Title

EN 45545-2:2020 Classification Summary report for R1 & R7:

Product Reference “Safe Seal IQ Fire Resistant”

Report No.:

549278

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1

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27th November 2029

Prepared for:

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1 Introduction

This report has been commissioned by PCS Innotec International N.V. and relates to the fire performance of “Safe Seal IQ Fire Resistant”, which PCS Innotec International NV states is used as an adhesive sandwiched between aluminium sheeting, according to EN 45545-2: 2020.

This report has been written using appropriate test evidence generated at UKAS accredited laboratories, to the relevant test standard. The supporting test evidence has been deemed appropriate to support the stated product and is summarised in section 3. It is the responsibility of users to check that the cited versions of such supporting documentation remain valid at the time of use.

Specimens of a product have been tested in accordance with the test methods

- “T02” (ISO 5658-2:2006; Spread of Flame - Lateral Spread of flame test on Building and Transport Products in Vertical Configuration)
- “T03.01” (ISO 5660-1: 2015; Heat release rate (Cone Calorimeter Method) & Smoke Production Rate (Dynamic Measurement)
- “T10.01” / “T10.02” / “T10.04” (ISO 5659-2: 2017; Plastics – Smoke Generation. Part 2 Determination of Optical Density by a Single Chamber Method)
- “T11.01” (Gas Analysis in the Smoke Box EN ISO 5659-2, using FTIR Technique) as specified in EN 17084:2018 ”Railway applications – Fire protection on railway vehicles – Toxicity test of materials and components. Method 1: Smoke chamber

The results of the tests are fully reported in the Warringtonfire test reports 548420, 548421 & 548422.

A full detailing of the relevant test reports can be found in Annex A.

2 Description of System

The description of the specimens given below has been prepared from information provided by the sponsor of the test. This information has not been independently verified by Warringtonfire. All values quoted are nominal, unless tolerances are given.

General description		Aluminium faced and backed adhesive
Product reference		“Safe Seal IQ Fire Resistant”
Name of manufacturer		PCS Innotec International N.V.
Overall thickness		5mm (stated by sponsor) 5.03mm (determined by Warringtonfire)
Overall weight per unit area		10.8kg/m² (determined by Warringtonfire)
Aluminium	Generic type	Aluminium
	Product reference	“Aluminium”
	Name of supplier	**See Note 1 below**
	Colour	Silver (observed by Warringtonfire)
	Thickness	1.5mm
	Density	2.7g/cm³
	Flame retardant details	This component is inherently flame retardant
Adhesive	Generic type	Silane modified polymer adhesive
	Product reference	“Safe Seal IQ Fire Resistant”
	Name of manufacturer	PCS Innotec International N.V.
	Application thickness	2mm
	Specific gravity	**See Note 1 below**
	Colour	Black
	Application method	**See Note 1 below**
	Flame retardant details	**See Note 1 below**
Aluminium	Generic type	Aluminium
	Product reference	“Aluminium”
	Name of supplier	**See Note 1 below**
	Colour	Silver (observed by Warringtonfire)
	Thickness	1.5mm
	Density	2.7g/cm³
	Flame retardant details	This component is inherently flame retardant
Brief description of manufacturing process		**See Note 1 below**

Note 1. The sponsor was unwilling to provide this information.

3 Test Results

The following results were obtained for the specimens, which were tested.

Test Method Reference	Test Method	Test Result
“T02”	ISO 5658-2:2006	Critical flux at extinguishment (CFE) = 50.0 kW/m² Flaming droplets with sustained flaming (>10s) = No
“T03.01”	ISO 5660-1: 2015	MARHE = 15.1 kW/m²
“T10.01” “T10.02”	ISO 5659-2: 2017	D_s (4) = 0 VOF4 = 0 min
“T10.04”	ISO 5659-2: 2017	D_s max. = 3
“T11.01”	EN 17084: 2018 Method 1 Gas Analysis in the Smoke Box ISO, Using FTIR Technique	CIT_{4mins} = 0.01 CIT_{8mins} = 0.01

The test results relate only to the behaviour of the test specimens of the product under the conditions of the test, they are not intended to be the sole criterion for assessing the potential hazard of the product in use.

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and will therefore invalidate the test results. It is the responsibility of the supplier of the product to ensure that the product which is supplied is identical with the specimens which were tested.

4 Conclusion

Classification achieved by “Safe Seal IQ Fire Resistant”		
EN 45545-2: 2020	R1	HL1, HL2 and HL3
EN 45545-2: 2020	R7	HL1, HL2 and HL3

This evaluation is conducted based on the test reports in relation to the testing completed on the product described in Section 2.

This report should be read in conjunction with, and not accepted as a substitute for the test reports used to claim that the necessary performance has been achieved. Those test reports may include additional information which may be relevant to the evaluation of the potential fire hazard of the product.

All tests must have been conducted within the last 5 years or the test reports must have been reviewed within the last five years where the system is used on:

- Rolling stock used in European Union covered by the Technical Specification for Interoperability (LOC&PAS TSI (Commission Regulation (EU) No. 2023/1694))

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This report is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to Warringtonfire, the report will be unconditionally withdrawn, and the applicant will be notified in writing.

The sponsor is not aware of any information that could affect the conclusions of this report. If the sponsor subsequently becomes aware of any such information, they agree to ask the reporting authority to withdraw the report.

5 Validity

The report is initially valid until 27th November 2029 after which time it must be re-appraised.

Position:	Prepared by	Authorised by
Signature:	Signed by: 7C2F5D630B7D4C0...	Signed by: C928598AC83B458...
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* For and on behalf of Warringtonfire

6 Appendix A: Test Evidence

6.1 Primary Test Evidence

6.1.1 Test Report 548420

Date of Test:	28th & 29th November 2024
Identification of Test Body:	Warringtonfire Testing and Certification Ltd. UKAS No. 0249
Sponsor:	PCS Innotec International N.V.
Tested Product:	"Safe Seal IQ Fire Resistant"
Test Standard:	ISO 5658-2:2006
Performance:	Critical flux at extinguishment (CFE) = 50.0 kW/m² ± 4% Flaming droplets with sustained flaming (>10s) = No

6.1.2 Test Report 548421

Date of Test:	12th December 2024
Identification of Test Body:	Warringtonfire Testing and Certification Ltd. UKAS No. 0249
Sponsor:	PCS Innotec International N.V.
Tested Product:	"Safe Seal IQ Fire Resistant"
Test Standard:	ISO 5660-1: 2015
Performance:	MARHE = 15.1 kW/m^2

6.1.3 Test Report 548422

Date of Test:	28th & 29th November 2024
Identification of Test Body:	Warringtonfire Testing and Certification Ltd. UKAS No. 0249
Sponsor:	PCS Innotec International N.V.
Tested Product:	"Safe Seal IQ Fire Resistant"
Test Standard:	EN 17084: 2018 Method 1
Performance:	D_s (4) = 0 VOF4 = 0 min D_s max. = 3 CIT_{4mins} = 0.01 CIT_{8mins} = 0.01

7 Revision History

Issue No:	Re - Issue Date:
Revised By:	Approved By:
Reason for Revision:	