

# MasterSeal<sup>®</sup> NP 472

**Multipurpose, building joint sealant with good weathering and tear resistance.**

## DESCRIPTION

**MasterSeal NP 472** is a high performance one component, moisture curing, polyurethane construction sealant. The product has been formulated to offer a non-slump elastomeric seal in properly designed and constructed joints, which exhibits good skin formation time and a fast cure.

## RECOMMENDED USES

- For interior and exterior application
- For construction and expansion joints in buildings and civil structures
- For joints in precast concrete elements
- For external walling and cladding joints

*Contact local Master Builders Solutions representative regarding any application required not mentioned here.*

## FEATURES & BENEFITS

- Excellent non-sag properties - suitable for vertical surfaces and soffits
- Smooth consistency for easier and quicker application (excellent gunability)
- Short skinning time – early resistance to rain and low risk of dirt pickup
- Excellent adhesion and high durability
- Forms a blister-free surface
- Good UV, weathering and aging resistance
- High elastic recovery
- Resistance to dilute acids and bases

## PERFORMANCE DATA

Shore A Hardness (ISO 868)	~ 25
E-Modulus at 100% Elongation (ISO 8339)	≤ 0.4 MPa
Elongation at break (ISO 8339)	> 400%
Elastic Recovery (ISO 7389)	> 90%
Tear strength (ISO 34)	~ 6.5 N/mm
Movement Accommodation Factor	± 50%
Resistance to flow @ 23°C (ISO 7390)	≤ 3mm

## PROPERTIES

Skin formation time (23°C, 50% RH)	90 - 150 mins
Rate of cure in mm 24 hours (23°C, 50% RH)	≥ 3 mm
Shrinkage (ISO 10563)	≤ 10%
Temperature of application	+5°C to +40°C
Specific gravity at 20°C	1.2g/cm <sup>3</sup>
Service Temperature	-40°C to +80°C

## STANDARDS

- ✓ Conforms to ISO 11600 Class F25LM on anodized aluminum and mortar.
- ✓ Conforms to ASTM C920 Type S, Grade NS, Class 25, use NT, T2, A and M.
- ✓ Meets SNJF standard (class 25 E)
- ✓ EN 15651-1 (F EXT-INT CC).

## APPLICATION

### (a) Surface Preparation

All substrates (new and old) must be structurally sound, free of laitance and loose particles and clean of oil, grease, rubber skid marks, paint stains and other adhesion impairing contaminants.

### Concrete, brick, masonry

Prepare the surface by grinding, sandblasting, or wire brushing. Remove remaining dust and particles by suitable measures such as the use of compressed air. Repair damaged joint edges with appropriate MasterEmaco repair mortars.

### Metal

Remove scale, rust, coatings and any chemical residue or film from the metal

### (b) Joint design

The calculation of the joint design depends upon the technical characteristics of the joint sealant, the adjacent building materials, the exposure of the building and its method of construction. Therefore, all joints must be properly designed in line with the relevant standards.

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## (c) Backer rod

Prevent three points bonding and ensure the recommended sealant depth (see table) by using a closed-cell backer rod. For flat joints prevent three points bonding using a bond breaking tape.

Joint Width (mm)	Sealant Depth (mm)
4	4
6-13	6
13-19	6-10
19-25	10-13
25-30	13-17

Install the backer rod by compressing and rolling it into the joint channel without stretching it lengthwise.

Avoid puncture of the backer rod during installation.

To achieve a smooth, clearly defined joint, mask the joint edges with self-adhesive tape before caulking. Remove the tape immediately after the joint surface is smoothed.

## (d) Primer coat

Depending on the local building regulations, **MasterSeal NP 472** can be applied on concrete without a primer.

However, in case of very porous, cementitious substrates such as poorly compacted or cracked concrete a primer needs to be applied to provide a seal on the substrate surface to avoid air from the substrate escaping into the uncured sealant.

Primer selection:

- porous substrates; e.g. concrete, masonry, renders: MasterSeal P 147
- non-porous substrates; e.g. metals, ceramics: MasterSeal P 137

Allow primer to flash off before sealant application and apply **MasterSeal NP 472** within the open time of the primer.

