



The Chemical Company

# MASTERFLEX® 474

## Polyurethane Based Single Component Elastomeric Joint Sealant Mastic

### Description of Product

**MASTERFLEX® 474** is a polyurethane based elastomeric joint sealant mastic resistant to weather conditions, UV rays, and degradations caused by chemical substances in the atmosphere.

### Standards

DIN 18540 - F

### Fields of Application

- In inner and outer areas for vertical and horizontal applications.
- In joints of structures that are above the ground.
- In restoration of old and new buildings.
- In parapet corner junctures of roofs and terraces.
- In juncture details of prefabricated components.
- In between precast wall panels.
- In moving joints up to 25%.
- In precast rain gutter, roof drain pipes, and parapet joints.
- In junctures of sidings like PVC and aluminum.
- To prevent leakage in aluminum, metal, PVC, and wooden woodworks and in juncture details.

### Features and Benefits

- Easy and quick to apply.
- Single component.
- Ready to use.
- Ability to be cured by moisture in the air.
- Highly flexible.
- Enables perfect adherence with concrete, stone, metal, wood, and other construction materials.
- Applied on many surfaces without primer.
- Weather conditions do not change its physical properties during service period.
- Has chemical resistance.

### Application Procedure

#### Joint Design

In joints where **MASTERFLEX® 474** will be used, width must be between 10 mm to 30 mm, and depth 10 mm to 15 mm. Please refer to coverage table for joint depths (Approximately: depth/width = 1/2). Movements in the joints must not be over  $\pm 25\%$  of joint width.

### Technical Data

Structure of the Material	Polyurethane based
Movement Ability	$\pm 25\%$
Shore A Hardness	~30
Elongation in Rupture	> 450%
Elasticity Module (ISO 37)	~0.25 N/mm <sup>2</sup>
Contraction	None
Application Ground Temperature	+5°C +25°C
Service Temperature	-30°C +80°C
Curing	
24 hours	~2 mm
7 days	Total curing

Obtained in +23°C, 50% relative humidity conditions. Higher temperatures decrease the time, lower temperatures increase the time.



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## Preparation of Substrate

### Concrete and Stone Surfaces

Inner and outer surfaces of joints has to be strong, dry, bearing, dustless, clean, and also in balance and smooth. Surface must be cleaned off all kinds of oil, grease, rust, and paraffin traces that can weaken adherence and no loose particles must be present. Disorders on the surface must be fixed by **Concresive® 1406**. Outer sides of joints, where Preparation of Substrate is completed before, must be protected by adhering masking band in appropriate width.

### Metal Surfaces

Metal surfaces must be cleaned off all kinds of oil, grease, and rust traces that can weaken adherence and suitable surface has to be obtained by sand blasting. When it is not possible to make sand blasting, cleaning must be made by air scraper gun or dish wirebrush. When the surface is greasy and oily, oil rippers are used. Outer sides of joints, where Preparation of Substrate is completed before, must be protected by adhering masking band in appropriate width.

### Wooden Woodworks

**MASTERFLEX® 474** can be adhered on most old and newly painted woods. However, old wooden woodworks have to be cleaned from swelled old paints and sandpapered until a smooth surface is obtained.

## Application Method

### Primer Application

**MASTERFLEX® 474** is a joint sealant mastic that doesn't require priming. However, under special circumstances during the application, **Elastoprimer® 135** (on absorbent surfaces) and

**Elastoprimer® 145** (on non-absorbent surfaces) can be used as primer.

### Mastic Application

**MASTERFLEX® 474** sausage is put into aluminum mastic gun from its mouth and its tip is cut off. Then nozzle is applied on the gun, and it is ready to use. Afterwards, **MASTERFLEX® 474** sausage has to be applied on the joint, where polyethylene wick is placed before, starting from the surface of the wick and going to right and left inner surfaces, and then to the middle of the joint. After this 3-step process, filled joint surface must be smoothed by joint spatula. Then, masking bands have to be taken from the surface without deforming the joint.

**MASTERFLEX® 474** cartridge is put into suitable cartridge gun and its nozzle is cut appropriately for usage type. Afterwards, separating safety diaphragm, found in the cross-section where nozzle and cartridge are connected, is punctured by a thin-tip screwdriver from a few places, and the cartridge becomes ready to use. Afterwards, **MASTERFLEX® 474** cartridge has to be applied on the joint, where polyethylene wick is placed before, starting from the surface of the wick and going to right and left inner surfaces, and then to the middle of the joint. After this 3-step process, filled joint surface must be smoothed by joint spatula. Then, masking bands have to be taken from the surface without deforming the joint.

### Coverage

Theoretical joint lengths by using **MASTERFLEX® 474** sausage (600 ml):

Joint Depth	JOINT WIDTH				
	10 mm	15 mm	20 mm	25 mm	30 mm
10 mm	6,00 m	4,00 m	3,00 m		
12,50 mm				1,92 m	
15 mm					1,33 m

*Coverage is theoretical. Coverage changes depending on smoothness of joint and shape of polyethylene wick placement.*

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## Watchpoints

- If surface temperature is below +5°C or over +35°C in **MASTERFLEX® 474** application, then suitable temperatures must be waited for.
- In outer surface applications, joints must be protected from rain and water during the first 48 hours.
- Working and reaction time of polyurethane based systems are affected 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.
- Do not use in joints of natural stone covered surfaces.

## Cleaning of Tools

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

## Standard Colors

White  
Gray  
Beige  
Black  
Brown

## Packaging

310 ml cartridge.  
600 ml propack.

## Storage

Must be stored in unopened original packing, and in cool and dry environment protected from freezing. In short-term storing, maximum 3 palettes can be stowed on top of each other and delivery has to be according to first in first out system. In long-term storing, the palettes must not be stowed on top of each other.

## Shelf Life

18 months after the production date under appropriate storing conditions. Opened packages must be used.

## Health and Safety Precautions

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Due to irritant effects of the non-cured material, avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

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**Chemical Resistance Table**

	Concentration (% Weight)	Resis- tance		Concentration (% Weight)	Resis- tance
<b>Inorganic Acids</b>			<b>Ester</b>		
Hydrochloric acid	Up to 10%	+	Ethyl Acetate		-
Nitric acid	Up to 10%	+			
Sulfuric acid	Up to 5%	+	<b>Oils</b>		
			Vegetable Oil		+
<b>Organic Acids</b>			Mineral Oils		+
Acetic Acid	Up to 5%	(+)			
Formic Acid	Up to 5%	(+)	<b>Oxidants</b>		
Lactic Acid	Up to 20%	+	Sodium Hypochlorite	Up to 12%	+
Citric Acid	Up to 50%	+	Hydrogen Peroxide		-
<b>Solutions</b>			<b>Other</b>		
Soda Solution	Up to 5%	+	Neutral Cleaning Materials		+
Soda Solution	Up to 10%	(+)	Neutral Waters and Cleaning Materials		+
Ammonia	Concentrated	+	Pure Water		+
Caustic Potassium Solution	Up to 20%	+	Phenol		-
Calcium Hydrate	Saturated	+	Whey		+
Ammonia Solution	Concentrated	+	Glycerin		+
			Ethylene Glycol		+
<b>Aldehyde</b>					
Formaldehyde	Up to 37%	+			
			+ Resistant		
<b>Solvents and Hydrocarbons</b>			(+ Resistant for a Short Time		
Unleaded Gasoline		(+)	- Not Resistant		
Toluen		-			
Isooctane		+			
Fuel oil		+			
Gasoil		+			

## Disclaimer

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