

MasterJoint 474

Single-component polyurethane sealant for wall and industrial-flooring joints, channels, and precast reinforced-concrete elements.

Material description

MasterJoint 474 is a single-component, moisture-curing polyurethane sealant for joints in indoor and outdoor flooring, as well as for both horizontal and vertical joints in hydraulic structures such as tanks and channels. Suitable for contact with drinking water.

Main uses

The polyurethane sealant **MasterJoint 474** is suitable for use in the following situations:

- treatment of joints and/or cracks;
- treatment of expansion joints in walls, overhead or on floors;
- treatment of joints in constant contact with water;
- treatment of joints in environments with moderate chemical exposure (garages, kitchens, industrial facilities, etc.);
- treatment of joints on surfaces susceptible to vandalism;
- used as a non-structural adhesive for various items of different types.

For any application not covered in this technical data sheet, or if you have any queries, please contact the Master Builders Solutions technical department.

Features

- Easy to apply.
- Single-component.
- Excellent extrusion.
- Excellent adhesion to concrete surfaces, even without a primer.
- Quick-setting.
- Quick-drying to prevent dirt from sticking.
- High elasticity.
- Easy to restore.
- A medium-modulus material that reduces the risk of cohesive/adhesive failure.
- High ductility at fracture.
- It does not exhibit thermoplastic properties (softening as the temperature rises).

- Once cured, the product can withstand operating temperatures ranging from -40°C to +80°C.
- Good chemical resistance (see resistance table).
- Suitable for permanent immersion in water.
- Suitable for contact with drinking water.
- Classification according to ASTM C-920: Type S, grade NS, classes 25 and 50, applications NT, TI, A and M.
- Classification in accordance with ISO 11600: F 25 HM.
- Approved for use as a low-flame-propagation surface material (IMO 653 certified).
- Colours available: white and grey.

Consumption

Depending on the size of the joint to be filled.

Some examples of applications:

10 mm x 8 mm joint = 80 ml/m of product

15 mm x 8 mm joint = 120 ml/m of product

Yield:

Width (mm)	Depth (mm)	Yield (1 tube of 600 ml)
10	8	7.5 metres
15	8	5 metres
20	10	3 metres

Packaging and storage

MasterJoint 474 is available in 600 ml tubes.

Keep the product in its original packaging in a dry, protected location at a temperature between +5°C and +35°C.

Under the above conditions, the product has a shelf life of 18 months.

Preparation and method of application

Calculation of the design of the joint depends on the technical characteristics of the joint sealant, the adjacent building materials, the exposure and the construction method used. It follows that all joints must be properly calculated by the designer and/or contractor in accordance with current regulations.

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Preparing the substrates

- The surface to be treated must be clean, sound (minimum tensile strength of 1 MPa), dry (maximum moisture content 4% by weight) and free from cement laitance, traces of release agents, or any substances that could affect the adhesion of the product to the substrate.
- If there are sections of concrete that are damaged or require levelling, use the appropriate product from the **MasterCrete** range.
- The substrate must be at a temperature between +5°C and 35°C, and in any case at least 3°C above the dew point. Try to apply the product and allow it to cure at a constant temperature.

Use of the primer

- **MasterJoint 474** does not require a primer for application on the most common substrates, such as concrete, wood, anodised aluminium, polyester, glass, stone and tiles.
- For "difficult" materials, such as PVC, ABS and PMMA plastics or lacquered metal surfaces, carry out a preliminary test to determine whether the surface needs to be primed.

Bottom of the joint

- To fill the bottom of the joint, a closed-cell polyethylene cord must be used to ensure that the sealant adheres only to the sides of the joint.
- The joint filler must be positioned so that the depth to be filled with sealant is approximately half the width of the joint:

Width (mm)	Depth (mm)
Up to 10	From 6 to 8
10	From 8 to 10
15	From 8 to 12
20	From 10 to 14
25	From 12 to 18
30	From 15 to 22

Installation

MasterJoint 474 is supplied ready for use. Cut one end of the tube, then insert it into a suitable manual gun (such as a Wexford or Avon gun) or pneumatic gun.

Secure the nozzle and then cut it to the required diameter for the joint, and apply the sealant.

Fill the joints, starting from the deepest point and working your way up towards the surface, using a nozzle of the appropriate shape.

Check that the material adheres smoothly along the joint, without trapping any air.

For joints wider than 35–40 mm, first apply the sealant to both sides of the joint, then smooth it out with a trowel to ensure proper adhesion. Then fill the remaining part of the joint with more sealant.

Ageing and maturation

Try as far as possible to allow **MasterJoint 474** to cure at a constant temperature that is the same as the application temperature.

Keep the product away from rain until it has fully set.

Application temperatures

Application environment temperature needs to be between +5°C and +35°C.

