

Technical Data Sheet

Pyrolastic Fire Rates Silicone UIC of product-type: PYROL

Issue: 5.1
Jan 2018



CE Certification
Air Permeability
Movement Rigid Walls
Pipes Linear joints
Acoustic Rating
Trays Rigid Floors
CE Certification
Air Permeability



CE Certification
Penetration Seals
Movement Rigid Walls
Metallic Pipes Linear
Flexible Walls Acoustic
Cable Trays Rigid Floors
Plastic Pipes CE Certification
Air Permeability



UAE Certificate of Compliance

دست‌های این سیستم از آزمون‌های
تولید و آزمایش‌های
این مدل‌ها با موفقیت انجام شده است و
این مدل‌ها از این سیستم‌ها در این
بهره‌مندی‌ها استفاده می‌شوند.



APPROVED
CF511



ETA 15-0179
CE-1121-CPR-JA5064



FSi Limited
Westminster Industrial Estate
Tamworth Road
Measham
DE12 7DS
UK

www.fsilttd.com
Email: technical@fsilttd.com
Tel: +44 (0) 1530 515130
Fax: +44 (0) 1530 273564





Contents

Contents	Page
• Product Technical Data	1 - 2
- Product Overview	
• Performance Data - Walls	3
- 100mm Rigid and Flexible Wall	
• Performance Data - Floors	4
- 100mm Rigid and Flexible Floor	
• Extended Scope of Works	5



Product Technical Data

ETA 15-0179
CE-1121-CPR-JA5064

Product Overview

Technical Description of the Product

Pyrolastic Fire Rated Silicone is a silicone based sealant used to form linear gap seals where gaps are present in floor and wall constructions. Pyrolastic Fire Rated Silicone is supplied in liquid form contained within 310ml, 600ml sausages and Pails. PE backing rod is utilised as a depth gauge.

Intended Use

The intended use of Pyrolastic Fire Rated Silicone is to reinstate the fire resistance performance of gaps and joints in rigid floor and wall constructions.

The specific elements of construction that the system Pyrolastic Fire Rated Silicone may be used is as follows:

- Fire resistance testing to EN 1366-4:2009 EI240.
- Fire Classification to EN 13501-2.
- Fire Classification to EN 13501-1 Class E
- Air Permeability testing to 600Pa.
- Fire resistant up to 4 hours in both horizontal and vertical joints.
- Can be used in joints up to 50mm wide.

Key Product Points

- Non-slump, easy to apply and tool off.
- No priming required for most substrates.
- Contributes to Green Building.
- Joint movement capability of +/- 7.5%.
- Highly flexible and waterproof.



Product Technical Data

ETA 15-0179
CE-1121-CPR-JA5064

Description	Results	Test Standards
Packaging	310ml Cartridges / 600ml foils / 10kg pails	
Colour	White, Grey or Black	
Slump	Nil at joints up to 30mm	
Shrinkage	Approximately 5%	
Cure Rate	3mm per day at 50% relative humidity 25°C	
Specific Gravity	1.33 - 1.37 g/cm ³	
Application temperature	+5°C to +40°C	
Tack Free	20 mins at 25°C, 50% RH	
Water Resistance	Waterproof when fully cured	
U.V Resistance	Good	
Joint Movement	25% of original joint size	
Elastic Recovery	>90%	
Fire Resistance	EI240	EN 1366-4
Air Permeability	600Pa, 100Pa 2.8/5.6 m ³ /h/m ²	EN 1026
Classification	EN 13501-2, ISO 11600, 13501-1	
Acoustic Isolation	38dB (-2;-9)	EN 10140, EN 717
Weathering	ISO 11431 - 250 cycles each 120 minutes / 102 mins of the cycle dry at 65°C lights at 550W/m ² over a wave length of 290 – 800nm / 18 minutes wet, immersion, light off. Water to be at 25°C	
BREEAM International	Compliant	GN22: BREEAM Recognised Schemes for VOC Emissions from Building Products
Expected Shelf Life	12 months	Stored in accordance with packaging instructions
Compatibility	FSi ensure our systems are manufactured to the highest standards, before installation takes place, we would recommend a compatibility check is done. Constituents found in some coatings, such as intumescent paints, adhesives, sealants and residues of those materials may affect the product. Priming is not required with most construction materials but porous surfaces should be primed with a PVA Adhesive.	

