

MasterSeal® NP 474

High modulus joint sealant for floors and walls with good chemical resistance

DESCRIPTION

MasterSeal NP 474 is a single component polyurethane based sealant for floor & walls joints with excellent resilience and pick resistance. It cures under the influence of atmospheric humidity and forms an elastic, chemical resistant joint sealant with excellent mechanical properties.

FIELD OF APPLICATIONS

- Interior and exterior application.
- Connection and expansion joints in buildings and civil structures
- Pedestrian and traffic areas (e.g. car decks/parks)
- Warehouse and production areas
- Ceramic tile coverings exposed to traffic (e.g. public areas, shopping centers)
- For medium chemical and mechanical loads in industrial environments
- Expansion and construction joints in water management, e.g. water transport channels
- 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
- Excellent adhesion even without primer
- Fast curing
- Forms a smooth blister free surface, only when applied onto dry substrates
- 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

STANDARDS

Classification according to ISO 11600 standard: Class F – 25 HM

Classification according to ASTM C-920 standard: Type S, Grade NS, Class 25, uses NT, T1, A and MCE marking – sealant for façade element for interior & exterior applications used in cold climate

EN 15651-1 (F EXT-INT CC)

EN 15651- 4 (PW EXT-INT CC)

PERFORMANCE DATA

Shore A hardness (ISO 868)	Approx. 40
Modulus at break (ISO 37)	~ 1.4 MPa
Elongation at break (ISO 37)	> 600%
Tear strength (ISO 34)	~ 10 N/ mm
Movement Accommodation Factor	± 25 %
Tensile strength	1N/mm ²
Recovery (ISO 7389)	~ 90 %
Sag flow (ISO 7390)	< 3mm

PROPERTIES

Density	1.2 g/ml
Skinning time (23°C and 50 % RH)	~ 70 min
Curing rate	3 mm/day
Temperature resistance	-40 to +80°C (for cured sealant)

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

MasterSeal[®] NP 474

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.

(c) Backer rod

Prevent any 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)
Up to 10	6 - 10
10	8 - 10
15	10 - 12
20	10 - 14
25	12 - 18

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 101**
- Non – porous substrates: e.g. metal, 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 only help to improve adhesion. They are not a substitute for correct substrate preparation, nor will they increase the strength of substrates significantly.

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

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 joint and avoid entrapped air.

MasterSeal NP 474 can be used horizontally or vertically up to a joint width of 35mm. 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.

MasterSeal[®] NP 474

Tools can be cleaned from fresh material with a solvent cleaner, e.g. MasterSeal CLN 917.

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 packaging

Width joint	Depth joint	Coverage 600
10	8	7.5m
15	8	5m
20	10	3m

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.

PACKAGING

MasterSeal NP 474 is supplied in 600ml sausage.

COLOURS

MasterSeal NP 474 is available in:

Grey, White, Black, Brown and Beige

STORAGE & SHELF LIFE

MasterSeal NP 474 has shelf life of 12 months in closed original packaging stored at a temperature below 25°C.

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

WATCHPOINTS

- 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 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.

Do not mix with solvents or other materials that can alter product performance.

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.

MasterSeal® NP 474

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

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