Torggler

Sealants and Adhesives

ACRYL FIRE RESISTANT

Acrylic sealant for applications subject to fire regulations up to EI 240.

- Prevents smoke and flames from entering emergency areas
- Certified for ceiling applications
- High resistance to ageing
- Paintable

GEV-EMICODE EC 1 PLUS very low emission

IN COMPLIANCE WITH EI 240 EN 13501-2

IN COMPLIANCE WITH F-INT EN 15651-1

APPLICATION AREAS

Sealing linear joints in applications subject to fire regulations on mineral substrates with density and thickness equal to or greater than those tested.

MAXIMUM ATTAINABLE THICKNESSES

The joints tested by C.S.I. had the following geometries (see Test Reports N°CSI1472FR of 28/05/09 and CSI1761FR of 05/07/12, available on request): Wall thickness (aerated, autoclaved concrete with a density of 500 kg/m3): 150 mm.

Joint width	Orientation*	Joint class		
1 cm vertical	A	EI 120	E 240	V-X-W10
1 cm vertical	B	EI 240	E 240	V-X-W10
2 cm vertical	A	EI 90	E 240	V-X-W20
2 cm vertical	B	EI 240	E 240	V-X-W20

3 cm vertical	A	EI 60	E 240	V-X-W30
3 cm vertical	B	EI 240	E 240	V-X-W30
4 cm vertical	A	EI 120	E 240	V-X-W40
4 cm vertical	B	EI 240	E 240	V-X-W40
1 cm horizontal	A	EI 180	E 240	T-X-W10
1 cm horizontal	B	EI 240	E 240	T-X-W10
2 cm horizontal	A	EI 120	E 240	T-X-W20
2 cm horizontal	B	EI 240	E 240	T-X-W20
3 cm horizontal	A	EI 120	E 240	T-X-W30
3 cm horizontal	B	EI 240	E 240	T-X-W30
4 cm horizontal	A	EI 120	E 240	T-X-W40
4 cm horizontal	B	EI 240	E 240	T-X-W40

Acryl Fire Resistant was also successfully tested in a horizontal construction (horizontal oven) as per EN 1366-4 standard and can therefore also be used for the joint between wall and ceiling (Orientation D as per UNI EN 1366-4, Table 1). 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/m^3 and a thickness of 150 mm.

Joint width	**Orientation***	**Joint class**		
3 cm	A	EI 90	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 120	E 240	H-X-W40

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

Note: For more details about joints, see the official certification reports cited.

For all the geometries tested, the sealant was applied to horizontal joints and vertical joints and applied symmetrically (i.e. sealant on both faces of the wall) and asymmetrically (sealant on the side not exposed to fire). The backing material for the joint was: polyurethane sponge.

Joint dimensioning
Minimum width = 6 mm, maximum width = 40 mm. For widths up to 10 mm the depth must be equal to the width of the joint. 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 half the width. The certified joints must follow the geometry given in the official product classification reports.

FEATURES

Acryl Fire Resistant is a single-component acrylic sealant consisting of acrylic polymers dispersed in a water base together with selected minerals. This formula gives the hardened product a high resistance to fire. When the product is applied, the water base evaporates leaving a flexible, plastic mass with excellent resistance to ageing. Acryl Fire Resistant adheres to damp surfaces, does not drip and is easy to smooth. It can be applied indoors or outdoors but only in places where there is no continuous contact with water. Acryl Fire Resistant can be coated with water-based paints or coatings. The product is certified as EC 1 Plus by GEV in terms of very low emissions of volatile organic substances.

WARNINGS

The sealant will lose its initial tackiness within 20 to 120 minutes depending on ambient conditions. Low temperatures and high relative humidity will slow down hardening. High temperatures and low relative humidity will accelerate hardening. Do not apply Acryl Fire Resistant when it is about to rain: the applied sealant, not yet cured, can be washed away. Sealant that has not fully cured will be damaged by frost.

INSTRUCTIONS FOR USE

1. The sides of the joint must be solid and clean. Acryl Fire Resistant does not require a primer. It is advisable to wet porous surfaces beforehand. During hot weather, wet the substrate. It is also advisable to prime critical surfaces with a primer coating consisting of one part sealant to 10 parts water. This will improve adhesion of the sealant. Deep expansion joints must be plugged with suitable pre-forms.
2. Tape along the sides of the joint.
3. Use a mechanical or a pneumatic gun loaded with the bag to inject the product into the joint. Use an extruder nozzle diameter which matches the joint to be filled.
4. We recommend that you overfill the joint cavity with sealant.
5. When you smooth the sealant apply pressure to force the sealant into the joint. This will ensure that the joint is filled fully without leaving any gaps and that the sealant adheres completely to the sides of the joint. Smooth off before the sealant has a chance to form a surface film.
6. Remove the tape.

