

FIRE-MIX

Fire-protective vermiculite & cement based mortar

PRODUCT DESCRIPTION

FIRE-MIX is a premix based on Portland cement and vermiculite and additives. It is delivered in a form of a dry powder that only requires the addition of potable water on site to produce a mix of suitable consistency. It is applied mechanically by wet shotcrete with the use of spray application equipment. Manual application is possible in case of spot repairs or small surfaces. After drying and setting hard it becomes durable insulation (plaster) of fire-protective properties.

FIRE-MIX is intended for fireproofing of structures against ordinary, hydrocarbon and tunnel fires, that is in petrochemical and power plants, refineries, tunnels, tanks for gas and oil, as well as in general construction.

BASIC USE

It is suitable for interior and exterior applications e.g.:

- steel structures of opened and closed profiles
- concrete structures (floors, walls, beams and columns, prestressed elements)
- tunnel structures

PROPERTIES

- non-combustible: Euroclass A1
- good freeze resistance
- crack resistance
- anticorrosion properties
- good adhesion to steel and concrete
- high mechanical strength
- easy to apply
- minimal rebound when applying
- pH value 12,0 - 12,5
- spray texture, may be floated or roller finished

www.premix.com.pl

INFORMATION

Packaging:	25 kg
Colour:	light grey
Proportion for mixing:	22-24 l/25kg (water/dry mortar)
Storage:	Shelf life of 6 months when stored in a dry and cool area in unopened, original bags. Protect from frost, humidity, high temperature and direct sunlight.

TECHNICAL DATA

Fire resistance for steel structures:	R 15 - R 240
Fire resistance for concrete structures:	R 30 - R 360
Thickness of material for the required fire resistance:	according to Technical Approval
Initial drying time:	approx. 24 hours (depending on the temperature and humidity)
Time necessary to achieve full mechanical properties:	approx. 30 days at 15 - 20°C
Theoretical coverage:	approx. 6 kg/ 1 m ² /1cm
Bulk density, PN-EN 1097-3:2000:	410 ± 10% kg/m ³
Usability time for a ready to apply mixture:	40 - 50 minutes
Mass density after the mortar is completely dried out, PN-EN 1015-10:2001/A1:2007:	640 ± 10% kg/m ³
Flexural strength, PN-EN 1015-11:2001/A1:2007:	≥ 1,5 N/mm ²
Compressive strength, PN-EN 1015-11:2001/A1:2007:	≥ 3,0 N/mm ²
Linear contraction after 28 days, PN-B-04500:1985:	≤ 0,5%

DIRECTIONS FOR USE

SUBSTRATE PREPARATION

Remove all small debris, grease, dirt and any other contaminants that would impair the adhesion of the FIRE-MIX mortar.

Steel substrate should be cleaned by abrasive blasting to Sa 2½ degree. Then the substrate has to be treated against corrosion with two-component epoxy paint accepted by PREMIX Ltd., in accordance with the paint manufacturer's application instructions.

Reinforcement should be provided by the use of galvanized steel-wire hexagonal mesh (wire thickness – 0,8 mm, mesh openings - 25 mm) fastened to the steel substrate with welded pins. The net should be installed in accordance with the mesh manufacturer's instructions.

If the already existing protective coating is in a good condition, it is recommended to clean it and secure it using Primer 500 before applying the FIRE-MIX.

Concrete substrate should be cleaned with a high-pressure water blasting (400 bar pressure), wet or dry sandblasting and careful dust removal. Mechanical methods of preparing surfaces (milling, bush-hammering, shot blasting) provide good results, given that the substrate is cleaned with water under high pressure or precisely vacuumed after dry sandblasting.

Cleaned concrete substrate should be reinforced by using galvanized steel-wire hexagonal mesh (wire thickness – 0,8 mm, mesh openings - 25 mm). Substrate ought to be then pre-wet with water for 4 to 8 hours. Only then FIRE-MIX can be applied with the so called "wet on wet" method. Under no circumstances should the fire-protective mortar be applied while the concrete substrate is still soaking wet or is dry.

www.premix.com.pl

In order to standardize the concrete substrate, we recommend the use of PRIMER 500 before applying FIRE-MIX.

APPLICATION

Mix FIRE-MIX with potable water in a suitable mixer in proportion of 22 – 24 litres of water per 25 kg of material (1 bag) and apply with a spraying machine to the total target thickness in the minimum number of coats ensuring the required fire resistance.

FIRE-MIX can be applied in maximum coating thickness of up to 60 mm on vertical surfaces and up to 40 mm on ceilings without the risk of runoff.

FINISHING

To further improve the mortar appearance, FIRE-MIX may be gently floated or roller finished. After initial drying time, protective top coat Prem PE or PremSil Kolor can be also evenly applied.

POSTTREATMENT

No posttreatment for interior applications is required. For exterior applications, especially during hot and dry weather, the applied FIRE-MIX should be protected from rapid water evaporation by covering the substrate with a damp sack cloth or gentle spraying with water for 3 to 4 hours. The mortar should also be protected from driving rain, high temperature and frost during the first 2 - 3 days after the spray application is completed.

LIMITATIONS

FIRE-MIX can be applied when the air temperature is at least 5°C and does not exceed 40°C.

NOTES

The information given in this data sheet is based on actual laboratory tests and the results of the fields trials. Actual measured data may vary due to circumstances beyond our control.

ABOUT USAGE

Do not apply in wet conditions or if the ambient temperature is to fall below 4°C in the next 48 hours after the application. Extra care is required for application in temperatures over 25°C. A careful preparation of the substrate is essential for proper application.

HEALTH AND SAFETY

Adequate ventilation must be provided during use. Avoid contact with the skin and eyes by using eye protection, gloves and face mask. Prevent dusting. After finished work, wash hands with soap and water. Solid waste and hardened product can be treated as building rubble.

APPROVALS

Technical Approval ITB No. AT-15-9178/2014

www.premix.com.pl