Torggler

Silicone Sealant

FIRE RESISTANT

SPECIAL

Neutral silicone sealant with high fire resistance.

- High adhesion
- High resistance to UV rays
- Low elastic modulus
- Suitable for applications subject to fire regulations up to EI 240

FEATURES

Silicone Fire Resistant is a silicone sealant designed for use in fire barrier systems. It has been specially formulated to withstand the high temperatures developed during a fire and to provide a perfect seal preventing the passage of smoke and fumes. These tests showed that joints sealed with Silicone Fire Resistant as described in the table on the next page prevent the passage of flame, smoke and gas and guarantee thermal insulation for up to 240 minutes (Class EI 240).
Silicone Fire Resistant does not contain non-silicone plasticizers or flammable solvents. Neutral curing is caused by atmospheric humidity. It is neutral curing and does not therefore, produce unpleasant odours. It is composed of silicones only and therefore provides an excellent seal on porous substrates.
In addition, Fire Resistant is certified as a non-structural joint sealant for façade elements, both indoors and outdoors, even in cold climates (F-EXT-INT-CC) according to EN 15651-1, and is certified by the GEV as EC 1 for its very low emission.

APPLICATION RANGE

Silicone Fire Resistant is used for linear wall joints and fire doors. In areas where fire safety regulations must be met, it is used on mineral substrates with the same or higher density or thickness than in the test procedure.
Silicone Fire Resistant adheres to a wide variety of substrates. It is composed of silicones only and therefore provides an excellent sealon porous substrates. Silicone Fire Resistant is resistant to atmospheric agents andultra-violet light. There are no signs of surface hairline cracks or flaking even in joints which have been inservice for more than twenty years.

GEV-EMICODE EC 1 very low emission

IN COMPLIANCE WITH	IN COMPLIANCE WITH
EI 240	F-EXT/INT-CC
EN 13501-2	EN 15651-1

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The joints tested concern the following geometries (see official classification reports n ° CSI1761FR and CSI1762FR of 05/07/12). The wall was made of autoclaved aerated concrete with mass volume equal to 500 kg/m³ and thickness 120 mm.

JOINT WIDTH	ORIENTATION*	JOINT CLASS		
1 cm vertical	A	EI 90	E 180	V-X-W10
1 cm vertical	B	EI 240	E 240	V-X-W10
2 cm vertical	A	EI 45	E 240	V-X-W20
2 cm vertical	B	EI 180	E 240	V-X-W20
3 cm vertical	A	EI 60	E 240	V-X-W30
3 cm vertical	B	EI 180	E 240	V-X-W30
4 cm vertical	A	EI 60	E 240	V-X-W40
4 cm vertical	B	EI 180	E 240	V-X-W40
5 cm vertical	A	EI 120	E 240	V-X-W50
5 cm vertical	B	EI 240	E 240	V-X-W50
1 cm horizontal	A	EI 120	E 240	T-X-W10
2 cm horizontal	A	EI 60	E 240	T-X-W20
3 cm horizontal	A	EI 90	E 240	T-X-W30
4 cm horizontal	A	EI 60	E 90	T-X-W 40
5 cm horizontal	A	EI 60	E 60	T-X-W50
5 cm horizontal	B	EI 180	E 240	T-X-W50

Classification for fireproof joints according to D.M. February 16, 2007
E = Seal: persistent flames must not be recorded on the side not exposed to fire and must not be recorded ignite a cotton swab dipped in alcohol.
I = Insulation: the temperature on the side not exposed to fire must not exceed 180 °C.

Note: The REI classification according to Circular MI.SA. (Ministry of Interior - Firefighting Services) 14 September 1961, n ° 91 was replaced by that reported in the Ministerial Decree February 16, 2007, which provides that for "sealing systems for through holes and sealing", tested according to EN 1366-4, the characteristic "R", that is the bearing capacity, is not relevant.

