

# MasterSeal NP 474

Single component, high modulus polyurethane joint sealant for floors

## DESCRIPTION

MasterSeal NP 474 is a single component polyurethane based sealant for floor joints. It cures under the influence of atmospheric humidity and forms a chemical, good mechanical resistant and elastic joint sealant.


## FIELD OF APPLICATION

- For interior and exterior application.
- For floor connection and expansion joints in buildings and civil structures
- Non corrosive
- For pedestrian and traffic areas (e.g. car decks/parks)
- For warehouse and production areas
- For ceramic tile coverings exposed to traffic (e.g. public areas, shopping centers)
- For medium chemical and mechanical loads (e.g. canteen kitchens, garages)
- For areas constantly submerged in water

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

## FEATURES AND BENEFITS

- Single component – easy to use
- Good mechanical and chemical resistance (see table)
- Excellent adhesion even without primer – see section priming
- Fast curing
- Forms a smooth blister free surface
- High elastic recovery
- Good weathering and aging resistance
- No thermo plasticity (no temperature softening)
- Fast skinning time. Low risk of dirt pickup.
- No residual tackiness.
- Complies to ISO 11600, IVD leaflet No. 1
- Quality audited.

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<b>MasterSeal NP 474 (DE0251/01)</b> <b>EN 15651-1:2012</b> <b>EN 15651-4:2012</b> Sealants for non-structural internal and external use EN 15651-1 Type F EXT-INT CC Joints for facade elements: Class 25 HM EN 15651-4 Type PW EXT-INT CC Joints for pedestrian walkways: Class 25 HM Conditioning: Method A Substrate: Mortar M1 without primer	
Reaction to fire	Class E
Dangerous substances	Evaluated
Tensile properties at maintained extension	Pass
Tear resistance	Pass
Resistance to flow	≤ 3 mm
Loss of volume	≤ 10 %
Tensile properties at maintained extension after immersion in water at 23 °C	Pass
Tensile properties at maintained extension after immersion in salt water	Pass
Tensile properties at maintained extension at -30 °C	Pass
Durability	Pass

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## APPLICATION METHOD

### (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, 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, the 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.

Width (mm)	Depth (mm)
Up to 10	6 - 10
10	8 - 10
15	10 - 12
20	10 - 14
25	12 - 18

### (c) 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.

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 474 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.

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 474 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.

For further details please refer to the corresponding technical data sheet of the MasterSeal P Primers.

### (e) Application

The product is supplied ready to use (no mixing required) and can be applied either with a manual or a pneumatic caulking gun.

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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.

MasterSeal NP 474 can be used horizontally or vertically up to a joint width of 35 mm. In case of wider joints, apply first the sealant to each side of the joint and smooth with a trowel to ensure adequate adhesion. Then fill the remaining cross section of the joint with additional sealant.

### 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. Once dry/cured they can only be cleaned mechanically.

### COVERAGE

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.

Approximate coverage per 600 ml sausage:

Width of joint (mm)	Depth of joint (mm)	Coverage
10	8	7,5 m
15	8	5 m
20	10	3 m

This consumption is theoretical and depends in particular on the evenness of the joint. In special cases a calculation based on in-situ tests might be required.

### COLORS

Grey, white, black, brown and beige.

### PACKAGING

MasterSeal NP 474 is available in 600 ml sausages

### STORAGE

Store in cool and dry warehouse conditions.

### SHELF LIFE

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

### WATCH POINTS

- Do not apply at temperatures below +5° C or above +35° C.
- Do not use bitumen based backer rods.
- Do not use any smoothing agents containing alcohol
- Light colour shades such as white can be affected by environmental influences (e.g. UV radiation), however a change in the colour shade does not affect the properties of the product.
- MasterSeal NP 474 in combination with natural stones might cause staining.
- Spray joints in low humidity environments with mist immediately after smoothing to accelerate the curing process.
- Contact your local Master Builders Solutions representative prior the application of MasterSeal NP 474 in joints that were previously filled with a silicone sealant.
- 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.

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## HANDLING AND TRANSPORT

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed.

Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet. For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

Product Data			
Property	Method	Unit	Data
Density	EN 542	g/cm <sup>3</sup>	approx. 1.2
Working temperature	-	°C	from +5 to +35
Movement Capability	-	-	± 25 % of joint width
Sag flow	ISO 7390	mm	0
Skinning time	-	minutes	approx. 50
Curing rate	-	mm/day	approx. 3
Shore A hardness	ISO 868	-	approx. 35
Elastic recovery	ISO 7389	%	> 90
E-Modulus at 100% elongation	ISO 8339	MPa	approx. 0.4
Elongation at break	ISO 8339	%	> 600
Service temperature range	-	°C	From -30 to + 80

**Note:** Hardening times are measured at 21°C ± 2°C and 60% ± 10% relative humidity. Higher temperatures and/or higher R.H. can shorten these times, and vice versa. Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance

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Chemical Resistance			
Media	Resistance	Media	Resistance
Hydrochloric acid 10%	+	Potassium hydroxide 20%	+
Nitric acid 10%	±	Sodium hydroxide 10%	+
Sulphuric acid 25%	+	Potassium chlorate 10%	+
Acetic acid 10%	+	Calcium hydroxide (saturated)	+
Lactic acid 20%	+	Engine oil 100%	+
Citric acid 50%	+	Sunflower oil	+
Regular petrol lead-free 100%	-	Vegetable oil	(+)
Diesel	+	Sodium hypochlorite 12%	(+)
Toluene 100%	-	Hydrogen peroxide 35%	(+)
Kerosene	(+)	Neutral soap	+
Aliphatic solvent 100%	+	Water distilled 100%	+
Xylene 100%	-	Ammonia 20%	+
Ethylene glycol 100%	+	Sea water	+
Ethanol 100%	-	Brine	+
Methanol 100%	-	Methylethylketone 100%	-
Glycerine 100%	+	Formaldehyde 40%	(+)
Acetone 100%	-	Ethyl acetate 100%	-

+ resistant without any changes

(+) resistant, but with changes (slight swelling). Only for occasional contact or splashing mode, with periodical cleaning.

- non-resistant

#### Disclaimer:

In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer.

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