Backing Material

Stonewool (min. 60kg/m³) or PE backing rod where required must be used as backing materials, though the Pyrolastic Fire Rated Silicone should be installed correctly to achieve the performance needed.

Key Installation Points

For good adhesion the surfaces of the building elements shall be free of any dust or grease and may need to be primed, on good clean, virgin concrete & masonry, no priming required.

Ensure that the aperture and services in question are tested with Pyrolastic Fire Rated Silicone and the site conditions are within the application specification. An annular space needs to be present around the service to apply sufficient installation depth.

All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at 5°C or above at time of installation.

Approximate Coverage

To determine quantity of sealant required, calculate as follows (in mm) remember to double for double sided seal:

$$\frac{\text{Gap Width} \times \text{Depth} \times \text{Total Length}}{310\text{ml Cartridge (600ml Sausage)}} = \text{N}^\circ \text{ of cartridges}$$



Performance Data - Walls

ETA 15-0179
CE-1121-CPR-JA5064

Substrates

The walls shall be a minimum of **150mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonry / Concrete walls shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All walls shall have at least the same fire resistance as that required for the sealing system.

Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of the wall and top face of the floor unless specified otherwise in the performance data.

Rigid wall

Pyrolastic Fire Rated Silicone Linear Joint seals in rigid wall with a minimum thickness of 150mm.

Pyrolastic Silicone Sealant depth (mm)	Backing Material	Substrates	Seal Orientation	Classification
5	Stonewool 50mm 60kg/m ³	AAC - AAC	Both Faces	EI240 - V - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - Steel	Both Faces	E240 EI60 - V - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - Hardwood	Both Faces	EI180 - V - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - Softwood	Both Faces	E240 EI180 - V - X - F - W 00 - 60
25	PE Backing Rod	AAC - AAC	Both Faces	E240 EI180 - V - X - F - W 00 - 50



Performance Data - Floors

ETA 15-0179
CE-1121-CPR-JA5064

Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All floors shall have at least the same fire rating as that required for the Sealing system.

Service support Requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of the wall and the top side of the floor unless specified otherwise in the performance data.

Rigid floor

Pyrolastic Fire Rated Silicone Linear Joint seals in floor with a minimum thickness of 150mm.				
Pyrolastic Silicone Sealant depth (mm)	Backing Material	Substrates	Seal Orientation	Classification
5	Stonewool 50mm 60kg/m ³	AAC - Steel	Unexposed Face	E90 EI45 - H - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - Steel	Exposed Face	E120 EI60 - H - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - AAC	Unexposed Face	E240 EI180 - H - X - F - W 00 - 60
5	Stonewool 50mm 60kg/m ³	AAC - AAC	Exposed Face	E90 EI60 - H - X - F - W 00 - 60
6	PE Backing Rod	AAC - AAC	Unexposed Face	E240 EI120 - H - X - F - W 00 - 12
30	PE Backing Rod	AAC - AAC	Unexposed Face	E240 EI60 - H - X - F - W 00 - 60



Extended Scope of Works

ETA 15-0179
CE-1121-CPR-JA5064

Direct field of application – DiAP and Extended Field of Application- EXAP

DiAP and EXAP rules are an output from European harmonization of fire testing methods, classifications and product standards where applicable. At a national level, experienced persons or fire test organisations have previously provided assessments of expected performance based on expert judgement and opinion, however these rules allow interpretation through the specific EN 1366 test standard.

