ASF S291 Intumescent Pressure Sealant is an easy to apply waterborne permanently flexible acrylic emulsion sealant containing graphite which expands at temperatures above 135º Celsius sealing around various penetrations and services to prevent the passage of smoke and flames.

ASF S291 Intumescent Pressure Sealant has been designed to expand in fire conditions to seal gaps / holes formed when services and substrates melt / fall away and maintaining the integrity of the fire barrier.

ASF S291 Intumescent Pressure Sealant also gives excellent sealant properties during service life with excellent adhesion and crack resistance when applied as recommended.

ASF S291 Intumescent Pressure Sealant is suitable for both internal and external applications. External use is permissible provided that weather conditions are likely to allow the sealant to cure before exposure to any precipitation (rain, sleet, snow, etc.).

Features

- Fire rated for penetrations in gypsum & masonry walls and concrete floors
- No priming required for most construction substrates
- Joint movement capability of 12.5%
- For use with plastic pipes and cable bunches up to 110 mm diameter
- Excellent slump resistance
- 15 months shelf life
- Fast cure - tack free within an hour
- Easy to apply and tool off
- Halogen free
- Excellent adhesion to most common building substrates

Application Instructions

ASF S291 Intumescent Pressure Sealant is recommended for use where a flexible and durable fire resistant seal is required. Suitable applications include installations where the sealant is required to exert a positive pressure in the joint design preventing passage of smoke, gas / vapour or liquids in the event of a fire. Suitable applications include designed joints around:

- Combustible and non-combustible pipes (plastic and metal)
- Cables (single cables or bunches of cables or cable trays)
- Other permanent services
- Floor, wall and ceiling services
- Suitable substrates include concrete, metals, drywall, plastics, masonry, fire rated panels and ceramics.
All surfaces must be clean and sound, free from dirt, grease and other contamination. Wood plaster and brick may be damp but not running wet. Use mechanical abrasion to clean porous surfaces before application.

For extra performance in movement situations, a primer can be prepared by diluting 1 part ASF S291 Intumescent Pressure Sealant with 2 parts of water and mixing thoroughly. The primer should be brush applied and allowed to dry for 2 to 3 hours before applying the sealant. Alternatively a standard PVA sealer may be used on the surface.

Prepare joint by cleaning and priming if necessary, as previously detailed. Cut nozzle to the desired angle and gun firmly into the joint to give a good solid fill. Strike off the sealant flush with the joint sides within five minutes of application, before surface skinning occurs. A small amount of shrinkage will occur on curing. If a flush finish is required, fill the joint slightly proud of the surface to allow for shrinkage.

**Typical Fire Ratings**

The following fire ratings have been achieved in controlled test work*

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Construction Element</th>
<th>Integrity (minutes)</th>
<th>Insulation (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø110mm Polyethylene Pipe</td>
<td>Gypsum Wall</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Ø110mm Cable Bundle</td>
<td>Gypsum Wall</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Ø110mm PVC Pipe</td>
<td>Masonry Wall</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>Cable Trays 150 x 25 x 1 mm</td>
<td>Masonry Wall</td>
<td>240</td>
<td>180</td>
</tr>
<tr>
<td>Ø110mm Polypropylene Pipe</td>
<td>Concrete Floor</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>Ø130mm Copper Core Cable</td>
<td>Concrete Floor</td>
<td>240</td>
<td>240</td>
</tr>
</tbody>
</table>

The above results show typical integrity levels of the product in a fire situation, however, each joint situation will have different characteristics and therefore different fire ratings. In general it has been found that a greater depth of sealant will provide greater integrity and that the use of a double seal i.e. sealant applied at both external faces of a joint will increase values further.

* A full approval of the product is contained in Certifire Certificate of Approval No. CF 830

The Certifire report details tests carried out on the material when tested against the performance criteria of BSEN 1366-3:2004 of up to 240 minutes for wall/floor constructions.

**Technical Data**

- **Form:** Ready to use thixotropic paste
- **Cure System:** Water based
- **Colour:** Dark grey
- **Specific Gravity:** 1.45 - 1.50
- **pH:** 8.0 to 9.0
- **Flashpoint:** None
ASF S291
PRO RANGE
Intumescent Pressure Sealant for the Professional

Slump: None
Open Time: 30 minutes
Tack Free Time: 60 minutes
Skin Time: 20 minutes
Cure Time: 3 to 5 days full cure
Solids Content: > 80%
Application Temperature Range: +4°C to +30°C
Movement Accommodation: Low to medium 12.5% butt joints
Service Temperature Range: -15°C to 75°C
Expansion Rate: 25 to 30 times original depth
Expansion Pressure: 0.54 N/mm²
Durability: 15 years
Shelf Life: Up to 15 months when stored in unopened cartridges under cool dry conditions. Avoid temperatures above 30°C & below 5°C
Compatibility: Can be used in contact with most building and decorating materials.
Classification: Sealant ISO 11600 - F - 12,5P

Usage

Usage (Figures quoted are for a standard 310 ml cartridge)

<table>
<thead>
<tr>
<th>Joint Size (mm)</th>
<th>3 x 6</th>
<th>6 x 6</th>
<th>9 x 6</th>
<th>12 x 6</th>
<th>20 x 10 7 x 7 fillet</th>
<th>10 x 10 fillet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Metres / Cartridge</td>
<td>17.2</td>
<td>8.6</td>
<td>5.7</td>
<td>4.3</td>
<td>1.5</td>
<td>12.6</td>
</tr>
</tbody>
</table>

For circular gaps or holes, calculate the requirement using:

\[ \text{Volume of a cylinder} = \pi \times r^2 \times \text{depth} = 3.142 \times (\text{Diameter} \div 2)^2 \times \text{depth} \]

\[ \text{Number of cartridges required} = (\text{Volume of hole} - \text{Volume of pipe/service}) \div 310 \]

Packaging

ASF S291 Intumescent Pressure Sealant is available in 310ml rigid plastic cartridges. Other packaging options are available on request.

Health and Safety

Wash the material from the skin while still wet. Material in contact with eyes should be washed out immediately with water. Seek medical advice if discomfort persists. More detailed information can be found in the relevant Polyseam Material Safety Data Sheet

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