



Project number: 4788656094-B

10th October 2018

ASSESSMENT REPORT

On IPASSIVE FR IPT Sealant

Title

The Performance of IPASSIVE FR IPT Sealant
in Accordance with AS 4072.1: 2005 &
AS 1530.4 2005/14

iPASSIVE
B:HIVE Building
Smales Farm
Takapuna
Auckland
New Zealand



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1. Introduction

This report considers the expected fire resistance performance of IPASSIVE FR IPT Sealant, as detailed in Certificate UL-EU-00910 and ETA-14/0041, to be used as linear joint and gap seals in walls and floors.

Installation into supporting constructions typical to the Australasian market is also considered, since the UL-EU certificate and associated European Technical Assessment are based upon installation into equivalent constructions

The data which forms the basis of this assessment was obtained from tests in accordance with EN 1366-4: 2006.

The linear joint and gap seals discussed are required to provide up to 240 minutes integrity and insulation performance, depending on size and configuration, with respect to AS 4072.1: 2005 & AS 1530.4 2005/14.

2. Assumptions

It is assumed that the walls and floors into/between which the joint and gap seals are installed have been proven via test to provide at least the same performance as that required of the seal.

It is assumed that the proposed joint and gap seals will be installed by competent installers and will be of the configurations described in Appendix 2.

3. Assessment – Performance to AS 4072.1: 2005 & AS 1530.4 2005/14

The proposed IPASSIVE FR IPT sealant is the subject of UL-EU certification (under alternative name), the basic requirements which are as follows:

- Verification of the manufacture of test samples
- Testing in accordance with EN 1366-4
- Evaluation against ETAG 026-3 (EAD 350141-00-1106)
- Continuous factory surveillance and verification
- Eligibility to bear the 'CE Mark' via compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC - OJ L 88 of 4 April 2011 (The Construction Products Regulation)

The requirements for UL-EU Certification therefore go far beyond those of simple type testing, however since the products have been tested in accordance with EN 1366-4: 2006, it is necessary to consider any significant differences between this standard and the required AS 4072.1: 2005 & AS 1530.4 2005/14.



It is noted that the requirements of the 2005 and 2014 versions of the AS 1530.4 standard are the same for the proposed applications and therefore this report is considered applicable to both versions.

The following aspects of the test are considered relevant to the performance of the seals:

- Mounting and installation – Both AS1530.4: 2014 and EN 1366-4: 2006 require that control joints are installed and tested in a manner representative of the intended application.
- Heating conditions – Both standards use the same specified heating conditions ($T = 345 \log_{10}(8t + 1) + 20$) and instrumentation (Plate Thermometer required by EN 1366-4: 2006 is an option in AS1530.4: 2014)
- Dimensions – AS1530.4: 2014 requires a minimum specimen length of 1000 mm and EN 1366-4: 2006 requires a minimum specimen length of 900 mm, however the supporting test data used in support of Certificate UL-EU-00910 was conducted upon specimens from 900mm to 3000mm long, thus significantly longer seals have been tested as well as seals that are marginally shorter.
- Pressure conditions – Both standards require that the test specimens be subjected to identical pressure conditions
- Instrumentation of specimens – The instrumentation of the specimens is of the same type and is applied at similar positions and therefore is expected to result in the same performance.
- Failure criteria – The failure criteria of both tests for Integrity and Insulation are identical, with the exception of the omission of gap gauges from the EN 1366-4 standard. Gap gauges however are not used for smaller control joints under the AS1530.4 standard either and in any case the formation of gaps was not observed in any of the supporting tests, for the performance periods given.

The parameters discussed above indicate that the EN 1366-4: 2006 test is equivalent to, and of equal severity to a AS1530.4: 2014 test, and therefore based upon the above, it is considered that IPASSIVE FR IPT Sealant, as detailed in Appendix 2, would provide up to 240 minutes (depending upon specification) integrity and insulation performance, if subjected to a test in accordance with AS1530.4: 2014 and AS 4072.1: 2005.

