

# MasterSeal<sup>®</sup> NP 472

One part polyurethane based elastomeric joint sealant

## DESCRIPTION

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

## RECOMMENDED USES

**MasterSeal NP 472** has been developed specifically for sealing dynamically moving joints such as; expansion and control joints. **MasterSeal NP 472** demonstrates high elasticity and recovery properties and therefore may be used to bond and seal most common building materials including concrete, glass, wood, stone, metal and anodised aluminium. In addition **MasterSeal NP 472** has excellent tear resistance and good weathering characteristics.

## FEATURES & BENEFITS

- **Single Component** – Easy to use
- **Primer free** – Faster and Easier application
- **Non Staining** – Better Aesthetic retention
- **Low Modulus** – Durable & Resilient seal
- **Non-Sag** – Easy application on vertical surfaces
- **Faster Skinning time** – Low risk of Dirt pickup
- **Good resistance to dilute acids & alkalis** – Wider application range

## PERFORMANCE DATA

Shore A Hardness (ISO 868)	15-20
E-Modulus at 100% Elongation (ISO 8339)	0.15 - 0.20 MPa
Elongation at break (ISO 8339)	>500%
Elastic Recovery (ISO 7389)	>70%
Movement Accommodation Factor	±25%
Resistance to flow @ 23°C (ISO 7390)	≤ 3mm

## PROPERTIES

Skin formation time (23°C, 50% RH)	120 mins
Rate of cure in mm 24 hours (23°C, 50% RH)	≥ 2.5mm
Shrinkage (ISO 10563)	≤ 10%
Temperature of application	+5°C to +40°C
Specific gravity	1.2g/cm <sup>3</sup>
Service Temperature	-30°C to +70°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 and M.
- ✓ Conforms to DIN 18540

## APPLICATION

### (A) PREPARATION:

To ensure excellent adhesion the joint profile including the rises, should be clean, sound, dry and free from any loosely adherent material which could prevent adequate bond to the substrate.

**Concrete, cementitious substrates (e.g. screeds, etc.)**

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, exposure of the building and its method of construction. Therefore all joints must be properly designed by the architect and/or main contractor in line with the relevant standards.

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### (B) BACKER ROD:

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

Joint Width	Sealant Depth at midpoint
4mm	4mm
6-13mm	6mm
13-19mm	6-10mm
19-25mm	10-13mm
25-38mm	13mm

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 smoothened.

### (C) 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.

Priming is strongly recommended when joint is to be fully immersed, constantly wet or subject to heavy traffic.

Do not prime or puncture the backer-rod.

**Note:** Primers only help to improve adhesion. They are not a substitute for correct substrate preparation, nor will they increase the strength of substrates significantly.

### (D) 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.

**MasterSeal NP 472** shall be applied using a conventional sealant application gun, ensuring enough sealant is applied to facilitate the correct width to depth ratio for the joint.

### (E) 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 and avoid entrapped air.

Following the application the sealant must be tooled into place to ensure adequate adhesion with the joint profile is achieved. Finally tool to a neat finish using a solution of soap and water onto a gloved finger or tooling stick.

Long term UV exposure may cause **MasterSeal NP 472** to discolor. This does not affect the **MasterSeal NP 472** performance.

### CHEMICAL RESISTANCE

**MasterSeal NP 472** has resistance to:

Dilute acids and alkalis	Medium
Ultra violet light	Good
Saline solutions	Excellent

### PACKAGING

**MasterSeal NP 472** is supplied in 310ml cartridges and 600ml sausages.

### COLOURS

**MasterSeal NP 472** is available in:

Concrete Grey (RAL 7004), Off White (RAL 1015) and White (RAL 9010)

### CONSUMPTION

The consumption depends on the size of the joint.

Consumption can be calculated as follows:

Joint width (mm) x Joint depth (mm) = 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)

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

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## 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.

## STORAGE AND SHELF LIFE

**MasterSeal NP 472** has a shelf life of 12 months from production date when stored in its original packaging at temperatures between 5°C and 25°C.

## 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.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF representative. BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

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**Master Builders Solutions Ltd.,Co.**

Level 11, Saigon Trade Center, 37 Ton Duc Thang, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam  
 Tel: +84 329 702 998  
 Register number: 0316341574  
 Website: <https://www.master-builders-solutions.com/vi-vn>