Cleaning
Tools used with Acryl Fire Resistant are easy to clean with water while the product is still soft. Hardened product can only be removed mechanically or by using an organic solvent (e.g. toluene, acetone).

TECHNICAL SPECIFICATIONS

Density (UNI 8490/2)	1,70 g/ml
Application temperature	+5 °C to +30 °C
Skin-over time (MIT 45*)	approx. 30 minutes
Complete hardening (at +23 °C and 50 % R.H.)	approx. 10 days (for a 10×10 mm joint)
Tendency to flow (EN ISO 7390)	< 3 mm (non-drip)
Operating temperature	-25 °C to +85 °C
Shore A hardness (EN ISO 868)	Shore A/max: approx. 50. Shore A/15: approx. 10
Extension to break (DIN 53504 – Punch S3)	approx. 700%
Tensile strength at break (DIN 53504 – Punch S3)	0,20 MPa
Modulus of elasticity at 100% (DIN 53504 – Punch S3)	0,27 MPa
Percentage elongation at break (EN ISO 8339) concrete substrate	approx. 200%
Modulus of elasticity at 100% elongation (EN ISO 8339) concrete substrate	0,1 MPa
Tensile strength by traction (EN ISO 8339) concrete substrate	0,1 MPa
Maximum operating elongation	10%
Volume variation (EN ISO 10563)	approx. 23%
Paintability	When hardened, the product can be painted with water-based paints.

Fire resistance class (EN 13501-2)	E (integrity): 240 for all the geometries tested. EI (integrity and insulation): 240: for all symmetrical geometries from 60 to 240: for all asymmetrical geometries (see Test Report CSI1472FR)
Fire reaction class (EN 13501-1)	B-s1, d0

* Torggler Internal Methods (MIT) are available on request.

Color	Grey, White
Packaging	foil bag
Packaging size	20x600 ml
Pallet	36 cardboards

STORAGE

Protect against frost. In the original unopened packaging and stored at temperatures between +5 °C and +35 °C, Acryl Fire Resistant is stable for at least 24 months. Not completely emptied bags can be stored for about 3 months, if closed properly.

Consumption guide table

Joints (width x depth)	Consumption per metre	Metres covered with 1 bag (550 ml)
6 x 6 mm	36 ml	15.3
10 x 10 mm	100 ml	5.5
20 x 10 mm	200 ml	2.8
30 x 20 mm	600 ml	0.9
40 x 20 mm	800 ml	0.7
40 x 30 mm	1200 ml	0.5

CERTIFICATIONS

Classification of fire barrier joints as per italian ministerial decree (d.m.) 16 february 2007	
E	Integrity: there must be no sustained flaming on the unexposed side and no ignition of a cotton pad soaked in alcohol.
I	Insulation: the temperature on the unexposed side must not exceed 180 °C

Note: The REI classification according to the MI.SA. circular (Italian Ministry of the Interior – Fire Service) n°91 of 14 September 1961 has been superseded by the classification of the Ministerial Decree 16 February 2007 which states that the class "R" (load bearing capacity) does not apply to "sealing systems of passing and sealing holes" tested according to EN 1366-4.

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Torggler S.r.l., Via Prati Nuovi 9, I – 39020 Marlengo (BZ) DoP n° 0047/14 EN 15651-1:2012 NB n° 1488			
EN 15651-1:2012: Sealants for façade for interior applications only (F-INT)			
Reaction to fire		B – s1, d0	EN 15651-1:2012
Release of chemical dangerous to the environment and health		NPD	
Durability		Pass	
Water and air tightness	Resistance to flow	⩽ 5 mm	
	Loss of volume	⩽ 45%	
	Tensile properties (at break) at 23°C	⩾ 25%	

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)

The information contained in this document is reported on the basis of our experience and knowledge; therefore, any recommendations and suggestions made are without any guarantee and must be verified before using the product by those who intend to use it, who assume all responsibility that may result from its use since the conditions of use are not under our direct control. In case of doubt, it is always advisable to make preliminary tests and/or ask for the intervention of our technicians. Torggler reserves the right to modify, replace and/or delete the items, as well as to change the product data in this document without prior notice; in this case the indications given here may no longer be valid. Always refer to the latest version of the data sheet, available at www.torggler.com. Version 29.01.2021.