

MasterJoint™ NPIR 474

Polyurethane Based One Component High Modulus Elastomeric Joint Sealant

Material Description

MasterJoint™ NPIR 474 is a polyurethane based elastomeric joint sealant resistant to weather conditions, UV resistant and degradations caused by chemical substances in the atmosphere.

EQ Credit 4.1: Adhesive and Sealants (VOC)
A+French VOC

Areas of Application

- Indoors and outdoor areas for vertical and horizontal applications
- Joints of structures that are above ground
- Restoration of old and new buildings
- Connection joints between wood window, doorframes and walls
- Parapet corners on roofs and terraces
- Joints of prefabricated elements
- Between precast wall panels

- Moving joints up to 25%
- Precast rain gutter, roof drain pipes, and parapet joints
- Joints of PVC or aluminum sidings
- To prevent leakage in aluminum, metal, PVC, and wooden woodworks and in junction details
- Industrial flooring applications

Characteristics and Benefits

- Easy and quick application
- Single part
- Ready to use
- Moisture curing
- Highly flexible
- Enables perfect bonding on concrete, stone, metal, wood and other construction materials
- Can be applied on many surfaces without primer
- Weather conditions do not change its physical properties during service period
- Limited chemical resistance

Technical Properties

Structure of the Material	Polyurethane Based
Color	White, Limestone, Grey, Black
Density	1,20 ± 0,03 g/ml
Shore A Hardness	35-40
Elongation at Breaks (ISO 8339)	≥%100
Elongation at Breaks (ASTM D412)	≥%600
Tensile Strength (ASTM D412)	1,5 – 2,0 N/mm ²
Elasticity Modulus (ISO 8339)	23°C 0,30 – 0,40 N/mm ² -20°C ≤0,60 N/mm ²
Application Temperature	+5°C- +40°C
Service Temperature	-40°C- +90°C
Cured	24 hours 2,5 mm 7 days Fully Cured
Paintable	Yes*

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations.

*Considering the diversity of paint base and quality, compatibility tests should be done before application.

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- No sagging, thixotropic
- No surface tackiness after full cure, dirt repellent surface
- Can be applied easily with hand gun
- Paintable *

* Before painting, field mock – up should be done to ensure best end result.

Processing Method

(A) Preparation of Substrate

Joint Design

In joints where **MasterJoint NPIR 474** will be applied, recommended width of the joint must be between 10 mm to 35 mm and depth 8 mm to 15 mm. Please refer to coverage table for joint depths (Approximately: depth/width=1/2). Movements of the joints must not exceed $\pm 25\%$ of joint width.

Concrete and Stone Surfaces

Joints must be dry, sound and free from dust and other contamination. Remove oil stains and grease from the substrate with the universal thinner. Irregularities on the surface must be repaired with **MasterStrength® ER 1406**. Apply masking tape on the outer sides of the joint to prevent staining.

Metal Surfaces

Remove rust on the metal substrate. Remove oil stains and grease from the substrate with a suitable oil remover. Do not allow flash rusting of the surface. Fill deep joints with closed cell polyethylene backer rod which must not be damaged during the application. Do not use backer rods containing bitumen or tar.

Woodworks

MasterJoint NPIR 474 can be applied on most old and new painted woods. However, old woodworks have to be cleaned from swelled old paints and sandpapered until a smooth surface is obtained.

(B) Processing

Primer Application

MasterJoint NPIR 474 can be applied on many surfaces without primer.

Sealant Application

Place **MasterJoint NPIR 474** sausage in a suitable sausage gun. Cut the top of the sausage. Fix the nozzle hoop and cut the nozzle as desired. Apply **MasterJoint NPIR 474** starting from the bottom to the top. Avoid air entrapping. Smooth the surface with a suitable jointing tool remove masking tape from the surface. Place **MasterJoint NPIR 474** cartridge in a suitable gun. Cut the nozzle as desired. Apply **MasterJoint NPIR 474** starting from the bottom to the top. Avoid air antrapping. Smooth the surface with a suitable jointing tool remove masking tape from the surface.

Consumption

Theoretical joint lengths with **MasterJoint NPIR 474** sausage (600 ml):

Joint Width	15 mm	20 mm	25 mm	30 mm	35 mm
Joint Depth	8 mm	10 mm	12 mm	15 mm	15 mm
Joint Length/ 600 ml	5 m	3 m	2 m	1,3 m	1,1 m

Above coverages are theoretical and may change according to the joint shape and polyethylene backer rod placement.

Point to Consider

- Do not apply **MasterJoint NPIR 474** on substrates below +5°C and above +40°C.
- Application must be protected from rain or water contact within the first 48 hours.

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- Working and reaction time of polyurethane based systems are affected from the ambient by environment and ground temperature, and relative humidity in the air. Low temperatures slow down the chemical reaction, and increase working period, coating time, and work time. Also coverage decreases because viscosity increases. High temperatures accelerate the chemical reaction and times stated above are reduced depending on this. For the material to complete its curing, environment and ground temperatures must not fall down below the minimum allowed value.

Cleaning of Tools

All the tools and equipments must be cleaned by solvent after the application. After **MasterJoint™ NPIR 474** is hardened, it can only be removed from the surface mechanically.

Packaging

600 ml sausage
(There are 20 pieces in box)

Shelf Life

15 months after the production date under appropriate storage conditions. Opened packages must be used.

Storage

Must be stored in between +5 °C and +35 °C, unopened original packing, and in cool and dry environment protected from freezing.

Health and Safety

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water

and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

Disclaimer

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