Warnings

- Do not apply to surfaces at temperatures below +5°C or above +35°C.
- Avoid working in strong winds or intense sunlight.
- Do not use MasterJoint 474 in joints with a movement rate exceeding 25%.
- The best time to treat the joint with MasterJoint 474 is when the joint is in its mid-deformation state, between the expected expansion and contraction. Instead, the condition of the joint at the time of application must be taken into account.

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- MasterJoint 474 is not suitable for sealing joints with surfaces made of asphalt, PTFE, polyethylene or rigid PVC unless the surface has been treated to roughen it and open the pores.
- The white version of the product may change colour over time due to direct exposure to UV light or ozone. The change in colour does not alter the mechanical or chemical properties of the sealant.
- Do not use bituminous materials as a joint filler.
- Do not add solvents or any other substances that may affect the final properties of the product.
- We do not recommend painting over the sealant, unless you use a product with a degree of flexibility equal to or greater than that of the sealant. We recommend carrying out a test run in all cases.

Technical data

Product identification data	
Packaging	600 ml tubes
Density (EN 542)	1.2 g/cm ³
Maximum joint width for application	Vertical: 40 mm Horizontal: 35 mm
Application temperature (ambient, substrate and material): min / max	+5°C / +35°C
Film formation	30 – 45 minutes
Curing speed at 23°C and 50% relative humidity	About 3 mm per day
Shore A hardness (ISO 868)	Around 40
Minimum/maximum operating temperature	-40°C / +80°C

Performance

Feature	Test method	Regulatory requirement	Product performance
Elastic recovery	ISO 7389	none	≥ 90 %
Range of motion (% of joint width)	-	-	25%
Vertical stability at 50°C	-	-	0 mm
Elastic modulus at 100% elongation	ISO 8339	none	Approximately 0.45 MPa
Tensile strength	ISO 8339	none	Approximately 0.9 MPa
Adhesion to concrete without a primer	ISO 8339	none	Approximately 0.7 MPa
Elongation at break	ISO 8339 none ≥ 600 %		

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Chemical resistance – NFP 85507

Corrosive substance	Concentration (% by weight)	Resistance
Inorganic acids		
Hydrochloric acid	10%	Resistant to continuous contact
Nitric acid	10%	Resistant to short-term contact (< 72 hours)
Sulphuric acid	25%	Resistant to continuous contact
Organic acids		
Citric acid	50%	Resistant to continuous contact
Lactic acid	20%	Resistant to continuous contact
Acetic acid	10%	Resistant to continuous contact
Solvents and hydrocarbons		
Unleaded petrol	100%	Not durable
Diesel fuel	100%	Resistant to continuous contact
Aliphatic solvent	100%	Resistant to continuous contact
Kerosene	100%	Resistant to continuous contact
Toluene	100%	Not durable
Xylene	100%	Not durable
Alcohols and esters		
Methanol	100%	Not durable
Ethanol	100%	Not durable
Glycerine	100%	Resistant to continuous contact
Acetone	100%	Not durable
Ethyl acetate	100%	Not durable
Methyl ethyl ketone (MEK)	100%	Not durable
Ethylene glycol	100%	Resistant to continuous contact
Aldehydes		
Formaldehyde	40%	Resistant to short-term contact (< 72 hours)
Bases		
Sodium hydroxide	10%	Resistant to continuous contact
Potassium hydroxide	20%	Resistant to continuous contact
Calcium hydroxide	At saturation	Resistant to continuous contact
Potassium carbonate	10%	Resistant to continuous contact
Ammonia	20%	Resistant to continuous contact

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Oils		
Engine oil	100%	Resistant to continuous contact
Sunflower oil	100%	Resistant to continuous contact
Vegetable fat	100%	Resistant to short-term contact (< 72 hours)
Oxidising agents		
Distilled water	100%	Resistant to continuous contact
Seawater	100%	Resistant to continuous contact
Brine	At saturation	Resistant to continuous contact
Potassium chloride	25%	Resistant to continuous contact
Mild soap	-	Resistant to continuous contact
Sodium sulphate	At saturation	Resistant to continuous contact
Ammonium chloride	10%	Resistant to continuous contact

Chemical resistance – In-house tests

Corrosive substance	Concentration (% by weight)	Resistance
Silage effluent	Milk 3% Vinegar 1.5% Butyric acid 0.5%	Resistant to continuous contact
Sewage	Monoammonium phosphate 7%	Resistant to continuous contact

Safety instructions

For guidance on the correct and safe use, transport, storage and disposal of the product, please see the latest Safety Data Sheet (SDS).

Other services

For additional technical information, brochures, references, technical reports and technical assistance please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical sheet and any additional documentation.



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Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes. This version supersedes all the previous ones.

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