

## NEMPAL® 113 Antifungal Silicone Sealant

100% Neutral Silicone Sealant for Bathroom / Kitchen / Wet Areas

### Description



NEMPAL® 113 Antifungal Silicone Sealant is a one-part, neutral-curing, 100% silicone sealant with antifungal feature, recommended for joint sealing applications in wet or damp areas like bathrooms, kitchens, laundry rooms, and basements.

The antifungal effectiveness of the sealant has been confirmed according to ASTM G21 test. The sealant also exhibits excellent adhesion on a wide range of substrates, as well as smooth tooling characteristics, making it a superior choice for applicators. It will cure under the action of atmospheric moisture and form a permanently elastomeric silicone sealant rubber that is waterproof. As a 100% silicone sealant, it exhibits excellent resistance to weathering, UV radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, and many cleaning detergents and disinfectants.

floor-to-wall joint, vents and pipes, gaps around faucets, bathroom vanities, toilet cubicles, etc.

- Kitchen – joints / corners prone to water exposure, like countertops and sinks, gaps around faucets, under-sink pipes, base around dishwashers, gaps around backsplashes and exhaust vents, etc.
- Underground basements – cracks / gaps / joints in walls or floors, or floor-to-wall junction joints, expansion joints, gaps around service penetrations in wall / floor, sump pump connections, door & window, floor drains, etc.
- Cold Rooms - prefabricated panel seams, door frames, etc.

*\* Users are responsible to carry out test prior to installation to confirm compatibility with actual substrates, work conditions, and service requirements.*

### Technical Properties

|                                            | 113T                         | 113W         |
|--------------------------------------------|------------------------------|--------------|
| Curing System                              | Neutral - Curing by Moisture |              |
| Base Material                              | Silicone Polymer (Oxime)     |              |
| Appearance (before cure)                   | Non-sagging Soft Paste       |              |
| Appearance (after cure)                    | Elastomeric Rubber           |              |
| Standard Colours                           | Translucent                  | White (Matt) |
| Specific Gravity, g/mL                     | 1.00 ± 0.05                  | 1.40 ± 0.05  |
| Tack-Free, minutes (at 25 °C & 50% R.H.)   | 10 – 20                      | 60 – 90      |
| Curing Rate, mm/24h                        | 3.0 – 4.0                    | 1.5 – 2.0    |
| Extrudability, ml/min                      | ≥100                         | ≥100         |
| Ultimate Elongation, % (ASTM D412)         | 400 – 600                    | 200 - 600    |
| Ultimate Tensile Strength, MPa (ASTM D412) | ≥1.2                         | ≥1.2         |
| Shore A Hardness                           | 20-30                        | 40-50        |
| Mildew Proofing Grade (ASTM G21)           | 0 (highest)                  |              |
| Low VOC Compliance (SCAQMD Rule 1168)      | Yes                          |              |
| Application Temperature, °C                | 5 – 50                       |              |
| Service Temperature, °C                    | -40 – 150                    |              |

### Features & Benefits

- Antifungal - ASTM G21 compliant
- Green product - low VOC compliant (SCAQMD rule 1168)
- 100% neutral silicone
- Primer-less adhesion on most substrates
- Non-sagging - superior gunning & tooling
- No shrinkage after cure
- Good flexibility after cure
- Indoor and outdoor use
- Weathering & UV resistant
- Non-corrosive to metal
- Works well with alkaline substrates like concrete and stone

### 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 10-30 minutes after application. Do not

### Applications\*

Suitable for use in wet or damp areas that are prone to growth of fungi due to high humidity and low ventilation, such as bathrooms, toilets, kitchens, underground basements, or industrial buildings like cold rooms and food storage.

- Bathroom / toilet – shower screen, shower enclosures, bathtubs, sinks, countertop, toilet bowls, urinals and panels,

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  $\leq 13$  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 (300 ml) ** |
|-------------|-------------|----------------------|
| 0.6 cm      | 0.6 cm      | 794 cm               |
| 1.0 cm      | 1.0 cm      | 286 cm               |
| 2.0 cm      | 1.0 cm      | 142 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

Like other silicone sealant products, it is NOT recommended for the following applications:

- Polyethylene, polypropylene, and polytetrafluoroethylene (Teflon).
- Bitumen/Asphalt, natural / Chloroprene / EPDM rubber.
- Traffic areas subject to abrasion.
- Permanent water immersion.
- Structural glazing or Insulating Glass bonding.
- Traffic areas subject to abrasion.
- Polycarbonate and polyacrylate, if under tension.
- 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.
- Applications where sealant surface should be painted – silicone sealants are not paintable.
- Brass, copper or other sensitive metals as it may get discolored.
- 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.

## 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 – 300 ml (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 methylethylketoxime during application and curing. May cause an allergic skin reaction if inhaled in high concentration, 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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