

Firebreak 33 Fire Resistant Silicone Sealant

TECHNICAL DATA SHEET

Firebreak 33 is an easy-to-apply, highly flexible silicone sealant designed to provide fire protection wherever internal or external high movement and/or acoustic joints are used. When exposed to high temperature it reacts to form a durable char that restricts the passage of smoke and fire for up to 4 hours.

Description

Firebreak 33 is a one part fire resistant neutral curing silicone sealant with excellent flexibility and acoustic performance. When subjected to high temperatures it forms a durable char that restricts the passage of smoke and fire. It is easy to apply and is designed for internal or external use wherever high movement fire resistant and/or acoustic joints are required.

In addition, it has also been fire tested to provide fire seals around metallic pipe and cable service penetrations through fire compartmenting floors and walls.

Performance

Firebreak 33 has been tested to the latest European requirements for applications in walls and floors. Testing to other national standards is also available.

- Fire classification to EN 13501-2 and CE Mark (ETA 21/0223 & 21/0221)
- Gap seals in flexible Walls (stud partitions) or rigid walls (masonry, concrete) of 100mm minimum thickness

- Tested around metal pipes and bunched cables
- Use in rigid (concrete) floors of 150mm minimum thickness
- Excellent slump resistance and adhesion to most common building substrates, including porous materials, without the use of primers
- Low modulus: up to +/- 25% movement capability in constant service conditions
- Mechanical and durability testing to EAD 350454-00-1104 & EAD 350141-1106; X (-20° C/+70° C) (external use with exposure to weathering)
- Sound insulation: Rw up to 60dB (BS EN ISO 10140-2: 2010)
- Zero flame spread when tested to EN ISO 11925-2: 2010 giving Class E classification to EN 13501-1:2007 + A1
- Chemical resistance: the cured sealant is unaffected by water, dilute acids and alkalis, soap and household detergents



- Certain solvents may soften and swell the cured rubber on prolonged contact
- Meets ISO 11600 standard with the classification – ISO 11600-F&G-25LM
- Third party product certification with UL International (Certificate # UL-EU-00708)



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|---|
| CE |
| 2821 |
| 21 |
| 2821-CPR-0118 |
| ETA 21/0221 & ETA 21/0223 |
| EAD 350454-00-1104 & EAD 350141-00-1106 |

Linear gaps in masonry/concrete walls of minimum thickness 200mm

| Maximum gap size (mm) | Seal position | Minimum seal depth (mm) | Backing material | Minimum backing depth (mm) | Fire performance (mins) | |
|-----------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------------|-----------------------------|
| | | | | | Integrity (E) | Integrity & insulation (EI) |
| 15 | Either side | 10 | PE or stone mineral wool | N/A | 240 | 180 |
| 15 | Both sides | 10 | Stone mineral wool* | 25 | 240 | 240 |
| 25 | Either side | 15 | PE or stone mineral wool | N/A | 240 | 120 |
| 40 | Both sides | 10 | Stone mineral wool* | 25 | 240 | 240 |

*Nominal compressed density 90kg/m³.

Linear gaps in masonry/concrete walls of minimum thickness 150mm

| Maximum gap size (mm) | Seal position | Minimum seal depth (mm) | Backing material | Minimum backing depth (mm) | Fire performance (mins) | |
|-----------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------------|-----------------------------|
| | | | | | Integrity (E) | Integrity & insulation (EI) |
| 20 | Both sides | 10 | PE or stone mineral wool | N/A | 240 | 240 |
| 40 | Both sides | 20 | PE or stone mineral wool | N/A | 240 | 240 |

*Nominal compressed density 90kg/m³.

Linear gaps in partition to partition walls of minimum thickness 100mm or similar partition walls to masonry/concrete

| Maximum gap size (mm) | Seal position | Minimum seal depth (mm) | Backing material | Minimum backing depth (mm) | Fire performance (mins) | |
|-----------------------|---------------|-------------------------|---------------------|----------------------------|-------------------------|-----------------------------|
| | | | | | Integrity (E) | Integrity & insulation (EI) |
| 50 | Both sides | 5 | Stone mineral wool* | 90 | 120 | 120 |

*Nominal compressed density 90kg/m³.

