

# MASTERFLEX<sup>®</sup> 700

High performance elastomeric joint sealant

## DESCRIPTION

**MASTERFLEX 700** is a two-part polysulphide sealant whose base component consists of a specially formulated blend of liquid polysulphide polymer, plasticizers and fillers. When mixed with the curing agent it forms a tough, flexible, durable, rubber like material, which adheres to most common construction surfaces.

It is supplied in two grades – gun grade for vertical, overhead and general applications, and pouring grade for horizontal joints.

**MASTERFLEX 700** meets with the specifications of:

- BS 5212 (Pouring Grade)
- BS 4254: (Gun Grade), 1983
- US Federal Specification TT-S-00227E
- ASTM C920:79

**MASTERFLEX 700** forms long-lasting weather and watertight seals in joints subject to regular movement or permanent deformation.

## RECOMMENDED FOR

**MASTERFLEX 700** Gun Grade is used for vertical joints in subways, culverts, seawalls, bridges, curtain walling, pre-cast concrete panelling and high rise buildings;

**MASTERFLEX 700** Pouring Grade is used for horizontal joints in bridges, concrete pavements, factory and garage floors

## FEATURES AND BENEFITS

- **Resistant to UV and weathering** – extended life in exposed conditions
- **Tough, elastomeric and flexible** – accommodates cyclical movement without rupturing
- **Excellent adhesion to most substrates** – suitable critical joints which are subject to high levels of deformation or continuous cyclic movement
- **Non toxic** – permits use in drinking water reservoirs

## PERFORMANCE DATA

Service temperature	-23° to 100°C
Application temperature limits	5° to 50°C
Shore A Hardness at 25°C (full cure)	25
Chemical resistance	Good
UV resistance	Good
Movement Accommodation Factors (MAF)	
Butt Joints	35% (±17½%)
Lap joints	50% (±25½%)

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

## ESTIMATING DATA

The coverage in lineal metres for a 3 litre pack:

Joint Depth (mm)	Joint Width (mm)					
	6	12	20	25	30	40
6	83	42				
10		24	15			
12		21	12.5	10		
15			10	8	6.7	
20			7.5	6	5	3.7
25				4.8	4.0	2.9

Note: these figures do not include wastage

**Primer 1:** 6-10m<sup>2</sup>/L depending on porosity and texture of surface

**Primer 2:** 15-20m<sup>2</sup>/L depending on surface texture

## PROPERTIES

Colour	Grey
Slump (Gun Grade)	Nil
Initial set at 25°C	24 hours
Pot life at 25°C	Minimum 1 hour
Full Cure	7 days
<b>Chemical Resistance:</b>	
Kerosene	Resistant
White Spirit	Resistant
Lubricants	Resistant
Xylene	Resistant
Aromatic Solvents	Resistant
Chlorinated Solvents	Poor
Dilute acid	Resistant
Dilute alkalis	Resistant

## APPLICATION

**Joint Design** - **MASTERFLEX 700** is suitable for application in joints between 6 and 40mm wide. For porous substrates, maintain a minimum sealant depth of 10mm, for non-porous substrates, the minimum depth is 6mm.

For horizontal joints a minimum depth of 12mm should be maintained and for joint subjects to traffic or hydraulic pressure, the minimum depth should be 20mm. If the joints are subject to cyclic movement, they should be designed to give an optimum width/depth ratio of 2:1.

When using filler boards (eg bitumen impregnated fibreboard or resin bonded corkboard or equivalent) the filler board should be raked out to the correct depth before applying the sealant. Movement accommodation of the sealant will be restricted if it bonds to the filler board. Insert a bond breaking tape into the joint in order to prevent adhesion.

**Surface Preparation** - Surfaces must be completely dry and free from all dirt, dust, cement laitance and any deleterious matter. Where necessary joints should be reprofiled to ensure a stable and sound substrate.

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Metallic surfaces must be free of rust, scale or protective lacquer.

**Priming** - Use **MASTERFLEX Primer 1** on porous surfaces such as concrete, brick, stone etc. Use **MASTERFLEX Primer 2** on low porosity surfaces such as steel, glass, glazed ceramics etc. Priming of the joint faces should be carried out shortly before application of the sealant. Pour a small amount of the primer into a clean metal container, ensuring that the main container is tightly resealed. Liberally apply a coat of primer with a soft brush to the required surface and allow it to dry until tack free (30-60 minutes) before application of the polysulphide sealant.

If primer is left for more than 3 hours, repriming is necessary. Apply masking tape to both sides of the joint. These strips will assist in the finished appearance of the sealant and can be removed after application. Clean all brushes immediately with appropriate cleaning solvent. *Note:* Care should be taken when priming materials such as granite, marble, natural stone or composites as migration and staining primer may occur.

**Mixing** - Both curing agent and polymer base are included in the unique container. The curing agent is in a separate small container, fixed to the top of the larger container, which contains the polymer base. The full quantity of curing agent must be transferred into the large container for mixing.

Mixing is best carried out using a flat bladed stirrer coupled to a slow speed (150rpm) electric drill. Mix for 4 minutes paying particular attention to the sides and bottom of the container. When thoroughly mixed, both components should be completely homogeneous and a uniform colour. *Note:* streaks of white or grey indicate inadequate mixing.

**Placing** - *Gun Grade* - when applying the sealant to a vertical joint, use barrel gun and start the application at the bottom of the joint so as to continuously support the sealant. To enable the full volume of the joint profile to be filled, it is recommended that material should protrude from the profile and then be tooled into the profile with a rounded spatula. *Pouring Grade* - when thoroughly mixed pour directly from the container into the joint. *Note:* very new narrow joints should be filled via a barrel gun.

**Finishing** - In order to displace any air bubbles present in the sealant caused by mixing and also as an aid to good adhesion, it is advisable, immediately after the **MASTERFLEX 700** has been installed, to finish by tooling with a rounded spatula or similar object to a slightly concave profile. Do not use moistened fingers. Protect finished seal from inclement weather until initial set has taken place and when the surface skin is clearly visible.

## CURING

Pot life, cure period and initial setting is affected by ambient temperature - the higher the temperature, the faster the set and cure. Guide of set and cure times:

Property	Ambient Temperature			
	5°C	10°C	25°C	35°C
Pot life	24 hrs	18 hrs	5 hrs	2 hrs
Initial set	5 days	72 hrs	24 hrs	5 hrs
Full cure	8 wks	5 wks	2 wks	7 days

It is not recommended to install **MASTERFLEX 700** below 5°C.

## CLEANING

Clean all tools and equipment with cleaning solvent immediately after use. **MASTERFLEX 700** can be removed from hands by means of industrial hand cleaners.

## PACKAGING

Gun Grade/Pouring Grade: 3 litre sealed containers  
Primers : 1 litre sealed containers

## SHELF LIFE

**MASTERFLEX 700** can be kept for 12 months from date of manufacture, if stored in the original unopened packaging, indoors in a cool, dry environment.

## PRECAUTIONS

For Health, Safety and Environmental Recommendations, please consult and follow all instructions on the Material Safety Data Sheet.

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

### NOTE

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