DiAP and EXAP rules are provided in the EN 1366 and EN 15882 test standards series. They are derived from information obtained from tests carried out in accordance with relevant EN 1366 tests at recognised laboratories in Europe. The test results achieved by a particular design may be directly applied to a limited number of variations without recourse to expert advice, providing the design remains substantially as tested. EXAPs shall be based on primary test evidence to a specific part of the EN 1366 series and may be supplemented by appropriate test evidence generated from other sources, or other relevant historical data. The EXAP rules consider changes in the tested design beyond the scope of direct application and may also consider variations to the tested design.

Direct field of application - DiAP

Fire Stopping systems of this type are often complicated by extensive changes in modern buildings and their influence on the fire hazard should be considered carefully. The fire hazard can be reduced by providing penetration seals at the points where the services pass through fire separating elements (walls/floors).

The impact of fire on a construction or service system can vary considerably. A strict scientific approach to the problem of adequate testing of a sealing system would, therefore, be to design a series of tests each of which corresponds to a specified fire situation and arrangement. However, such an approach would probably fail due to its economic consequences, as tests of this type are very timeconsuming and costly. The method of test described in the EN 1366 series has therefore been designed with the intention of covering a wide range of fire situations in a minimum of tests. To allow a wider field of application, standard configurations are defined on the basis of general experience and historic data wherever possible. As frequently a number of influencing parameters was considered when defining the standard configurations, not all of which may be addressed explicitly in the field of direct application rules (e.g. metalscreen of cables). To allow nevertheless flexibility a modular approach was taken as far as possible so that various combinations of standard configuration elements can be used to fit the needs of the user.

Where a nonstandard configuration was used, the field of application is restricted to what was tested, however the field of direct application rules given in the various parts of the EN 1366 series may be applied, subject to deviating rules given in the annexes of each part. Rules cover supporting construction, orientation, penetrating services, service supports, penetration seal size, distances and overall configurations of penetration seal materials and services to be included.

Extended Field of Application- EXAP

The purpose EXAP document is to provide the principles and guidance for the preparation of extended application documents for penetration sealing systems tested in accordance with the EN 1366 and EN 15882 series. The field of the extended application document is additional to the direct field of application given within the relevant part of EN 1366 and may be applied to or based on a single test, or a number of tests, which provide the relevant information for the formulation of an extended application.

There are a number of practical limitations on the size and design of elements that can be tested by the standard methods of fire resistance test. When these elements are required to be larger, or are of a modified design, there is a necessity to be able to confirm their performance, without the ability of being able to test them. To achieve this, extended application documents for the various elements are used.

Due to the diverse nature of materials and constructions used to seal openings in fire resistant separating elements it has been necessary to separate the extended application principles into generic seal types within the specific EXAP EN 15882 series. Often more than one variation is to be incorporated, should this be the case the overall effect shall be considered. Principles common to all generic seal types are given in the EXAP and rules for each specific generic seal type are given. The Annex provide rules for the application of test results and provides information relating to the extended application of those test results on for service penetrations.

Variables for each seal type, which require consideration included are as follows:

- 1) Separating element;
- 2) Type of service;
- 3) Size of service;
- 4) Seal size and configuration
- 5) Material changes (components or formulation) – comparison test approach, reduced test program
- 6) Orientation
- 7) Penetration seals at the head of walls (like a linear joint) – consider the issue of movement
- 8) Penetration seals at slab edges (like a linear joint) – consider the issue of movement
- 9) Distances of penetration seals to other openings in the separating element e.g. doors



FSi has Technical Representatives who provide assistance in the selection and specification of FSi products. For more information, specification and technical advice please call our Head Office on Tel: +44 (0) 1530 515130. Guarantee / Warranty: FSi products are manufactured to rigid standards of quality. Any product which has been applied in accordance with FSi's written instructions and in any application recommended by FSi, but which is proved to be defective in product quality, will be replaced free of charge. No liability can be accepted for the information provided in this document although it is published in good faith and believed to be correct. FSi Limited reserves the right to alter product specifications without prior notice, in line with our Company policy of continuous development and improvement.