



## COMPOSITION FOR STRUCTURAL PROTECTION OF STEEL AND REINFORCED CONCRETE STRUCTURES UNDER HYDROCARBON FIRE CONDITIONS

Introducing a Russian development in the field of fire protection for metal structures in hydrocarbon fire conditions.

The unique structural plaster "**URAN-3S**" is a composition entirely made from raw materials produced or extracted in Russia. It is completely independent of Chinese exports and European exports.

The "**URAN-3S**" plaster has undergone testing at the Federal State Budgetary Institution Scientific Research Institute of the Ministry of Emergency Situations of Russia, where its properties were confirmed as effective protection for steel structures in hydrocarbon fires.

This plaster can be used to protect enterprises and facilities located on their territory, in the extraction, processing, transportation, and storage of petroleum products, natural gas, and chemical substances.

"**URAN-3S**" is a fire protection composition based on lightweight cement compositions, fillers, and basalt fibers. The fillers, providing reflective properties and reinforcement, give the material additional resistance to atmospheric exposure, temperature fluctuations, and thermal shock. Currently, "**URAN-3S**" is the most durable, impact-resistant, and weather-resistant among all cement-based fire protection materials available on the Russian market.

### **Technical specifications of the fire protection composition «URAN-3S»**

**Coating color:** From light gray to light beige

**Theoretical consumption at a thickness of 10 mm\*:** 6.0 – 6.5 kg/m<sup>2</sup>

**Binder type:** Hydraulic (Portland cement)

**Bulk density in powder:** 550-600 kg/m<sup>3</sup> ± 10%

**Thermal conductivity:** 0.085 W/mK

**Fire protection properties:** Fire protection efficiency class 1-7 according to GOST R 53295

**Fire-retardant rating:** R15 - R240 according to GOST 30247



**Testing the fire protection efficiency of the "URAN-3S" composition at the Federal State Budgetary Institution Research Institute of the Russian Emergencies Ministry (FGUP VNIPO EMERCOM of Russia)**



**Photo №1.** Girder before testing



**Photo №2.** Girder after testing

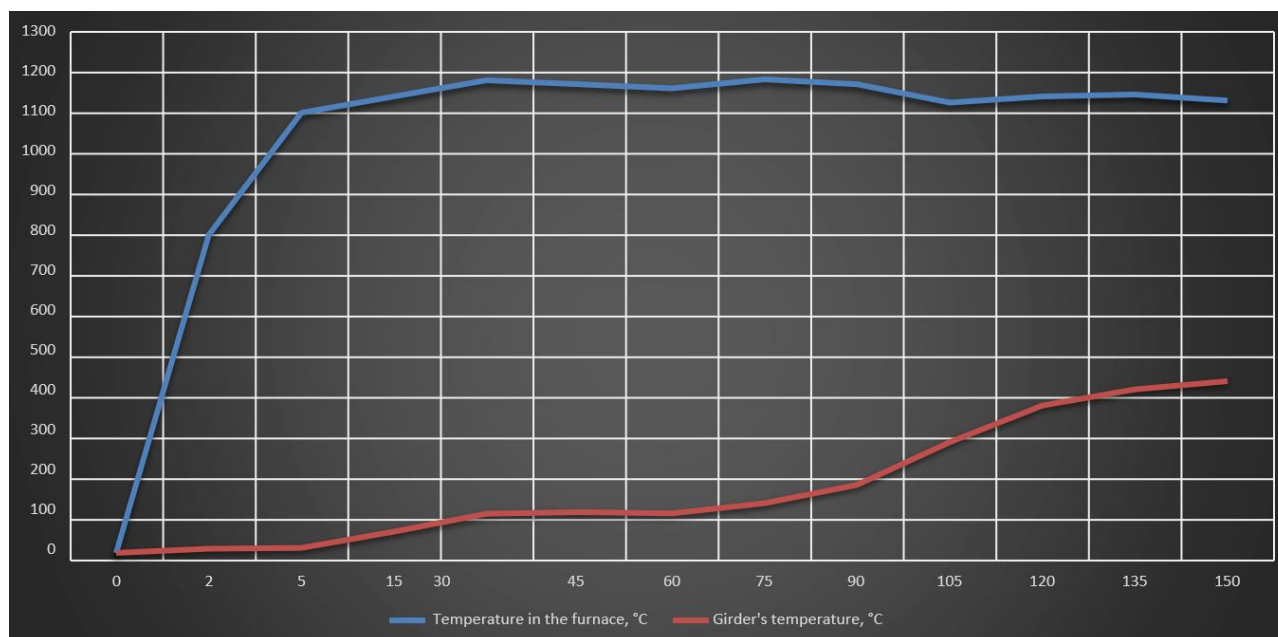


**Photo №3.** Girder during testing



**Photo №4.** Girder during testing

## Testing schedule for the plaster composition "URAN-3S"



### The advantages of the plaster composition "URAN-3S" include:

- Impact resistance of the coating allows for application work in factory conditions with subsequent transportation to the construction site.
- Possesses high resistance to atmospheric exposure.
- Applicable in areas with increased technogenic hazard for over 30 years.
- Warranty period of operation is up to 20 years.
- Less demanding in terms of surface preparation and adherence to temperature regimes during application compared to epoxy compositions.
- The overall cost per "protected square meter" is significantly lower compared to epoxy compositions designed for protection in hydrocarbon fire conditions.
- The composition is a Russian development and is not dependent on imports.
- It is possible to transfer and start production at a plant near the application site to reduce logistics costs within the country.
- The plaster can be applied using traditional wet shotcreting methods.