



COMPOSITION FOR STRUCTURAL PROTECTION OF STEEL AND REINFORCED CONCRETE STRUCTURES

Constructive fire-retardant coating based on Portland cement, expanded perlite, vermiculite, and targeted additives is used for fire protection of steel and reinforced concrete structures. It is applied using the wet shotcrete method with plastering stations and manually.

The coating is recommended for use both indoors and outdoors in all types of civil and industrial construction.

The fire-retardant coating system based on the "Gefest-3S" composition is a system consisting of anticorrosive primer (concrete contact), fire-retardant coating, and an additional (protective, decorative) layer applied as needed. The coating is designed for operation in all types of atmospheres according to GOST 15150, excluding direct exposure to precipitation.

Technical specifications of fire protection composition «Gefest-3S»

Coating color: from light gray to light beige.

Theoretical consumption at a thickness of 10 mm: 3.5 kg/m² without accounting for technological losses.

Thickness of the first layer: 10-25 mm.

Binder type: Hydraulic (Portland cement).

Density: 450 kg/m³ ± 10%.

Thermal conductivity: 0.078 W/mK.

Initial setting time: 60 +/- 15 minutes.

pH level: 10-11.

Fire protection properties: Fire protection efficiency groups 1...7 according to GOST R 53295. Fire-retardant limit R15-R240 according to GOST 30247.

Flammability: Non-flammable.

Toxicity: Non-toxic.

Application of a constructive fire-retardant coating "Gefest-3S"

"Gefest-3S" can be applied both manually and by mechanized methods using periodic action stations through wet shotcreting with a screw pump, for example, Putzmeister SP11, Putzmeister S5EVTM, M-Tec Duo-Mix, M-Tec Duo-Mix 2000, M-Tec Duo-Mix Plus, and similar equipment, as well as Wagner PlastMax Spraypack.



M-TEC DUO MIX 2000



M-TEC DUO MIX

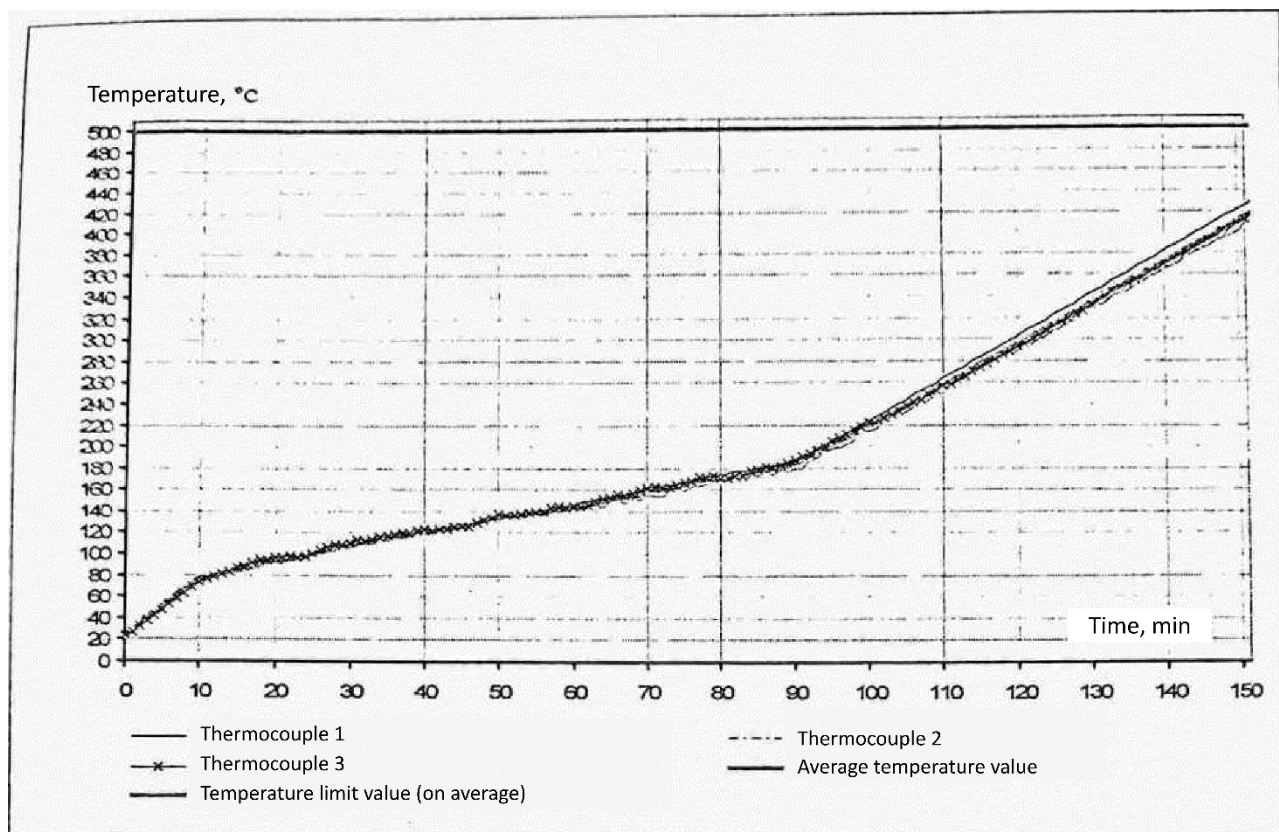


PUTZMEISTER S5 EVT M



PUTZMEISTER SP11

Graph of tests for the structural fire-retardant coating "Gefest-3S"



Pic.2. Temperature change. Sample No. 1

Comparative analysis of the characteristics of the compositions "Gefest-3S" and "Neosprey"

| Comparative characteristics | Gefest-3S | Neosprey |
|--|----------------------------------|----------------------------------|
| Fire-retardant efficiency group according to GOST R 23295-2009 | 1-st group | 1-st group |
| Dry mix density | 450kg/m ³ +/- 10% | 450kg/m ³ +/- 10% |
| Material consumption per m ² for a coating thickness of 10mm (excluding technological losses) | 3,5 kg | 4,5 kg |
| (including technological losses) | 4,2 kg | 5,6 kg |
| Adhesive primer | Ceresit ST19 primer or analogues | CAFCO PSK 101 or Phoenix Contact |
| Environmental conditions during application | t, +2/+38°C | t, +2/+45°C |
| Surface temperature during application | Under +38°C | Under +45°C |
| Drying of a 30mm coating under normal conditions | 28 days | 28 days |
| Application method | Manual/Mechanized | Only mechanized |
| Thickness of one layer | 10-25 mm | 10-25 mm |
| Interlayer drying time | 6-8 hours | 8-10 hours |
| Fire-retardant efficiency PTM 3.4mm / total dry layer thickness, mm R60 / R90 / R120 / R150 | 10/ 17/ 23/ 30 mm | 13/ 22/ 30/ 38 mm |