It is also noted that wall and floor constructions in the proposed market are of slightly different specifications to those currently certificated and tested in Europe, due to local requirements. The aspects that are considered critical to the performance of the seal are as follows:

- The depth of the seal is not reduced
- The wall or floor has proven fire resistance performance equal to or greater than that required
- In the case of plasterboard walls, single layer systems are acceptable provided the overall thickness of the board layer or layers is at least as great as the sealant depth (to allow for adhesion)



- Additionally in the case where the overall construction thickness is reduced, but for a lesser performance requirement, then provided the components of the seal are not reduced, the overall seal depth may be reduced (by reducing the air cavity)

Subject to the above being satisfied, there is adequate confidence in the performance of the control joints and the specifications given in Appendix 2 reflect this.

It is our opinion that horizontal joints at the head and base of plasterboard walls will provide the same level of performance as vertical joints, either with backing as tested, or alternatively with the more robust option of backing of stud/channel. The tested wall joints were predominantly vertical, but the control joint that was tested horizontally in a wall performed at least as well as the vertical joints and the proposed horizontal configurations would be expected to perform similarly.

4. Limits of Applicability

The conclusions of this report only apply to IPASSIVE FR IPT Sealant control joints as described in Appendix 2 of this report.

This report does not constitute product certification and does not permit the use of the UL or UL-EU mark.

5. Conclusions

It can be concluded that IPASSIVE FR IPT Sealant, installed as control joints, as described in Appendix 2 of this report, would provide the performances given in Appendix 2 of this report, if subjected to a test in accordance with AS 4072.1: 2005 & AS 1530.4 2005/14.

6. Validity

This assessment is issued on the basis of test data and information available at the time of issue.

If contradictory evidence becomes available to UL International (UK) Ltd the assessment will be unconditionally withdrawn and IPASSIVE LTD will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested because actual test data is deemed to take precedence over an expressed opinion.

The assessment is valid initially for a period of five years i.e. until 1st October 2023, after which time it is recommended that it be returned for re-appraisal.

The appraisal is only valid provided that no other modifications are made to the tested construction other than those described in this report.

7. Declaration by IPASSIVE LTD

We the undersigned confirm that we have read and complied with the obligations placed on us by the UK Fire Test Study Group Resolution No. 82: 2001.

We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which the assessment is being made.

We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.

We are not aware of any information that could adversely affect the conclusions of this assessment.

If we subsequently become aware of any such information we agree to cease using the assessment and ask UL International (UK) Ltd to withdraw the assessment.

Signed:

For and on behalf of:



Project No. 4788656094-B

8. Signatories

Report by:

Reviewed by:

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

A handwritten signature in blue ink, appearing to read 'Steven Harms'.

Chris Johnson*
Staff Engineer
Building and Life Safety Technologies

Steven Harms*
Engineering Leader
Building and Life Safety Technologies

*For and on behalf of Underwriters Laboratories International (UK) Ltd

The assessment report is not valid unless it incorporates the declaration duly signed by the applicant. This is included in Section 7 to this report.

REPORT ISSUED: 10th October 2018



Appendix 1: Summary of Primary Supporting Evidence

Chilt/IF13065

A fire resistance test in accordance with BS EN 1366-4: 2006, on two specimens of gap seal, mounted within a 150 mm thick aerated concrete floor supporting construction.

The test demonstrated the ability of the specimen to provide up to 264 minutes integrity and insulation performance.

Chilt/RF13160

A fire resistance test in accordance with BS EN 1366-4: 2006, on 3 specimens of joint seal, mounted within a 100 mm thick, drywall supporting construction.

The test demonstrated the ability of the specimens to provide 132 minutes integrity and insulation performance.

UL Project No. 13CA40986

A classification in accordance with EN 13501-2: 2007+A1: 2009, based upon the reports detailed above.

ETA 14/0041

A European Technical Assessment in accordance with ETAG 026-3, edition 2011, used as European Assessment Document (EAD).

