

# Technical Data Sheet

## Pyrolastic Fire Rates Silicone UIC of product-type: PYROL

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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

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کی‌دل‌اع‌ال‌ار‌ی‌س‌خ‌دل‌ال‌د‌م‌ت‌ح‌ال‌کن‌ج‌ل  
بیرفتل‌ال‌ده‌اع‌مو‌تر‌ی‌س‌خ‌ال‌ت‌وی‌ی‌و



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CF511



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# 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.



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| 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 <sup>3</sup>   |  |
| 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 <sup>3</sup> /h/m <sup>2</sup>   | 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 <sup>2</sup> 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                         |

## Backing Material

Stonewool (min. 60kg/m<sup>3</sup>) 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.



# 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/m<sup>3</sup> and for aerated concrete blocks of 600kg/m<sup>3</sup>. 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<br>60kg/m <sup>3</sup> | AAC - AAC      | Both Faces       | EI240 - V - X - F - W 00 - 60      |
| 5                                      | Stonewool 50mm<br>60kg/m <sup>3</sup> | AAC - Steel    | Both Faces       | E240 EI60 - V - X - F - W 00 - 60  |
| 5                                      | Stonewool 50mm<br>60kg/m <sup>3</sup> | AAC - Hardwood | Both Faces       | EI180 - V - X - F - W 00 - 60      |
| 5                                      | Stonewool 50mm<br>60kg/m <sup>3</sup> | 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  
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## Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m<sup>3</sup> and for aerated concrete blocks of 600kg/m<sup>3</sup>. 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<br>60kg/m <sup>3</sup> | AAC - Steel | Unexposed Face   | E90 EI45 - H - X - F - W 00 - 60   |
| 5   | Stonewool 50mm<br>60kg/m <sup>3</sup> | AAC - Steel | Exposed Face     | E120 EI60 - H - X - F - W 00 - 60  |
| 5   | Stonewool 50mm<br>60kg/m <sup>3</sup> | AAC - AAC   | Unexposed Face   | E240 EI180 - H - X - F - W 00 - 60 |
| 5   | Stonewool 50mm<br>60kg/m <sup>3</sup> | 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





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