

Torggler

Sealants and Adhesives

HYBRID LM

Low modulus of elasticity sealant, based on hybrid polymers, for façades and windows.



- Good UV resistance
- Low modulus of elasticity
- Paintable
- Indoor and outdoor use, even on damp substrates
- Suitable for certified installation of windows and doors according to UNI 11673-1



APPLICATION AREAS

Hybrid LM is ideal for sealing the connection joints between the window frame and the masonry work (in brick, concrete, plaster), as well as for making horizontal and vertical expansion joints when installing prefabricated concrete panels. Also suitable for marble or natural stone substrates. Its characteristics are suitable to allow the sealings to absorb the movements transmitted to the building by atmospheric, vibrational and mechanical stresses. Hybrid LM elastically connects the sides of the joint, absorbing, without detachment, the movement of the adjacent construction elements, originating from differential thermo-hygrometric expansion or settlement. It therefore guarantees a perfect seal over time to water and air, reducing heat loss. Paintability after hardening ensures that the façades have a uniform, uninterrupted final appearance.

MAXIMUM ATTAINABLE THICKNESSES

Joint sizing

Minimum width = 6 mm.

For widths up to 10 mm the depth must be equal to the width of the joint and in any case not less than 6 mm.

For widths from 10 to 20 mm the depth must be at least 10 mm.

For widths over 20 mm the depth must be at least half the width.

FEATURES

Hybrid LM is a hybrid polymer-based sealant with low modulus of elasticity, good UV and weather resistance, ideal for use inwindow/door frames and in prefabrication. Thanks to the neutral cross-linking, it does not develop unpleasant odours during application, does not release acid or basic substances that may corrode metal substrates and does not affect paints. It has excellent adhesion both on porous (masonry, concrete, plaster, wood) and non-porous (metal, plastic, glass, enamelled and porcelain surfaces) substrates, even wet surfaces provided they are clean and consistent. After hardening it is overpaintable: in any case, it is recommended to perform preliminary tests with the chosen paints. Hybrid LM is classified according to UNI EN 15651-1 as a non-structural sealant for façades F EXT/INT-CC. It complies with UNI 11673-1, "Installation of windows and doors – Part 1: Requirements and verification criteria of design".

WARNINGS

Hybrid LM is not suitable for structural bonding.

INSTRUCTIONS FOR USE

1. The sides of the joint must be clean, degreased and compact. In deep expansion joints, insert a cord of suitable diameter before sealing.
2. Stretch an adhesive tape along the sides of the joint.
3. Insert the cartridge into the gun, open it, screw the nozzle and cut the tip so that it opens sufficiently.
4. Inject plenty of sealant.
5. Smooth with a trowel moistened with Smooth within 5 minutes after its application by exerting pressure in order to eliminate air pockets.
6. Remove the adhesive tape immediately after smoothing.

Tools cleaning

Clean tools in the plastic status of the sealant using solvents; after hardening only clean mechanically.

TECHNICAL SPECIFICATIONS

PARAMETER AND TEST METHOD	VALUE
Base	MS Polymer
Density (UNI EN ISO 1183-1)	1,48 g/ml
Application temperature	from +5 °C to +40 °C
Surface cross-linking time (MIT 33*)	30 minutes
Extrusion speed (MIT 30*)	approx. 84 g
Hardening speed from outside to inside 23 °C (MIT 32*)	2 mm in 24 h
Operating temperature	from -40 °C to +90 °C
Surface hardness (EN ISO 868)	Shore A max = 30 / 15" = 15
Mass variation (MIT 57)	1,3 %
Volume variation (MIT 57)	1,5 %
Tensile strength at break (DIN 53504 – S3A)	0,6 MPa
100 % modulus of elasticity (DIN 53504 – S3A)	0,39 MPa
Tensile strength (ISO 8339/A – concrete)	280 %
Tensile strength at break (ISO 8339/A – concrete)	0,4 MPa
100 % modulus of elasticity (ISO 8339/A – concrete)	0,27 MPa
Tear resistance (UNI ISO 34-1/B)	4,6 N/mm ²
Elastic recovery (EN ISO 7389/B – G/Al/concrete)	88 %
Maximum operating elongation (ISO 11600)	25 %
Resistance to acids	excellent
Resistance to bases	excellent

Odour after cross-linking

not present

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

CONSUMPTION GUIDE TABLE		
JOINT (WIDTH X DEPTH) MM	QUANTITY USED PER LINEAR METRE	LINEAR METRES COVERED PER CARTRIDGE
6x6	36 ml	8,1
8x8	64 ml	4,5
10x10	100 ml	2,9
15x10	150 ml	1,9
20x10	200 ml	1,4

Color	Black 9005, Grey 7004, hazel 8007, White 9016
Packaging	cartridge, foil bag
Packaging size	12x290 ml, 20x400 ml, 20x600 ml, 24x290 ml
Pallet	116 cardboards, 36 cardboards, 72 cardboards

STORAGE

Hybrid LM must be stored in a dry and cool environment. Under these conditions, storage stability is at least 18 months. Cartridges that are not completely used can be stored for about 3 months if closed tightly.

CERTIFICATIONS

			
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Torggler S.r.l., Via Prati Nuovi 9, I - 39020 Marleno (BZ) DoP n° 0146/20 EN 15651-1:2012 NB n° 1292			
EN 15651-1:2012: Sealants for façade for exterior/interior applications also used in cold climate areas (F-EXT/INT-CC - 25 LM)			
Reaction to fire	E	EN 15651-1:2012	
Release of chemical dangerous to the environment and health	NPD		
Durability	Pass		
Water and air tightness	Resistance to flow		≤ 3 mm
	Loss of volume		≤ 10%

Tensile properties at maintained extension after water immersion at 23°C	NF
Tensile properties at maintained extension at -30°C	NF
Tensile properties (secant modulus) at -30°C	≤ 0,9 MPa

LEGEND FOR 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)

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