ORYX® Silicone FR

ORYX®, passion for passive fire protection

ORYX® is the specialist in passive fire protection for buildings. Thanks to our passionate expertise and extensive product range, ORYX® provides solutions for countless applications in the field of fire-resistant load-bearing structures, fire-resistant compartments and the creation of fire-resistant penetrations. All products and applications have a CE-label and were tested in line with European standards and can therefore be used right across Europe.

Our specialists are always ready to provide you with technical advice and support.

PRODUCT DESCRIPTION

ORYX® Silicone FR is a neutrally curing fire-resistant sealant for creating fire-resistant seals in non-moving joints and seams around small utilities penetrations.

CHARACTERISTICS
- CE label for fire-resistant applications
- Tested constructions to fire-resistance performance EI 240 (EN 13501-2)
- Tested in countless constructions of linear joints and utilities penetrations in line with the European standards EN 1366-4 & EN 1366-3.
- Effective adhesion to the most diverse building materials, incl. porous surfaces without primer
- Very flexible, resists expansion to about 7.5%
- Very durable, both for indoor and outdoor use
- Can be applied horizontally and vertically
- Non-toxic
- Generates very little smoke in the event of fire
- Halogen-free
- Fungicidal
- Dust-free after 30 minutes, drying time at a thickness of 4 mm about 24 hours
- For outdoor application under the influence of weather conditions from -20°C to +70°C

APPLICATIONS
- Sealing of fire-resistant joints between floors and walls up to 40 mm wide and with backfiller based on PE or mineral wool
- Sealing of joints around fire-resistant lightweight partition walls
- Sealing around steel pipes and small utilities penetrations
- Sealing of joints around doorframes
- Filling of openings up to 50 mm
- Installation of fire-resistant grilles and intumescent pipe seals
FITTING GUIDELINES
- Apply with sealant gun
- Surface must be dry, clean and dust-free
- Can be used and stored between +5°C and +40°C
- Smooth off joints within 8 minutes of applying
- We recommend a joint width/depth ratio of 1:2
- Fill up joints adequately
- Joint width max. 40 mm
- Where necessary, insert backfiller using mineral wool or polyethylene to achieve the required joint depth

PACKAGING AND STORAGE
- In 310 ml tubes
- Keep dry and frost-free at temperatures between +3°C and +30°C

LIMITATIONS
Do not use in permanent contact with water or food, or for structural glazing. It is the user’s responsibility to understand the usage guidelines. We recommend first testing adhesion, as a primer may be necessary in some cases and for certain surfaces.

SAFETY REQUIREMENTS
Wear appropriate safety gear. Do not inhale vapours and use in well-ventilated areas.
Avoid contact with skin and eyes. In case of contact with eyes, rinse thoroughly with water and seek medical advice.
Wash hands after use with water and soap. Keep out of the reach of children. Do not swallow. Product contains fungicide. For further information, please refer to the Safety Data Sheet.

DISCLAIMER
The content of this brochure has been compiled with the greatest possible care and is only intended for information purposes. The information contained herein does not constitute a partial or full guarantee or proposal for which we are liable. We reserve the right to change or alter product specifications.

All information about our products and applications can be found at www.oryx.pro
### FITTING INSTRUCTIONS

#### ANNEX A, FIRE-RESISTANCE FOR PENETRATIONS

Characteristics of the product and references to the assessment methods

<table>
<thead>
<tr>
<th>Product type: Sealant</th>
<th>Intended use: Penetration seal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum construction requirements</td>
</tr>
<tr>
<td><strong>BWR 1 Mechanical resistance and stability</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>BWR 2 Safety in case of fire</strong></td>
<td>EN 13501-1</td>
</tr>
<tr>
<td><strong>BWR 3 Hygiene, health and environment</strong></td>
<td>EN 1026:2000</td>
</tr>
<tr>
<td></td>
<td>ETAG 026-2, Annex C</td>
</tr>
<tr>
<td></td>
<td>Manufacturer’s declaration</td>
</tr>
<tr>
<td><strong>BWR 4 Safety use</strong></td>
<td>EOTA TR 001:2003</td>
</tr>
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<td></td>
<td>EOTA TR 001:2003</td>
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<tr>
<td></td>
<td>EOTA TR 001:2003</td>
</tr>
<tr>
<td><strong>BWR 5 Noise protection</strong></td>
<td>EN 10140-2/ EN ISO 717-1</td>
</tr>
<tr>
<td><strong>BWR 6 Energy efficiency and thermal insulation</strong></td>
<td>EN 12664, EN 12667 or EN 12939</td>
</tr>
<tr>
<td></td>
<td>EN ISO 12572 EN 12086</td>
</tr>
<tr>
<td><strong>General aspects relating to use</strong></td>
<td>EOTA TR 024:2009, clause 3.1.11 &amp; 3.1.12</td>
</tr>
<tr>
<td><strong>BWR 7 Sustainable use of natural resources</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product(s)</th>
<th>Intended use</th>
<th>Level(s) or class(es)</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire-resistant sealing material</td>
<td>For fire compartmentalisation and/or fire safety or fire protection</td>
<td>All</td>
<td>1</td>
</tr>
</tbody>
</table>
A.1 Solid wall constructions with a wall thickness of at least 150 mm