Silicone Fire Resistant was also successfully tested in a horizontal construction (horizontal oven) according to EN 1366-4 and can therefore also be used for the joint between wall and ceiling. The values achieved for this application are shown in the table below. The floor base was made with aerated, autoclaved reinforced concrete with a density of 500 kg/m3 and a thickness of 150 mm.

JOINT WIDTH	ORIENTATION*	JOINT CLASS		
3 cm	A	EI 120	E 240	H-X-W30
3 cm	B	EI 240	E 240	H-X-W30
4 cm	A	EI 60	E 240	H-X-W40
4 cm	B	EI 240	E 240	H-X-W40

* Orientation A: Sealant on the side not exposed to fire.
Orientation B: Sealant on both sides.

Note: Official certifications are available upon request.

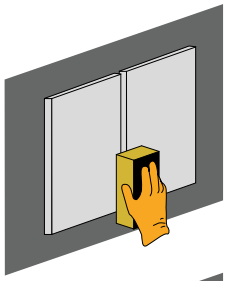
Silicone Fire Resistant is certified as class EI240 without the use of additional material such as rock wool. Certification testing was performed by C.S.I., Bollate (MI) (Classification reports CSI1761FR and CSI1762FR of 05/07/2012). Its reaction to fire class as per EN 13501-1, is B-s1,d0. The related classification report no. 0989.2/10/R01NP issued by ITB, Warsaw, Poland is available on request.

LEGEND OF CLASSIFICATION ACCORDING TO EN 15651	
F	Sealant for non-structural joints for the building trade, on facades. (F = facade elements)
INT	Sealant for internal use only.
EXT-INT	Sealant for internal and external use.
CC	Sealant tested for cold climates (CC = cold climate - testing done at -30 °C).
G	Sealant for non-structural joints on glazing and door and window frames. (G = glazing)
S	Sealant for non-structural joints in bathroom installations. (S = sanitary joints)
XS	Sealant for joints in bathroom installations with improved performance.
PW	Sealant for non-structural joints on pedestrian walkways. (PW = pedestrian walkways)

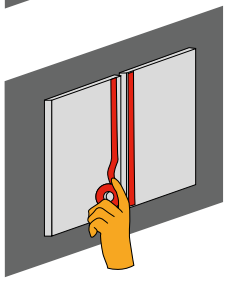
CERTIFICATIONS

The declarations of performance (DoP) are available upon request.

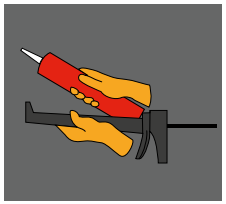
INSTRUCTIONS FOR USE



1.
The sides of the joint must be clean, degreased and dry. With porous substrates it is recommended to first treat with Primer Silicone. Deep expansion joints must be plugged with suitable pre-forms.

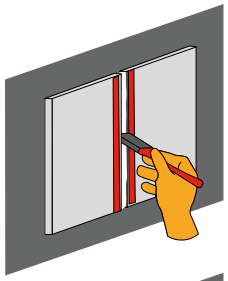


2.
Apply adhesive tape along the sides of the joint.

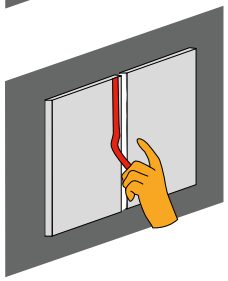


3.
Insert the cartridge in the application gun, open it, screw on the spout and cut off the tip to obtain a sufficient aperture.

4.
Extrude an abundant quantity of sealant.



5.
Smooth off with a damp paint scraper within 5 minutes of application, exerting enough pressure to remove any air bubbles.



6.
Remove the adhesive tape.

The sealant can be applied to both sides of the wall or only on the side not exposed to fire (see the tables on the 2nd page). The certified joints must however take up the geometry reported in the official classification reports of the product.

