

NEMPAL 102 Multi Purpose Silicone Sealant

Acetoxy Silicone Sealant

Description



A one-part, versatile, acid-curing silicone sealant formulated for general glazing and sealing applications, where long-term durability is required.

It will cure under the action of atmospheric moisture and form an elastomeric silicone sealant rubber that is waterproof. Its adhesion on most substrates is excellent, and it will not crack or harden even exposed to extreme weather.

- Superior gunning & tooling
- Non sagging
- Fast curing
- Good flexibility after cure
- Excellent weather resistance and durability
- Low shrinkage
- Indoor and outdoor use

Technical Properties

Curing System	: Acid-Curing by Moisture
Appearance (before cure)	: Soft Paste
Appearance (after cure)	: Elastomeric Rubber
Standard Colours	: Translucent, White, Black, Grey
Odor	: Vinegar-like
Density	: 0.97 – 0.99 g/cm ³
Tack-Free Time	: 5 – 15 minutes
Curing Rate	: 4.0 mm/24h
Extrudability	: 230 ml/min
Ultimate Elongation	: > 400 %
Shore A Hardness	: 27
Elastic Recovery	: 98%
Application Temperature	: 5 °C - 50 °C
Service Temperature	: -50 °C - 120 °C

Applications

General sealing applications on various substrates (glass, aluminium, ceramics, painted surfaces, non-oily wood, etc.).

Typical applications include:

- Window, door, and skylight glass sealing
- Glass to glass sealing
- Ceramic materials sealing
- Sealing HVAC, plumbing, roofing
- Sealing trucks, trailers, RVs, and boats
- Appliance assembly
- General DIY / industrial sealing and bonding applications

Features & Benefits

- Cost effective
- Primer-less adhesion on most substrates

Directions for Use

1. Remove all residual dirt, grease, oil, frost, water, and old sealant thoroughly. Clean the surface with a piece of white cloth with solvent, then wipe immediately with another piece of clean cloth. Do not use soap or detergent.
2. For a neat finish and less clean up works, apply masking tape and remove it before sealant skins over.
3. Cut the nozzle to desired bead width at 45° angle, screw it onto cartridge and place cartridge into caulking gun to apply sealant.
4. Apply sealant into the bottom of the joint so that it completely fills the joint, wetting both sides, before moving the caulking gun. Avoid moving too quickly and leave air traps in joint. Do not simply lay a bead on the surface as the sealant will not penetrate the joint by itself. Use backing material or bond breaker tape in joint to avoid three-sided bonding.
5. Tool the sealant immediately after application to provide a smooth finish, and to ensure the sealant wets both sides of the joint for proper bonding. Sealant tooled in a concave profile is recommended. Do not use soap or water as tooling aids.
6. Depending on environment variables, the sealant will have its skin formed in 5-15 minutes after application. Do not disturb the joint until the sealant is cured thoroughly, or adhesion will be affected. It will cure to a depth of 10mm in about 7 days. Longer curing time is expected in dry and low humidity area. Uncured sealant can be cleaned up with solvent or mineral spirit. Cured sealant can only be removed mechanically.

Joint Design

- Joint design should take various factors into considerations, like type of adjacent substrates, temperature changes, etc., please refer to ASTM C1472 for details.
- Sealant should be applied in bead size that complies with the movement capability of the sealant (+-25%) in relation to the anticipated joint width due to joint movements.
- In general, for joint width
 - between 6 to 12 mm, width:depth ratio = 1:1
 - between 12 to 25 mm, width:depth ratio = 2:1
 - between 25 to 50 mm, sealant depth is =<13 mm.

- If sealant is applied in a corner/fillet joint profile, ensure a minimum of 6 mm bonding on both sides of the substrates.

Coverage

- Sealant coverage per cartridge / sausage depends on actual joint width and depth, application style and wastages during application. Calculations can only be a rough reference.

Joint Width	Joint Depth	Coverage (240 ml) **
0.6 cm	0.6 cm	635 cm
1.0 cm	1.0 cm	229 cm
2.0 cm	1.0 cm	114 cm

** Based on 5% wastage assumption. Actual coverage may vary. Formula:

$$\text{Coverage} = V / [W \times D \times 1.05]$$

Coverage = linear run in cm per cartridge (or sausage)
V = volume of cartridge (or sausage) in ml
W = joint width in cm, **D** = joint depth in cm
1.05 = 5% wastage assumption (to revise accordingly)

Limitations

Not recommended for the following applications:

- Substrates that could be corroded by acetic acid released as the sealant cures.
- Polyethylene, polypropylene, and polytetrafluoroethylene (Teflon)
- Traffic areas subject to abrasion.
- Structural glazing or Insulating Glass bonding.
- Alkaline substrates such as concrete, marble, quartzite, or natural stone.
- Bitumen/Asphalt, natural / Chloroprene / EPDM rubber.
- Materials that bleed oil, plasticizers or solvents or release by-products that may inhibit the curing of sealant, affect its adhesion, or discolor the sealant.
- On surfaces that are continuously immersed in water
- On frost-laden, wet or contaminated surfaces
- Applications where sealant surface should be painted – silicone sealants are not paintable.
- Bleeding may occur on porous substrates such as concrete, marble, granite or other natural stones.

- In unventilated areas, or at low temperatures as the moisture content in the air is lower, the curing reaction will take place more slowly.
- Surfaces in direct contact with food or potable water

Storage, Shelf Life, and Packaging

- Store properly in a dry and well-ventilated place with temperature between +5°C to +30°C.
- Use within 12 months from date of production.
- Cartridge – 240ml (24 cartridges / carton)

Handling Precautions

Always test before use - user is responsible to test before using to confirm the sealant produces desirable results.

Be careful with the temperature during application. If the temperature of the substrate surface is above 50°C, it may cause sealant to cure too fast – with bubbles in sealant bead. Likewise, if the substrate temperature is below 5°C, the sealant may cure slower.

Product releases acetic acid odor like vinegar during application and curing, use in well-ventilated areas. Keep out of reach of children. For further health and safety information, please refer to the latest Safety Data Sheet.

Disclaimer

The information provided herein reflects our current best knowledge and is offered as guidance for our customers. However, it does not absolve users from thoroughly inspecting all supplies upon receipt. We reserve the right to update product properties as new developments or technical progress arise. Users should verify the recommendations in this TDS through preliminary trials, as certain conditions during processing are beyond our control. This document does not constitute a warranty, expressed or implied, regarding the fitness or suitability of the product for any specific purpose. The company assumes no responsibility for any loss or damage resulting from product use, as variations in processing, working conditions, or workmanship may occur beyond our control.

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