A.1.1 Penetration seal with metal pipe fitted with ‘continuous interrupted’ (CI) or at least 500 mm ‘local interrupted’ (LI) flammable insulation

![Diagram of penetration seal in solid wall]

A.1.1.1

<table>
<thead>
<tr>
<th>Aperture (mm)</th>
<th>Composition of seal</th>
<th>Penetration(s)</th>
<th>Position of tubes</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 diameter</td>
<td>10 mm deep ORYX® Silicone FR flat on both sides of the wall, backing 130 mm deep rockwool (90 kg/m³)</td>
<td>Single steel pipe 40 mm diameter and 3.2-14.2 mm wall thickness, insulated with 25 mm thick ‘class B’ Nitrile rubber insulation</td>
<td>Central</td>
<td>EI 240 C/U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single copper pipe 38 mm diameter and 1.2-14.2 mm wall thickness, insulated with 25 mm thick ‘class B’ Nitrile rubber insulation</td>
<td></td>
<td>EI 120 C/U</td>
</tr>
</tbody>
</table>

*Classified in line with EN 13501-1
A.1.2 Penetration with uninsulated pipe

**Diagram:**
- Solid wall
- Rockwool backing 130mm deep (90 Kg/m³)
- ORYX Silicone FR 10mm deep to backfill
- Metal pipe

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### A.1.2.1

<table>
<thead>
<tr>
<th>Aperture (mm)</th>
<th>Composition of seal</th>
<th>Penetration(s)</th>
<th>Position of tubes</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 diameter</td>
<td>10 mm deep ORYX® Silicone FR flat on both sides of the wall, backing 130 mm deep rockwool (90 Kg/m³)</td>
<td>Single steel pipe of 40 mm diameter and 3.2-14.2 mm wall thickness</td>
<td>Central</td>
<td>E 240 C/U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single copper pipe 38 mm diameter and 1.2-14.2 mm</td>
<td></td>
<td>EI 120 C/U</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E 120 C/U</td>
</tr>
</tbody>
</table>
A.1.3 Penetration with cables

![Diagram showing penetration with cables]

A.1.3.1

<table>
<thead>
<tr>
<th>Aperture (mm)</th>
<th>Composition of seal</th>
<th>Penetration(s)</th>
<th>Position of tubes</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 diameter</td>
<td>10 mm deep ORYX® Silicone FR flat on both sides of the wall, backing 130 mm deep rockwool (90 kg/m³)</td>
<td>Set of 4x ‘A3’ cables + 1x ‘C3’ cable</td>
<td>Central</td>
<td>EI 240</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single ‘E’ cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type A3 cable = 5 x 1.5 mm² core HD604.5 electrical cable with XLPE insulation, EVA sleeve and 13 mm diameter
Type C3 cable = 4 x 95 mm² core HD603.3 electrical cable with PVC insulation, PVC sleeve and 42 mm diameter
Type E cable = 1 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sleeve and 23-27 diameter
A.2 Solid floor constructions with a thickness of at least 150 mm

A.2.1 Penetration seal with cables

<table>
<thead>
<tr>
<th>Aperture (mm)</th>
<th>Composition of seal</th>
<th>Penetration(s)</th>
<th>Position of tubes</th>
<th>Classification</th>
</tr>
</thead>
</table>
| 80 diameter   | 10 mm deep ORYX® Acrylic FR flat on both sides of the wall, backing 130 mm deep rockwool (90 Kg/m³) | Single ‘E’ cable | Central | E 240
|               |                     |                |                   | El 45          |

Type E cable = 1 x 185 mm² core HD603.3 electrical cable with PVC insulation, PVC sleeve and 23-27 mm diameter
## ANNEX B, FIRE-RESISTANCE OF JOINTS

Characteristics of the product and references to the assessment methods

<table>
<thead>
<tr>
<th>Product type: Sealant</th>
<th>Intended use: Penetration seal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum construction requirements</strong></td>
<td><strong>Basic requirements</strong></td>
</tr>
<tr>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### BWR 1 Mechanical resistance and stability
- None
- Not relevant

### BWR 2 Safety in case of fire
- EN 13501-1: Reaction to fire
- No characteristic specified
- EN 13501-2: Fire-resistance
- Annex B

### BWR 3 Hygiene, health and environment
- EN 1026:2000 Air permeability (material characteristic)
- No characteristic specified
- ETAG 026-3, Annex C Water permeability (material characteristic)
- No characteristic specified
- Manufacturer’s declaration Release of hazardous substances
- Usage category: IA1, S/W3 Manufacturer’s declaration