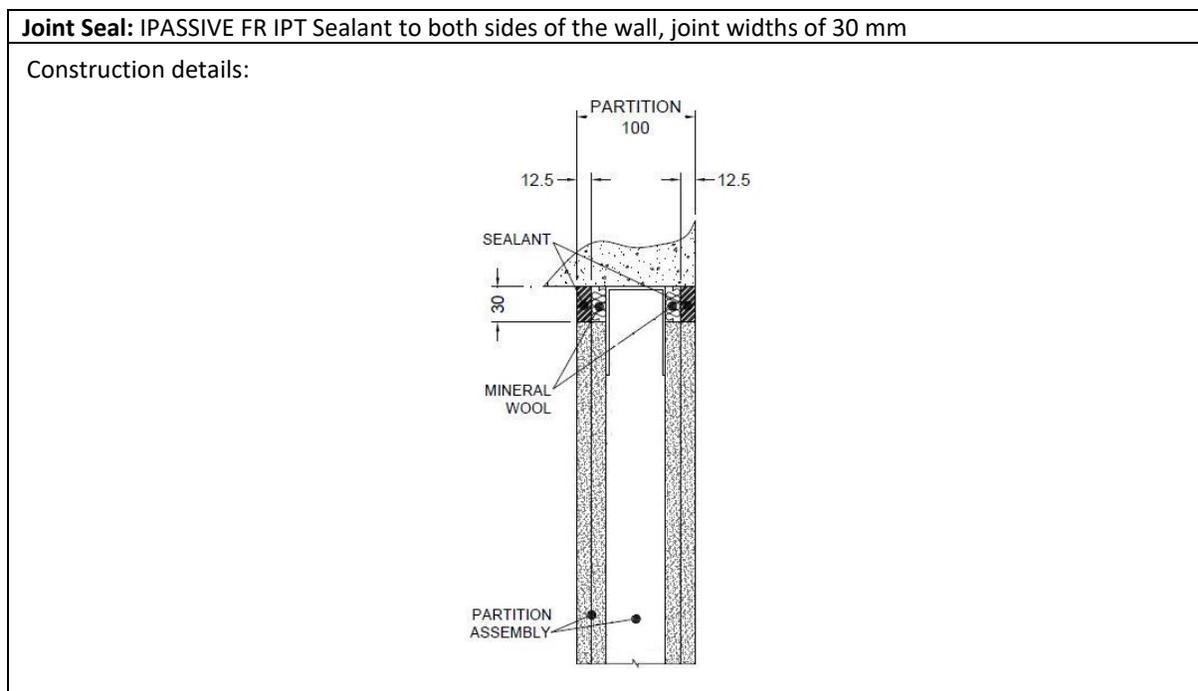
UL-EU-00910

A UL certificate which relates to the use of IPASSIVE FR IPT Sealant (Under alternative name) for fire stopping where there are joints in or between walls & floors.

Appendix 2: Summary of Assessed Scope

Flexible or rigid wall constructions

Control Joints, for horizontal gaps at the head of plasterboard walls and deflection head of plasterboard wall and soffit of concrete floor