Do not prime or puncture the backer-rod.

### Please note:

Primers do only help to improve the adhesion but are not a substitute for correct substrate preparation or will improve the strength of it significantly.

## (e) Application

**MasterSeal NP 472** is supplied ready to use (no mixing required) and can be applied either with a manual or a pneumatic caulking gun.

### Cartridge application

Break the seal at the cartridge end, fix the nozzle and cut it to the desired joint diameter. Place the cartridge into an appropriate caulking gun & apply the sealant.

### Sausage application

Place entire sausage into a suitable caulking gun. Cut off the clip at the very end of the sausage. Attach and cut nozzle to the desired joint diameter and apply the sealant.

Fill the joints from the deepest point to the surface with a properly shaped nozzle by applying the sealant material against the back of the joint. Assure full contact with the side of the joint & avoid entrapped air.

## FINISHING AND CLEANING

Smooth and shape the joint surface with a smoothing tool, if necessary smooth again with an alcohol-free smoothing agent. Remove the masking tape immediately after smoothing before the sealant cures.

Tools can be cleaned from fresh material with a solvent cleaner like MasterSeal CLN 917.

Once dry/cured they can only be cleaned mechanically.

## RESISTANCE

**MasterSeal NP 472** has resistance to:

Dilute Acids and Alkalis	Medium
Ultraviolet Light	Good

## CONSUMPTION

The consumption depends on the size of the joint. Consumption can be calculated as follows:

$$\text{Joint width (mm)} \times \text{Joint depth (mm)} \\ = \text{ml of product/linear meter of joint.}$$

### Examples:

10 mm x 10 mm joints: approx. 100 ml/m.

15 mm x 8 mm joints: approx. 120 ml/m.

**Applicable joint length with a 600ml Sausage (in meters)**

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Depth (mm)	Joint width (mm) approx.					
	4	6	8	10	12	20
4	37.5	25.0	18.7	15.0	12.5	7.5
6	-	16.6	12.5	10.0	8.3	5.0
8	-	-	9.4	7.5	6.2	3.7
10	-	-	-	6.0	5.0	3.0

## COLOUR

Grey, White, Black, Brown and Beige

## PACKAGING

**Master NP 472** is available in 300ml cartridges and 600 ml sausages

## STORAGE

Store at a temperature below 25°C. in cool and dry warehouse conditions.

In cold weather, store at about 20°C before use.

## SHELF LIFE

12 months in unopened original packaging, if stored at above mentioned storage conditions.

## WATCH POINTS

- Do not apply at temperatures below +5° C or above +40° C.
- Do not use bitumen-based backer rods.
- Do not use any smoothing agents containing alcohol.
- Light color shades such as white can be affected by environmental influences (e.g. UV radiation), however a change in the color shade does not affect the properties of the product.
- **MasterSeal NP 472** in combination with natural stones might cause staining.

- Spray joints in low humidity environments with mist immediately after smoothing to accelerate the curing process.
- Can be painted over with water-based paints, but for solvent based paints it's advised to do a compatibility test first.
- Best sealing practice is when joints are at the midpoint of their designed width. In case of sealing in different conditions consider additional movement of joints and evaluate the elastic performances of product.
- For repair application contact your local Master Builders Solutions representative prior the application of **MasterSeal NP 472** in joints.
- Do not mix with solvents or other materials that can alter product performance
- **MasterSeal NP 472** is not suitable for:
  - ✓ exposure to concentrated chemicals
  - ✓ potable water applications
  - ✓ permanent exposure to water
  - ✓ exposure to chlorinated water
  - ✓ direct contact with foodstuff

## EQUIPMENT CLEANING

It is recommended that **MasterSeal NP 472** be removed immediately from tools etc using a solvent (toluene or xylene) before curing takes place. Cured material can only be removed by mechanical means.

## HEALTH AND SAFETY

Contains isocyanates, contact with the skin or eyes should be avoided, if ingested, DO NOT induce vomiting. Seek medical attention immediately. Refer to product MSDS.

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## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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