



# SikaFiresil

## One Part Silicone Flame Retardant Sealant

### Technical Data Sheet

#### DESCRIPTION

**SikaFiresil** is a one part gun applied neutral cure silicone sealant which cures by reaction with atmospheric moisture to form a durable, soft elastomeric seal that gives excellent resistance to fire, even when exposed directly to a nearby heat source.

#### USES

**SikaFiresil** is suitable for all types of joints within fire compartments.

- \* Expansion joints.
- \* Construction joints.
- \* Fire door sealing.
- \* Curtain walling.
- \* Sealing around doors and windows.

#### ADVANTAGES

- \* Excellent adhesion to most construction material.
- \* Suitable for both moving and non moving joints.
- \* Single component - no site mixing.
- \* Excellent long term elasticity.
- \* Easy to use.
- \* High fire resistance - tested "Flame On".

#### FIRE RESISTANCE

Many fire resistant sealant and caulks are tested in a configuration that involves sealing the external face of the fire compartment (i.e. the sealant is insulated from the heat source) in order to achieve a particular rating. This is not typical of many of the installations made in practice, so **SikaFiresil** has been tested in the "face on" position which represents the sealant being exposed directly to a heat source.

#### Technical Data (typical)

<b>Colour:</b>	Grey
<b>Density:</b>	1.35 kg/litre
<b>Movement Accommodation Factor (MAF):</b>	25%
<b>Service temperatures: Range:</b>	-60°C to +200°C (Tested up to 1000°C)
<b>Cure rate:</b>	2 mm/day (+23°C / 50% RH)
<b>Application temperature:</b>	+5°C min, +30°C max (Substrate and ambient)
<b>Shore A hardness:</b>	15 - 20 after 28 days
<b>Tack free time:</b>	1 to 2 hours (+23°C / 50% RH)
<b>Elastic recovery:</b>	> 200%
<b>Tensile strength at break:</b>	1.0 N/mm <sup>2</sup>
<b>Maximum joint width:</b>	40.0 mm
<b>Minimum joint depth for expansion joints:</b>	10.0 mm (Width depth ratio 1:1)
<b>Modulus:</b>	< 0.14 N/mm <sup>2</sup> @ 100% elongation

**Complies with the performance standards of:** BS5889:1989

All above values are approximate.

#### FIRE RATING PERFORMANCE OF SikaFiresil IN JOINTS

Substrates	Joint Width	30 minute		60 minute		120 minute		240 minute	
		Vertical & Floor	Overhead (Soffit)						
Steel to Steel	25 mm	S	S	(S)	(S)	(S)	(S)	(S)	(S)
Steel to Concrete	25 mm	S	S	S	(S)	(S)	(S)	(S)	(S)
Concrete to Concrete	25 mm	S	S	S	S	S	S	S	S
Concrete to Concrete	40 mm	S	(S)	S	(S)	(S)	(S)	(S)	(S)
Lightweight Block to Concrete	25 mm	S	S	S	S	S	S	S	S
Lightweight Block to Lightweight Block	25 mm	S	S	S	S	S	S	S	S

Tested in accordance with the principals of BS 476 Part 20

S = suitable rating for all joints up to width specified.

(S) = suitable rating as a double seal of **SikaFirestop** topped with **SikaFiresil** – contact Sika Technical Department for joint design details. Recommendations extracted from integrity results given in Warres Nos 49228, 47896 and 48334.

## SURFACE PREPARATION

All surfaces must be sound, clean, dry and free from any surface contaminants.

All loose particles, paint, laitance, rust and other poorly adhering materials should be removed with a rotary mechanical wire brush, grinding or grit blasting followed by blowing out with oil free compressed air.

Iron and steel should be protected by an anti-corrosion primer such as **Icosit® EG1** prior to joint sealing.

## PRIMING

**SikaFiresil** has excellent adhesion to most building materials without the need for priming. Where appropriate, adhesion in concrete may be improved by priming the substrate with **Sika Primer 3** (max substrate moisture content must not exceed 8% by wt).

## APPLICATION

- \* Insert **Sika® Joint Backing Rod** to required depth.
- \* Where appropriate prim to joint sides and observe waiting time before application of **SikaFiresil**.
- \* Insert cartridge into sealant gun and firmly extrude **SikaFiresil** into the joint making sure that it is in full contact with the sides of the joint.
- \* Fill the joint, avoiding air entrapment.
- \* **SikaFiresil** should be tooled to a smooth finish.

Also refer to BASA/CIRIA application guidelines.

Masking tape should be used where sharp exact joint lines or exceptionally neat lines are required. Remove the tape whilst the sealant is still soft.

## JOINT DESIGN

Refer to BASA/CIRIA Guidelines. (CIRIA Publication 80) and current British Standards.

## IMPORTANT CONSIDERATIONS

- \* **SikaFiresil** should not be used for structural glazing.
- \* **Sika Firesil** should be used with care in resealing joints that were previously filled with silicone sealants. All silicone residue must be removed.
- \* **SikaFiresil** cannot be overpainted.
- \* The majority of integrity requirements for fire seals and joints are met with **SikaFiresil** or double seal of **SikaFirestop** (separate data sheet). Where very high movement or an insulation requirement (ie potential flammable atmosphere) both faces of a wall or slab should be sealed with **SikaFiresil** and a mineral or ceramic fibre backing used.
- \* Do not use **SikaFiresil** in contact with materials containing bitumen or pitch.

## CLEANING

Clean tools immediately with **Sika Thinner C**.

## PACKAGING

Refer to latest price list.

## CONSUMPTION

Theoretical consumption of **SikaFiresil** per 310cc (without wastage):

$$\text{Length of joint (m)} = \frac{310}{\text{Joint width (mm)} \times \text{joint depth (mm)}}$$

$$\text{Litres/metre run of joint} = \frac{\text{Joint width (mm)} \times \text{joint depth (mm)}}{1000}$$

$$\text{No of cartridges / sausages required for joint} = \frac{\text{Joint width (mm)} \times \text{joint depth (mm)} \times \text{length (m)}}{\text{volume of cartridge/sausage (ml)}}$$

## STORAGE AND SHELF LIFE

9 months from date of production if stored in cool, dry conditions (@ +5°C to +25°C).

### Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

### Important Note

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

SIKA LIMITED

Watchmead, Welwyn Garden City, Hertfordshire, AL7 1BQ

Tel: 01707 394444 Email: sika@uk.sika.com

Fax: 01707 329129 www.sika.com

