



The Chemical Company

MASTERFLEX® 700 FS

High performance, epoxy polysulphide elastomeric joint sealant (pouring grade)

Description

MASTERFLEX 700 FS is a high performance, epoxy polysulphide based sealant possessing excellent resistance to deterioration due to weathering, ozone, ultra-violet light and attack by chemicals present in industrial atmospheres as well as for full immersion conditions. It has the ability to withstand repeated cycles of compression and extension over a wide temperature range, and has excellent adhesion properties to all materials commonly employed in building, construction and civil engineering works. MASTERFLEX 700 FS is supplied in pouring grade for sealing horizontal and vertical joints where movement is expected, or where the performance specification is too rigorous for most common mastic and joint sealers. It is ideal for use in expansion joints in reinforced concrete structures such as bridges, reservoirs, water treatment works, sea walls, sewage tanks and roads, etc. It is suitable in floors subject to heavy usage where a high resistance to damage is required.

Typical Uses*

- New Control Joints
- Random Crack & Control Joint Repair
- Airport Runway Control Joints
- Balcony Decks
- Sewage tanks
- Parking Decks
- Chemical Plants
- Waste Water Treatment Plants
- Food Processing Plants
- Canning and Bottling Plants
- Manufacturing facilities

Typical properties*

Colour:	Grey
Solid content %:	100%
Viscosity:	Thixotropic paste
Tack free at 20°C:	36 hours
Tack free at 40°C:	16 hours
Staining:	None
Slump gun grade:	Nil
Resistance to ozone:	Non-crack
Hardness shore A:	46
Operating temperature:	-20°C to 80°C
Movement Accommodation Factor	25%

Packing

- Pouring Grade: 4.0 litre sealed containers

Standards

ASTM C920 – 79; BS 4254 – 83
TT-S-00227E

Chemical Resistance*

Chemicals (full immersion conditions)	Resistance
Sulphuric Acid 10%	L
Hydrochloric Acid 5%	L
Diesel	E
Gasoline	E
Sodium Chloride 50%	E
Formaldehyde 10%	E
Ammonium Hydroxide 10%	E
Sodium Hydroxide 10%	E
Calcium Hydroxide (saturated)	E
Lactic Acid 5%	D
Nitric Acid 5%	L
Vegetable Oil	E
Deionized Water	E
Chlorine Water (50ppm)	E
Ethanol 20%	E
Acetic Acid 5%	L
Phosphoric Acid 10%	E

For long term chemical resistance please consult the Technical Department.

E – (Excellent Resistance, no change in material even after 7 days of full immersion)

L – (Limited Resistance, material can withstand full immersion conditions up to 3 days)

D - (Maximum Resistance up to 24h under full immersion conditions)

Typical set and cure times*

Property	5°C	10°C	25°C	40°C
Pot life	24 hrs	18 hrs	2 hrs	30 mins
Initial set	5 days	72 hrs	24 hrs	3 hrs
Full cure	8 wks	5 wks	9 days	7 days

Joint size

Joint size may range from a minimum of 5mm to a maximum of 50mm wide. Joints with cyclic



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movement should have a width to depth ratio of 2:1 and be designed so total movement does not exceed the 25% M.A.F. related to the joint width. Sealant depth shall not exceed joint width.

Minimum sealant depth recommended:

- 5mm for metals, glass and other impervious surfaces.
- 10mm for all porous surfaces.
- 20mm for joints exposed to hydrostatic pressures.
- Recess 5mm for joints exposed to traffic.

Application procedure

Joint preparation surface treatment:

Concrete & Masonry	Surface must be clean and dry. Wire brush thoroughly and remove dust and all contaminants.
Metals	Remove any corrosion or millscale by grit or shotblast, wire brush, grinder or chemical remover. De-grease the surfaces with clean cloths soaked in oil-free cleansing solvent.
Wood (bare)	Wood surfaces must be clean and dry, cut back or abrade where necessary to sound timber.
Glass and glazed materials	Thoroughly clean the surfaces with clean cloths soaked in oil-free cleansing solvent.
Coating surfaces	Coating should be removed and the surfaces treated as above.

A bond-breaking tape or backing rod must always be employed during application to prevent 3 sided adhesion from occurring.

Priming

Priming is not required.

Application temperatures:

MASTERFLEX 700 FS should be applied when the ambient temperature is between 5°C and 50°C. When the temperature is below 10°C storage at room temperature for several hours will ease mixing and application.

Mixing MASTERFLEX 700 FS

- Mix and use one complete unit at a time. Do not sub-divide.
- Gun grade is supplied in a single tin. Pouring grade is supplied with base and curing agent in separate containers clearly marked.
- Mix for 4 minutes using a suitable paddle fitted to a 300 to 500 rpm electric drill, moving the paddle completely through the mass of the material. The sides and base of the container should be scraped down during mixing to ensure that all components are fully blended.
- Failure to completely disperse curing agent throughout the base compound will result in variable cure. Once mixed MASTERFLEX 700 FS should be used immediately.

Application:

- MASTERFLEX 700 FS gun grade is formulated to be applied using a sealant gun but may be applied by trowel if required. Pouring grade can also be gun applied if preferred.
- Sealant guns are fitted with conical nozzles which can be cut to suit the joint width.

The sealant should be gunned into the joint using an even trigger pressure, cleaning the nozzle occasionally to avoid contamination.

- **DO NOT USE** soapy water, or water, or any solvent to level of MASTERFLEX 700 FS. Use a spatula to compact the sealant into the joints and to achieve a smooth polished finish. Any masking tape which has been applied should be removed before the sealant cures to ensure proper bonding between MASTERFLEX 700 FS and the substrate.

Clean mixing equipment and application equipment immediately with Cleaning Solvent No. 2.



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Coverage

MASTERFLEX 700 FS (length of joint in metres filled per 1 litre of material) Theoretical Only.

Depth of joint mm	Width of joint mm				
	10	15	20	25	30
10	10	6.7	5	4	3.33
15		4.45	3.33	2.67	2.23
20			2.5	2	1.67
25				1.6	1.33

Storage

Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air conditioned environment. Shelf life is at least 12 months when stored between 5°C and 35°C.

Safety precautions

The components and mixed sealant should not be left in contact with skin for prolonged periods. Gloves should be worn and the use of a barrier cream is strongly recommended. Solvent must not be used for cleaning the hands. Use an industrial cleaner and wash with soap and water. For further information including disposal instructions refer to the Material Safety Data Sheet.

Quality and care

All BASF Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards of ISO 9001 and BASF ESHQ recommendations.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Saudi BASF representative.

Saudi BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

Saudi BASF – 04/2007

* Properties listed are only for guidance and are not a guarantee of performance.

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

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