Linear gaps in partition walls of minimum thickness 100mm to masonry/concrete

| Maximum gap size (mm) | Seal position | Minimum seal depth (mm) | Backing material | Minimum backing depth (mm) | Fire performance (mins) | |
|-----------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------------|-----------------------------|
| | | | | | Integrity (E) | Integrity & insulation (EI) |
| 30 | Both sides | 10 | PE or stone mineral wool | N/A | 120 | 120 |

Linear gaps in concrete floors of minimum thickness 150mm

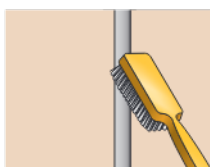
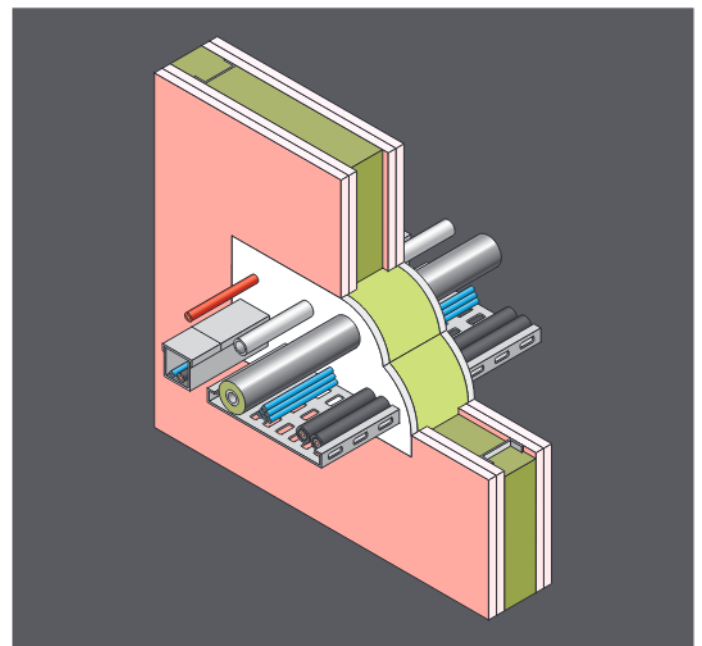
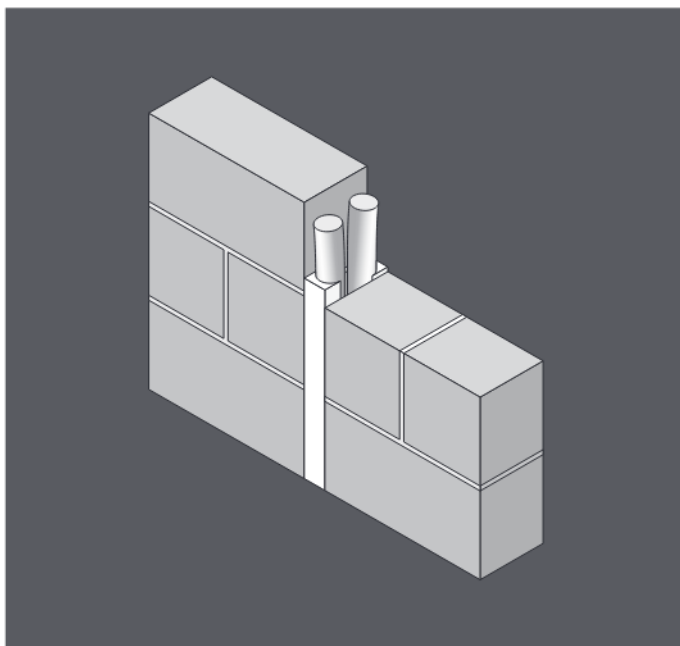
| Maximum gap size (mm) | Seal position | Minimum seal depth (mm) | Backing material | Minimum backing depth (mm) | Fire performance (mins) | |
|-----------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------------|-----------------------------|
| | | | | | Integrity (E) | Integrity & insulation (EI) |
| 10 | Non-fire side | 10 | Stone mineral wool* | 25 | 240 | 180 |
| 20 | Both sides | 10 | PE or stone mineral wool | N/A | 180 | 180 |
| 40 | Non-fire side | 20 | Stone mineral wool* | 25 | 240 | 120 |
| 40 | Non-fire side | 20 | PE or stone mineral wool | N/A | 240 | 240 |

*Nominal compressed density 90kg/m³.

Penetration seals in masonry/concrete walls of minimum thickness 150mm

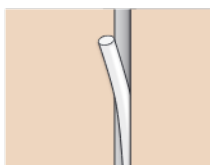
| Max. opening size (mm) | Penetrating service | Seal position | Min. seal depth (mm) | Backing material | Min. backing depth (mm) | Fire performance (mins) | |
|------------------------|--|---------------|----------------------|---------------------|-------------------------|-------------------------|-----------------------------|
| | | | | | | Integrity (E) | Integrity & insulation (EI) |
| 60 dia. | HD604.5 cables up to 13mm dia., single/bunched | Both sides | 10 | Stone mineral wool* | 130 | 240 | 240 |
| | HD603.3 cables up to 27mm dia., single/bunched | Both sides | 10 | Stone mineral wool* | 130 | 240 | 240 |
| | HD604.5 cables up to 42mm dia., single/bunched | Both sides | 10 | Stone mineral wool* | 130 | 240 | 240 |
| 80 dia. | Up to 38mm dia. copper pipe | Both sides | 10 | Stone mineral wool* | 130 | 120 | - |
| | Up to 38mm dia. copper pipe + 25mm thick interrupted nitrile rubber insulation** | Both sides | 10 | Stone mineral wool* | 130 | 120 | 120 |
| | Up to 40mm dia. steel pipe | Both sides | 10 | Stone mineral wool* | 130 | 240 | 120 |
| | Up to 40mm dia. steel pipe + 25mm thick interrupted nitrile rubber insulation** | Both sides | 10 | Stone mineral wool* | 130 | 240 | 240 |

