

MAPEPUR FIRE FOAM M

One-component polyurethane fire-resistant expanding foam for filling, soundproofing and insulating



WHERE TO USE

MapePUR Fire Foam M is used to fill, seal and insulate gaps and breaks between a wide range of construction features and fittings used in the building industry and in plant systems that need to be class EI fire resistant.

Some application examples

- Insulating and soundproofing door and window frames and openings in industrial buildings exposed to potential fire hazards.
- Insulating and soundproofing fire-break joints in fire-prevention compartments in civil and industrial environments, including in combination with **Mapeflex AC-FR2** elasto-plastic fire-resistant sealant.
- Insulating and soundproofing plant system trays on walls and ceilings exposed to potential fire hazards.
- Fastening electrical systems in place in wall cable channels.
- Filling and insulating construction features and fittings on roofs and flat roofs.

TECHNICAL CHARACTERISTICS

MapePUR Fire Foam M is a one-component expanding foam, contained in a pressurised spray can with a hand lever to feed the product, made from polyurethane prepolymer, foaming agents and special additives and contains no CFCs that could damage the ozone layer. The extruded product expands upon contact with the humidity in the air and then hardens rapidly to form a stable, closed-cell structure with excellent mechanical characteristics and high insulating and soundproofing properties.

MapePUR Fire Foam M is waterproof and is resistant to temperatures from -40°C to $+90^{\circ}\text{C}$, humidity and the effect of ageing. The foam adheres well to all materials normally used in the building industry, such as brickwork, concrete, gypsum, wood, metal, glass, foam polystyrene, PVC and rigid foam polyurethane, and is also resistant to the formation of mould and mildew. Once hardened, **MapePUR Fire Foam M** can be cut, sanded, ground, drilled, skimmed with cementitious products and painted. The hardened foam is certified according to EN 13501-2 standards (fire resistance classification) class EI240 (up to 20 mm wide), EI180 (up to 30 mm wide) and EI90 (up to 40 mm wide).

According to DIN 4102 German standards it is in flammability class B1.

RECOMMENDATIONS

The product does not adhere to polyethylene, silicone or teflon. Also, once hardened, it must be protected from direct exposure to UV rays to prevent the surface being damaged. The amount the foam expands depends on the size and shape of the cavity or gap to be filled, the amount of moisture in the substrate, the temperature of the can and how well the various components in the can are mixed together.

APPLICATION PROCEDURE

Substrate preparation

The surface on which the foam is to be applied must have no traces of dust and must be clean with no grease or oil stains; any loose or detached portions must be removed. Protect delicate surfaces next to the area where the product is being applied with masking tape to prevent the product going onto them.

Preliminary operations before applying the foam

The surrounding temperature when applying the foam must be between +5°C and +30°C.

The foam performs best (maximum expansion and hardening rate) if the can and contents are at a temperature of around +20-25°C.

If necessary heat the can in hot water (maximum +40°C) for 15-20 minutes before use.

Before applying the product, hold the can upside down and shake well for at least 30 seconds to thoroughly mix the contents of the can. The can should also be shaken every time application is interrupted for long periods in order to improve its yield and to improve application. Dampen substrates prior to application by spraying them with water.

Application of the foam MapePUR Fire Foam M

(manual application)

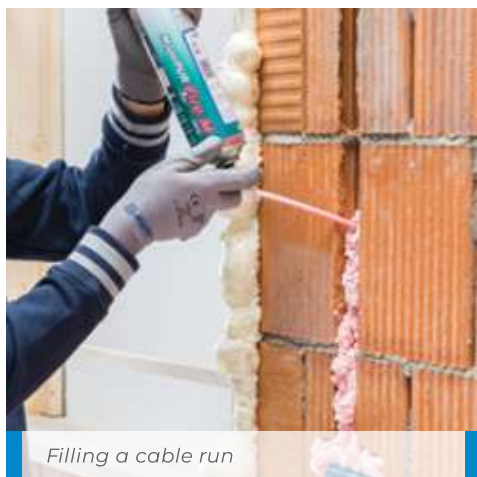
Remove the protective cap and screw the feed tube to the spray nozzle. Hold the can upside down, point the tube to the area where the foam is to be applied and press the hand lever. Feed the foam into the area starting from the lowest, deepest part and work upwards until the gap is filled to around 60-70% of its volume. The gap will become completely filled when the material has expanded.