### BWR 4 Safety use
- EOTA TR 001:2003 Mechanical resistance and stability
- No characteristic specified
- EOTA TR 001:2003 Resistance against denting/movement
- No characteristic specified
- EOTA TR 001:2003 Gluing
- No characteristic specified

### BWR 5 Noise protection
- EN 10140-2/EN ISO 717-1 Airborne noise insulation
- No characteristic specified

### BWR 6 Energy efficiency and thermal insulation
- EN 12664, EN 12667 or EN 12939 Thermal characteristics
- No characteristic specified
- EN ISO 12572 EN 12086 Water-vapour permeability
- No characteristic specified

### General aspects relating to use
- EOTA TR 024:2009, clause 3.1.11 & 3.1.12 Durability and maintenance
- X

### BWR 7 Sustainable use of natural resources
- -
- No characteristic specified

<table>
<thead>
<tr>
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<th>Level(s) or class(es)</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire-resistant sealing material</td>
<td>For fire compartmentalisation and/or fire safety or fire protection</td>
<td>All</td>
<td>1</td>
</tr>
</tbody>
</table>
B.1 Solid wall constructions with a wall thickness of at least 150 mm

B.1.1 Linear joint or seam, vertically oriented with the seal on one side (side not important)

B.1.1.1 ORYX® Silicone FR Linear joints in solid walls of 150 mm thick (min.) – Sealing of one side (side not important)

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Depth (mm)</th>
<th>Backing</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stony/Concrete</td>
<td>10 min.</td>
<td>Polyethylene roll</td>
<td>E 240 – V – X – F – W 00 to 15</td>
</tr>
<tr>
<td></td>
<td>15 min.</td>
<td></td>
<td>EI 180 – V – X – F – W 00 to 15</td>
</tr>
</tbody>
</table>

Explanation of classification:

H: Horizontal support construction
V: Vertical support construction, vertical seam
X: No movement of the joint
F: Type joint ‘Field’
W: Joint-width range (in mm)
B.1.2 Linear joint or seam, vertically oriented with the seal on both sides

1. Solid wall
2. Polyethylene roll backfill on both sides
3. ORYX Silicone FR on both sides
4. Solid floor

1. Solid wall
2. Rockwool backfill on both sides
3. ORYX Silicone FR on both sides
4. Solid floor
### B.1.2.1

**ORYX® Silicone FR Linear joints in solid walls of 150 mm thick (min.) – Sealing of both sides of the wall**

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Depth (mm)</th>
<th>Backing</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stony/Concrete</td>
<td>2:1 width-depth</td>
<td>Polyethylene roll</td>
<td>EI 240 – V – X – F – W 20 to 40</td>
</tr>
<tr>
<td></td>
<td>ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25 min.</td>
<td>25 mm rockwool 90 kg/m³</td>
<td>EI 240 – V – X – F – W 00 to 40</td>
</tr>
<tr>
<td></td>
<td>10 min.</td>
<td>15 mm rockwool 90 kg/m³</td>
<td>EI 240 – V – X – F – W 00 to 15</td>
</tr>
</tbody>
</table>

Explanation of classification:

- **H:** Horizontal support construction
- **V:** Vertical support construction, vertical seam
- **X:** No movement of the joint
- **F:** Type joint ‘Field’
- **W:** Joint-width range (in mm)
B.2 Solid floor constructions with a thickness of at least 150 mm

B.2.1 Linear joint or seam, between floor components or between floors and walls, with the seal on the upper surface of the floor

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Depth (mm)</th>
<th>Backing</th>
<th>Classification</th>
</tr>
</thead>
</table>
| Stony/Concrete | 2:1 width-depth ratio | 25 mm rockwool 90 kg/m³ | E 240 – H – X – F – W 20 to 40  
EI 120 – H – X – F – W 20 to 40 |
|            | 10 min.    |         | E 240 – H – X – F – W 00 to 20  
EI 180 – H – X – F – W 00 to 20 |

Explanation of classification:

H: Horizontal support construction
V: Vertical support construction, vertical seam
X: No movement of the joint
F: Type joint ‘Field’
W: Joint-width range (in mm)
B.2.2 Linear joint or seam, between floor components or floors and walls, with the seal on both sides

![Diagram of linear joint or seam]

1. Solid wall
2. Polyethylene roll backfill on both sides
3. ORYX Silicone FR on both sides
4. Solid floor

B.2.2.1

| ORYX® Silicone FR Linear joints in solid floors of 150 mm thick (min.) – Sealing only on both sides of the floor |
|---|---|---|
| Substrate | Depth (mm) | Backing | Classification |
| Stony/Concrete | 2:1 width-depth ratio | Polyethylene roll | EI 180 – H – X – F – W 20 to 40 |
| | 20 min. | | EI 240 – H – X – F – W 00 to 40 |

Explanation of classification:

- **H**: Horizontal support construction
- **V**: Vertical support construction, vertical seam
- **X**: No movement of the joint
- **F**: Type joint ‘Field’
- **W**: Joint-width range (in mm)