

TECHNICAL DATA SHEET

PENOSIL Structural Glazing Silicone 371

PENOSIL Structural Glazing Silicone 371 is a neutral-curing structural silicone, one-part with high modulus and high mechanical properties.

It has a high-speed curing time in contact with atmospheric humidity. Its unique properties give it an extraordinary adhesion power, extremely high mechanical strength, being stable to aging and with a high resistance to U.V. radiation and the atmospheric agents.

Main benefits

- Neutral cure sealant. Odourless and non-corrosive.
- Ultra-fast cure.
- Solvent free.
- Extraordinary adhesion power to glass, aluminium, steel.
- High ultimate tensile strength makes it ideally suited for structural bonding applications.
- Extremely high mechanical strength.
- Resistant to UV radiation and to ozone.
- Great thermal stability: -55 °C a +150 °C.
- Suitable for all types of climates and resistant to strong winds.
- Resistant to chemical agents.
- Unalterable against aging.

Fields of application

- PENOSIL Structural Glazing Silicone 371 is developed specifically for structural glazing adhesion and sealing system.
- Facades and curtain walling.
- Fixing of glazed panels to metal structures, both 4-sided and 2-sided, vertical or horizontal.
- Fixing glass in skylights.
- It can also be used to adhere stiffening elements to building panels and for other high demanding industrial adhesive applications.

Application instructions

S.G. Project process

PENOSIL Structural Glazing Silicone 371 should be considered that any project with Structural Glazing systems requires previous phases that guarantee the suitability of the system and its components.

1. PROJECT IDENTIFICATION AND TECHNICAL STUDY
 - Detailed information
 - Joints design
 - Dimensions calculations
 - Components selection
 - Supports samples
2. LABORATORY TESTS
 - Adhesion tests
 - Potential primer determination
 - Compatibility checking
 - Suitability of the supports checking
 - Validation technical report

Application conditions

Application temperature between +5 °C and +40 °C.

Surface preparation

PENOSIL Structural Glazing Silicone 371 should preferably be applied at the factory to ensure the ideal conditions and optimum assembly performance of the components.

Building on-site application should only be considered for 2-sided systems (vertical or horizontal) or for repairs.

The surfaces must be dry, clean from dust, loose particles and oil, which could cause a deficient adherence. Non-porous surfaces should be cleaned with solvent and a clean, non-fluffy cotton cloth. Solvent excess should be removed before evaporating with a clean cloth.

Application method

The application is simple, quick and safe because product is ready to use, it does need previous mix.

It is applied with a handgun or pneumatic gun, in case of cartridges or sausages, and an automatic or semiautomatic sealing machines in case of drums or pails.

Cut off the threaded end of the cartridge and screw on the application nozzle for directing sealant. Cut the threaded end in a way where a suitable opening for application is produced. Place the cartridge together with the applicator in the gun and fill the installation nozzle with sealant, by repeatedly pressing the gun trigger.

Apply sealant in the joint by repeatedly and evenly pressing on gun trigger and smoothly dragging the nozzle along the joint. After application, smooth the surface with a suitable tool (e.g., spatula) and remove excess material.

If necessary, the adjacent surfaces of the joint should be protected to avoid staining. Usually, masking tape is being used for this. Protective masking tapes should be removed before the sealant's skin is formed.

In wider and movable joints, backer rod should be used as a back-up material, to ensure the correct thickness and shape of sealant joint and to avoid three-sided adhesion.

Application phases

- Cleaning and drying surfaces
- Priming (if Laboratory tests determine it)
- Spacer adhesive tape application
- Glass assembly
- Structural Silicone application
- Quality control
- Units storage

Cleaning

Uncured sealant can be cleaned with solvents like white spirit, acetone or with PENOSIL Cleaning Wipes.

Cured sealant can be removed mechanically. If needed silicone remover should be used.

Supports

1) METALS PROFILES

- Anodised aluminium is the ideal support for Structural Glazing modules.
- Acceptable: Aluminium, steel, stainless steel.
- Unacceptable: Ferrous (included galvanized and/or painted).

2) GLASS

- Float, coated glass, tempered, laminated, curved, insulating (IGU)

Technical data

Properties	Value	Unit
Basis	Neutral structural silicone	
Consistency	Thixotropic paste	
Density (EN-ISO 2811-1)	1,26	g/ml
Skin forming time	7...12	min
Curing rate	approx. 3	mm/24h
Resistance to flow (ISO 7390)	0	mm
Application temperature	+5...+40	°C
Service temperature	-55...+150	°C
Shore A hardness (ISO 868)	approx. 35	
E-Modulus 100% (ISO 8339)	0,75	N/mm ²
Tensile strength (ISO 8339)	1,05	N/mm ²
Elongation at break (ISO 8339)	>200	%
E-Modulus 100% (ISO 37)	0,65	N/mm ²
Tensile strength (ISO 37)	2,30	N/mm ²
Elongation at break (ISO 37)	>400	%

The values specified were obtained at +23 °C and 50% relative humidity, unless otherwise specified. These values may vary depending on environmental factors such as temperature, moisture and type of substrates.

Technical classification and certificates

PENOSIL Structural Glazing Silicone 371 meets the European standards for Structural Glazing systems applications, according EOTA (European Organisation for Technical Assessment).

- EN 13022-2
- EOTA – ETAG 002
- French VOC-emission class A+

Colour

Black.

Package

310 ml cartridge, 24 pcs in a box.

Storage conditions and shelf life

Guaranteed storage time 12 months starting from the date of manufacture if stored in a closed original package in a dry place and protected from direct sunlight at temperatures between +5 °C and +30 °C.

Limitations

- Do not use on bituminous substrates or on building materials which might bleed oils, plasticizers or solvents (e.g. natural rubber, chloroprene, EPDM, ...).
- There is no adhesion to PE, PP, PTFE (Teflon®).
- We don't recommend this product to be used for natural stone sealing.
- Do not use for gluing mirrors.
- Due to the wide variety of possible substrates, we recommend a preliminary compatibility and adherence test. If necessary, prime surfaces to improve adhesion.
- Due to the wide variety of influences during and after application, the customer must always test the product first.
- Please observe the expiration date!

Safety regulations

Ensure sufficient ventilation during application and wear necessary personal protective equipment. Avoid contact with eyes and skin. In case of eyes contact, rinse immediately with plenty of water and seek medical advice if necessary. In case of skin contact, remove mechanically and rinse immediately with plenty of water and seek medical advice if cause irritation. Keep out of the reach of children. More specific safety information is available on the safety data sheet (SDS).

Note: The instructions in the present documentation are based on tests carried out by the manufacturer and are presented in good faith. Due to variations in materials and substrates as well as the various application possibilities that are beyond our control, the manufacturer is not liable for the results achieved. In any case, it is recommended to test the product suitability at the place of application. Manufacturer reserves the right to modify products without prior notice. This TDS replaces and supersedes all previous data sheets on the same product.