To fill larger gaps (cracks more than 5 cm wide), we recommend applying several layers of product; wait between each layer until the previous one has expanded before applying the next layer.

Immediately after applying the product, we recommend spraying the foam with water to get a better yield and optimum polymerisation.

Once hardened, any excess foam can be cut, sanded, ground or drilled and skimmed with cementitious products or painted.

In the case of joints with movements, seal the surface with **Mapeflex AC-FR2** elasto-plastic fire-resistant sealant (see relevant Technical Data Sheet for details) and use **MapePUR Fire Foam M** to partially fill the joint.



Filling a cable run

RECOMMENDATIONS BEFORE, DURING AND AFTER APPLICATION

If only part of the can of **MapePUR Fire Foam M** (can with hand lever) is used, we recommend holding the can vertically, blocking the end of the feed tube by bending it so the foam does not solidify, to allow the remaining product to be used later. If the tube is blocked by hardened foam replace it with a new one.

After use store the partially used can vertically. Before using it again, shake the can for 30 seconds as described previously.

MapePUR Fire Foam M is contained in pressurised cans and must be protected against exposure to direct sunlight and temperatures higher than +50°C.

CLEANING

The foam may be removed before it hardens by spraying **MapePUR Cleaner** on the surface to be cleaned. **MapePUR Cleaner** is a solvent-based product and may discolour surfaces it comes into contact with. We recommend carrying out preliminary tests to verify compatibility between the product and the substrate to be treated. Once hardened the foam may only be removed mechanically.

YIELD

MapePUR Fire Foam M up to 45 litres*

* free expansion at +20°C and 60% R.H.

The yield of the product depends on the internal mixing of its component, the level of humidity and the temperature of the surrounding air and can.

PACKAGING

MapePUR Fire Foam M: 750 ml hand-held can.
MapePUR Cleaner: 500 ml hand-held can.

STORAGE

MapePUR Fire Foam M may be stored for 12 months if kept vertical in a dry, covered area in its original sealed packaging at a temperature of between +10°C and +25°C.

MapePUR Cleaner may be stored for 18 months if kept in a dry, covered area in its original sealed packaging at a temperature of between +10°C and +25°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)		
PRODUCT IDENTITY		
	MapePUR Fire Foam M	MapePUR Cleaner
Consistency:	cream	liquid
Colour:	pink	transparent
Inflammable:	yes	yes
APPLICATION DATA		
Application temperature:	+5°C to +30°C	
Optimum can/contents temperature:	+20°C to +25°C	
Flammability class (DIN 4102):	B1	
Resistance to fire (EN 13501-2):	up to EI 240	
FINAL PERFORMANCE		
Dust dry (at +23°C and 50% R.H.) (minutes):	5-10	
In service temperature range:	-40°C to +90°C	
Minimum waiting time before cutting hardened resin (Ø 20 mm at +20°C and 60% R.H.):	20-30 mins.	
Complete hardening time (h):	1½-5	
Free expansion (litres):	40-45	
Compressive strength (N/cm ²):	4.5	

Tensile strength (N/cm ²):	7.5
Elongation at failure (%):	17.5
Density (kg/m ³):	24
Shrinkage (after 24 h at +20°C and 60% R.H.) (%):	1
Water absorption after 24 h (%):	1
Thermal conductivity at +20°C (DIN 52612) (W/m K):	0.039
Soundproofing capacity (EN ISO 717-1) (dB):	58

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

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