August 2025	
Technical Assessment Reviewed by:	Paul Ramage – Head of Technical and Certification	19 August 2025	

In accord with the 'PFPF Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence', we confirm that neither the assessor nor supervisor signing this document have allowed commercial, financial or other pressures to compromise our impartial judgement.