* Nominal compressed density 90kg/m³. ** 500mm minimum length.



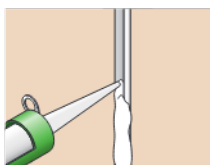
Installation

- Ensure contact surfaces are clean, dry and dust free
- Apply between 5°C and 40°C

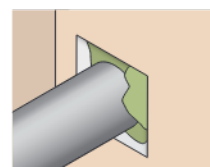


Linear gaps

- For linear gap applications insert backer rod or stone mineral wool, as determined by seal design, into the gap with a friction fit in order to control the required minimum depth of sealant

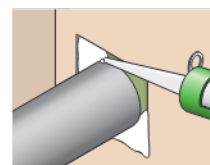


- Gun the sealant into the gap ensuring that the gap is fully filled and tool the surface smooth within 5 minutes using a dry pallet knife or spatula



Service penetrations

- For service penetration seals pack stone mineral wool tightly around and between the services such that the opening is fully filled but leaving sufficient space at each face to apply the required minimum depth of sealant



- Gun the sealant across the exposed faces of the seal ensuring that it is fully filled and tool the surface smooth within 5 minutes using a dry pallet knife or spatula

- Clean tools after use using a suitable proprietary cleaner

Other properties

- Colour: white (other colours available in minimum order quantities)
- Specific gravity: 1.25 – 1.30 @ 20°C
- Skinning time: 5 to 10 minutes @ 23°C & 50%RH
- Tack free: approximately 25 minutes @ 23°C & 50%RH
- Cure time: approximately 2-3mm per 24 hours @ 20°C & 50%RH
- Hardness (Shore A): 20 – 28
- Extrudability g/min: 55 (standard NMRPS 495A 3mm/3 bars)
- Application temperature range: +5°C to +40°C

Mechanical properties on a 2mm thick film (NFT 46002)

- Modulus at 100% elongation: 0.37 Mpa
- Elongation at break: 550%
- Tensile strength: 1.5 Mpa

End use considerations

Firebreak 33 is intended for internal or external use and has been subjected to EN mechanical and durability testing to support use across a wide temperature range of -20°C to +70°C and direct exposure to weather.

Maintenance

No routine maintenance is required although periodic inspection for possible damage is recommended. All penetrations seals which are subsequently modified should be made good using Firebreak 33.

Supply, packaging and usage

Firebreak 33 is normally supplied in 310ml cartridges or 600ml foil packs. It can also be supplied in 5, 10, 15 or 19 litre tubs to order.

The quantity of material required to seal a linear gap without allowance for wastage can be calculated using the following equations with all dimensions measured in cm:

$$\text{Gap width} \times \text{seal depth} \times \text{gap length} / 310 = \text{number of 310ml cartridges required}$$

$$\text{Gap width} \times \text{seal depth} \times \text{gap length} / 600 = \text{number of 600ml foils required}$$

Note: Multiply by 2 where seal is to both faces of separating structure.

Storage

It is recommended to store in dry conditions between 5°C and 25°C.

Shelf life

12 months for unopened containers when stored under recommended storage conditions.

Health and safety

Please refer to safety data sheet before use.

Packaging schedule

| Item | Pack size (ml) | Items per box | Boxes per pallet | | Items per pallet | |
|-----------|----------------|---------------|---------------------------|-------------------|---------------------------|-------------------|
| | | | Standard 4-way (1.2 x 1m) | Euro (1.2 x 0.8m) | Standard 4-way (1.2 x 1m) | Euro (1.2 x 0.8m) |
| Cartridge | 310 | 25 | 64 | 48 | 1600 | 1200 |
| Cartridge | 310 | 12 | 132 | 100 | 1584 | 1200 |
| Foil | 600 | 12 | 78 | 72 | 936 | 864 |



Since the product is applied under circumstances beyond our control, Neutron Fire Technologies Limited can accept no direct or consequential liability whether in contract or in tort, for the interpretations of such recommendations and reserves the right to modify the recommendations as necessary.