JOINT SIZING

Minimum width = 6 mm, maximum width = 50 mm.
For widths up to 10 mm depth must be equal to the joint width.
For widths from 10 to 20 mm the depth must be at least 10 mm.
For widths between 20 and 40 mm the depth must be at least 20 mm.
For widths between 40 and 50 mm the depth must be at least 30 mm.

STORAGE

Store Silicone Fire Resistant in a cool, dry place. Stored in these conditions the product will keep for at least 12 months. Partly used cartridges can be stored for approx. 3 months provided they are tightly closed.

PACKAGING

310 ml cartridges

COLORS RANGE

237 Grey

130 Ivory*

* Available upon request.

TECHINCAL SPECIFICATIONS

PARAMETER AND TEST METHOD	VALUE
Density (ISO 1183-1)	1,482 g/ml
Application temperature	+5 °C to +40 °C
Skin-over time at 23 °C (MIT 33*)	approx. 80 minutes
Hardening rate from the outside to the inside at 23 °C (MIT 32*)	approx. 2 mm in 24 hours
Standard operating temperature	-50 °C to +150 °C
Shore A hardness (DIN 53505)	approx. 30
Elongation at break (DIN 53504 - S3)	460 %
Tensile strength at break (DIN 53504 -S3)	0,72 N/mm²
Modulus of elasticity at 100 % (DIN 53504 -S3)	0,38 N/mm²
Elongation at break (EN ISO 8339/A - aluminium substrate – Aup at 23 °C)	270 %
Tensile strength at break (EN ISO 8339/A - aluminium substrate – Aup at 23 °C)	0,27 N/mm²
Modulus of elasticity at 100 % (EN ISO 8339/A - aluminium substrate – Aup at 23 °C)	0,22 N/mm²
Elongation at break (EN ISO 8339/A - aluminium substrate – Aup at -30 °C)	270 %
Tensile strength at break (EN ISO 8339/A - aluminium substrate – Aup at -30 °C)	0,74 N/mm²
Modulus of elasticity at 100 % (EN ISO 8339/A - aluminium substrate – Aup at -30 °C)	0,53 N/mm²
Maximum operating elongation	25 %
Fire resistance class (EN 13501-2)	up to EI 240
Fire reaction class (EN 13501-1)	B-s1,d0
Resistance to acids	very high
Alkali resistance	very high
Odor after cross-linking	odorless

* Torggler Internal Methods are available on request.

	ESTIMATED CONSUMPTION	
JOINT THICKNESS X DEPTH (MM)	CONSUMPTION PER METER	METERS COVERED WITH ONE CARTRIDGE
6x6	36 ml	8,7
8x8	64 ml	4,9
10x10	100 ml	3,1
15x10	150 ml	2,1
20x10	200 ml	1,5

CE

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DoP n° 046/14

NB n° 0432/1488

EN 15651-1:2012

Silicone Fire Resistant: Sealant for facade for interior and exterior application (intended for use in cold climates)
EN 15651-1: F-EXT/INT-CC
Conditioning: ISO 8339/A
Substrate: Al p (Primer Silicone)

Reacton to fire		B-s1,d0
Release of dangerous substances		NPD
Water tightness and air tightness	Resistance to flow	≤ 3 mm
	Loss of volume	≤ 10 %
	Tensile properties at maintained extension after immersion in water at 23 °C	NF
	Tensile properties (secant tensile modulus at -30 °C)	≤ 0,9 N/mm²
	Tensile properties at maintained extension at -30 °C	NF
Durability		Passed

To the best of our knowledge the information given in this document is true and accurate. However, since we have no direct control over the actual conditions of use, our recommendations and suggestions are provided as a guide only and do not constitute a guarantee. If you have any doubts we recommend that you test the product before use or contact our specialists for further advice. Torggler Chimica S.p.A. reserves the right to change, substitute or delete items or otherwise make variations to the product data in this document without prior notice. It is possible therefore that the information given in this document is no longer valid. This document substitutes the previous version. Version 10.2019