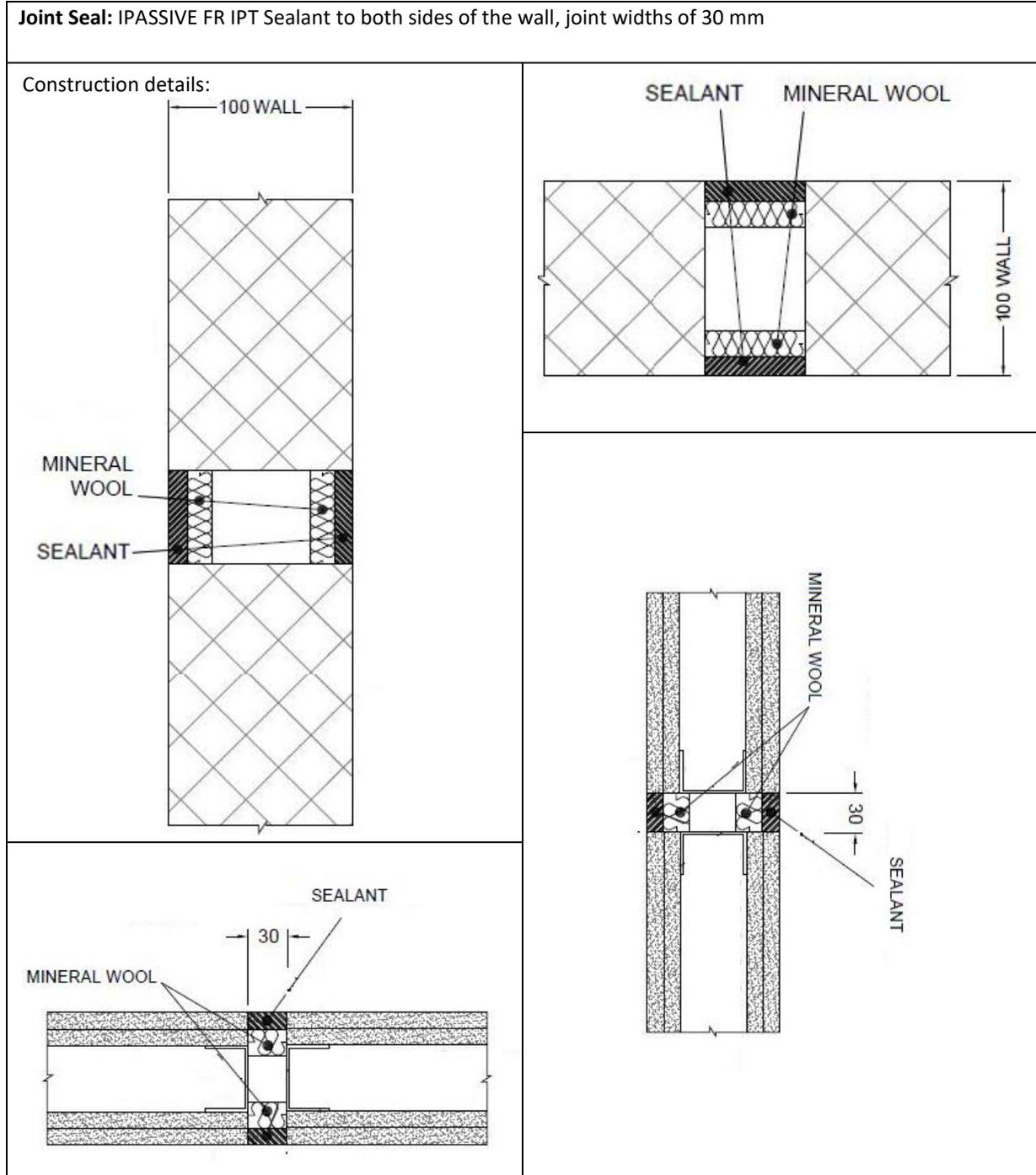


Substrate	Min. Wall thickness (mm)	Sealant depth* minimum	Backing material	Maximum Joint Width (mm)	Performance	
					Integrity (mins)	Insulation (mins)
Plasterboard / concrete	100	12.5 mm	Stone wool 35 kg/m ³ plus partition head/base track	30	120	120
	96				90	90
	64				60	60

* Plasterboard walls may be single layer or double layer provided the facing (overall board) thickness is at least equal to the sealant depth.

Flexible or rigid wall constructions

Control Joints, for gaps in plasterboard or concrete/masonry walls



Substrate			Backing material		Performance
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	Min. Wall thickness (mm)	Sealant depth* minimum		Maximum Joint Width (mm)	Integrity (mins)	Insulation (mins)
Plasterboard /masonry/ concrete	130	12.5 mm	12.5 mm Rockwool Flexi 35 kg/m ³	30	120	120
	96				90	90
	64				60	60

* Plasterboard walls may be single layer or double layer provided the facing (overall board) thickness is at least equal to the sealant depth.

Rigid floor constructions

Control joint, between floor slabs or between floor slab and concrete wall

Joint Seal: IPASSIVE FR IPT Sealant to one or both sides of the floor, joint widths of 30 mm

Construction details:

Substrate	Min. Floor thickness (mm)	Sealant depth minimum	Backing material	Maximum Joint Width (mm)	Performance	
					Integrity (mins)	Insulation (mins)
Concrete	150	15 min. to both faces	20 mm Rockwool Flexi 33 kg/m ³	30	240	240
	100				120	120
	64				90	90
	150	25min. above backer*	48 mm alkaline earth silicate (AES) fibre wool 128 kg/m ³		240	180
	100				120	120
	64				90	90

* At any height within the floor