

# Masterflex 480 (formerly known as Sam-Seal PU 230)

## Polyurethane sealant

### Description

A two component polyurethane based sealing compound based on polyurethane blended with fillers and chemical curing agents, which reacts after mixing to form a durable rubber like seal, Masterflex 480 is available in both Gun Grade and low viscosity porable grade.

This sealant is highly elastic and is able to withstand continuous extension and recovery. It may be used with most common building materials such as concrete, plaster, brick and stone. It exhibits superior resistance to abrasion, ultra violet light and ozone, making it suitable for exterior use. Due to its excellent water resistance and adhesion plus resistance to biodegradation it forms the ideal material for use in water retaining structures and sewerage treatment plants.

Masterflex 480 complies with selected requirements of SABS 1077-1984

### Uses

To form a long lasting water and weatherproof seal in both horizontal and vertical moving joints and joints which are subject to continuous cyclic movement.

Typical applications include joints in curtain walls, floor expansion joints, drainage channels and water retaining structures, between precast units and to seal pipe sections.

### Application Directions

**Joint Design:** The minimum width and depth of a joint should be 6 by 6 mm. Horizontal joints, where possible, should be at least 5 mm and not more than 25 mm deep. The depth of the joint should never exceed its width. Except in the case of water retaining structures and where shear movement is

anticipated the ratio of width to depth of 2:1 should if possible be maintained. This ratio provides the optimum geometry to allow movement to occur within the joint without placing excessive force on the joint faces.

Joint faces should be parallel and the joint width should be at least four times the maximum anticipated movement. When placing the sealant the joint opening should be central to its maximum compression/expansion cycle.

**Surface Preparation:** The correct preparation of the joint faces is absolutely essential to the satisfactory performance of the sealant. All surfaces should be dry and sound and laitance or surface contamination should be removed by thorough wire brushing, grinding or grit blasting. Vacuum or blow with compressed air to ensure thorough removal of dust. Metal surfaces should be free of mill scale and rust and mild steel treated with a suitable anticorrosive primer.

**Bond breaker:** To ensure proper movement of the joint a bond breaker must be used at the base of the joint. Where a backing material such as polyethylene foam rod is used to ensure the correct joint geometry a bond breaking tape is not required. For water retaining structures care must be taken to comply with the design requirements.

**Priming:** Masterflex Primer 2 should be used on glass, ceramics and sound surfaces not subjected to water immersion. The primer is a one part chemically active liquid

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and should be used as supplied. Brush apply a single thin coat and allow drying for at least ten minutes before application of the sealant. If sealant is not applied after three hours re-prime.

For water retaining structures, porous or friable surfaces or where severe conditions are expected use **Masterflex Primer 2** twin pack epoxy primer. Mix base and activator thoroughly and apply the mixed material with a brush to the joint faces ensuring complete coverage. Particular attention should be paid to any voids and hollows. Allow at least 30 min. for the solvent to evaporate and apply the sealant. After approximately 3 hours or once the primer has lost its tack, re-prime. Protect the primed surface from dust and dirt, which could coat it and interfere with the adhesion of the sealant.

**Mixing:** A 2l kit of Masterflex 480 is supplied in a 2.5l plug lid can. The activator is packaged in a plastic bag, which rests on top of the sealant base separated from it by a plastic sheet.

Remove the plastic separating sheet, transfer the total quantity of activator onto the base component and mix thoroughly using a slow speed electric drill fitted with a flat blade stirrer. Scrape down the sides of the can and the base and remix until the colour is uniform and free from streaks. Thorough mixing is essential and should take 5 to 10 minutes.

**Application:** Fill the sealant into a closed barrel gun using a follow plate or small trowel. Inject the sealant into the joint using a continuous squeezing of the trigger to ensure a smooth continuous flow of material. Fill the joint from the bottom up and ensure that there is contact between the sealant and joint surfaces.

To assist in removing air bubbles and ensure contact of the sealant with the walls of the joint the sealant

**Material Usage Estimating Guide Wastage not allowed for**

should be tooled to a smooth finish using a rounded spatula. A soapy solution may be used to aid the process. Remove any masking tape applied before cure has commenced.

## Cleaning

Clean all tools and equipment with Solvent 2 Thinners before setting of the sealant has taken place.

## Properties

Mixing ratio	Do not split kits
Density	1.45g/cm <sup>3</sup>
Pot life (at 25°C)	1 hour at 25°C
Application temperature	5-35°C
Service temperature	-10°C to +90°C
Hardness	±25 Shore A
Movement Accommodation	30%
Tack free	2 days - Temperature dependant
Full cure	7 days
Chemical resistance	Most dilute chemicals. Not resistant to aggressive chlorinated water.

## Packaging

Supplied in 2l kits.

## Shelf Life

6 Months correctly stored

## Storage

Store under cover, out of direct sunlight and protect from extremes of temperatures.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult BASF Construction Chemicals SA's Technical Services Department.

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		JOINT WIDTH mm					
		6	12	20	25	30	40
JOINT DEPTH mm	6	55.5	27.8	16.7	13.3	11.1	8.4
	12	27.8	13.9	8.4	6.7	5.5	4.2
	20	16.7	8.4	5.1	4	3.4	2.5
	25	13.3	6.7	4	3.2	2.7	2
	40	11.1	5.5	3.4	2.7	2.2	1.7

Approx. length of Joint in metres per 2.0 litre unit

## Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes mouth, skin and foodstuffs (which can also be tainted with vapour until product is fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use

## Quality and care

All products originating from BASF Construction Chemicals' SA facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001:2000.

## Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF Construction Chemicals SA representative. BASF Construction Chemicals SA reserves the right to have the true cause of any difficulty determined by accepted test methods

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As all BASF's technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.

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