

INSTRUCTIONS HOW TO WORK WITH THE MATERIAL

NEWTON FIREPROOF



Insulating material is a suspension of fillers, flame retardants in the aqueous emulsion polymer composition, swelling when exposed to high temperatures.

Flame retardant properties of a coating are determined by certificates of conformity available on it and test reports issued by accredited certification bodies and test centers in the manner prescribed by law.

To give decorative properties and improve weather resistance, it is recommended that pentaphthalic, urethane-alkyd and vinyl chloride enamels are applied over the fire retardant coating.

PURPOSE AND SCOPE

The fire retardant coating "Newton-fireproof" is intended to increase the fire resistance of load-bearing steel structures of buildings and structures at industrial, warehouse and civil objects, including administrative, food, cultural, educational and commercial and entertainment purposes, as well as energy and mining facilities.

The coating fully complies with the technical regulations on fire safety requirements (Federal Law dated July 22, 2008 No. 123-ФЗ) and State Standard 53295-2009 "Fire protection means for steel structures. General requirements. Method for determination of flame retardant efficiency".

Provides a fire resistance limit of 30, 60, 90, 120 minutes (6th, 4th, 3rd, 2nd group of flame retardant efficiency according to State Standard 53295-2009).

The operating conditions of the coating: indoors at air temperatures from + 5 ° C to + 45 ° C (briefly up to + 80 ° C) and relative humidity up to 90% in the absence of condensate, contact with liquids and aggressive environments.

Service life - up to 20 years.

Recommendations on the use of the coating in conditions of contact with the open atmosphere or aggressive media are given by technologists of LLC Special Technologies.

SPECIFICATIONS

Paint

Color is not standardized

white, light gray, shade

Mass fraction of nonvolatile substances

not less than 65%

Drying time of the 1st layer to degree 3,
at a temperature

+ 20 ° C for at least 2 hours

+ 5 ° C for at least 4 hours B

The thickness of the paint layer applied for 1 ton
airless spray (wet), at (+ 20 ± 0.5) ° C

no more than 1 mm

Appearance of dry coating

matte finish

Coating color

white, light gray, shade not normalized

Fire Resistance Limit Provided

R30, R60, R90, R120

The thickness of the dry coating applied for 1 of those. airless spray, at (+ 20 ± 0.5) ° C up to 0.7 mm

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CONSUMPTION AND FIRE PROTECTION EFFICIENCY

Thickness of steel structure, mm	Fire resistance									
	30		45		60		90		120	
	Thickness mm	Consumption kg / m ²	Thickness mm	Consumption kg / m ²	Thickness mm	Consumption kg / m ²	Thickness mm	Consumption kg / m ²	Thickness mm	Consumption kg / m ²
2,4	0,85	1,25	1,25	1,85	1,6	2,35	-	-	-	-
2,6	0,8	1,18	1,19	1,76	1,53	2,25	-	-	-	-
2,8	0,75	1,11	1,13	1,67	1,46	2,15	-	-	-	-
3	0,7	1,04	1,07	1,58	1,39	2,05	-	-	-	-
3,2	0,65	0,97	1,01	1,49	1,32	1,95	-	-	-	-
3,4	0,6	0,9	0,95	1,4	1,25	1,85	-	-	-	-
3,6	0,59	0,88	0,93	1,36	1,22	1,8	-	-	-	-
3,8	0,58	0,87	0,9	1,33	1,18	1,75	-	-	-	-
4	0,56	0,85	0,88	1,29	1,15	1,7	-	-	-	-
4,2	0,55	0,83	0,87	1,25	1,12	1,65	-	-	-	-
4,4	0,54	0,82	0,85	1,21	1,08	1,6	-	-	-	-
4,6	0,53	0,8	0,83	1,18	1,05	1,55	-	-	-	-
4,8	0,51	0,78	0,78	1,14	1,02	1,5	-	-	-	-
5	0,5	0,77	0,75	1,1	0,98	1,45	-	-	-	-
5,2	0,49	0,75	0,73	1,06	0,95	1,4	-	-	-	-
5,4	0,48	0,73	0,7	1,03	0,92	1,35	-	-	-	-
5,6	0,46	0,72	0,68	0,99	0,88	1,3	-	-	-	-
5,8	0,45	0,7	0,65	0,95	0,85	1,25	-	-	-	-
6	0,45	0,7	0,65	0,95	0,85	1,25	1,65	2,45	-	-
6,2	0,45	0,7	0,65	0,95	0,85	1,25	1,62	2,41	-	-
6,4	0,45	0,7	0,65	0,95	0,85	1,25	1,59	2,36	-	-
6,6	0,45	0,7	0,65	0,95	0,85	1,25	1,56	2,32	-	-
6,8	0,45	0,7	0,65	0,95	0,85	1,25	1,54	2,28	-	-
7	0,45	0,7	0,65	0,95	0,85	1,25	1,51	2,24	-	-
7,2	0,45	0,7	0,65	0,95	0,85	1,25	1,48	2,19	-	-
7,4	0,45	0,7	0,65	0,95	0,85	1,25	1,45	2,15	2,45	3,6
7,6	0,45	0,7	0,65	0,95	0,85	1,25	1,42	2,11	2,45	3,6
7,8	0,45	0,7	0,65	0,95	0,85	1,25	1,39	2,07	2,45	3,6
8	0,45	0,7	0,65	0,95	0,85	1,25	1,36	2,03	2,45	3,6
8,2 and more	0,45	0,7	0,65	0,95	0,85	1,25	1,33	1,99	2,45	3,6

Practical consumption may vary depending on the application conditions, selected equipment settings, design complexity, surface preparation and other factors.

COATING APPLICATION TECHNOLOGY

1. Priming

Priming works are performed in accordance with the technical documentation of the primer manufacturer..

Surface preparation for priming - to ensure the degree of cleaning of the metal surface to degree 2 according to State Standard 9.402, degrease to degree 1 according to State Standard 9.402 (unless otherwise specified in the technical documentation of the primer manufacturer).

Primed surfaces are ready to apply fire retardant paint when the primer is dried to degree 7 according to State Standard 19007.

2. Applying fire retardant paint

2.1. Primer control

According to the certificate of completion, the compliance of the primer grade with the fire retardant coating system is checked (Appendix 1).

Visual assessment of the condition of the primer coating - damage, defects, corrosion are not allowed.

Determination of the degree of drying of the primer coating - at least degree 7 according to State Standard 19007. A non-fully polymerized primer coating can flake off when applying fire retardant paint, which is a defect.

Determining the thickness of the primer coating is carried out in accordance with paragraph 3 of this section of the process schedule. The thickness must correspond to the flame retardant coating specified in the system (Appendix 1).

Determination of adhesion of the primer coating to metal - not more than 1 point according to the State Standard 15140 lattice cuts method. All defects and damage to the primer coating should be completely eliminated in accordance with the technical documentation of the material manufacturer before applying the fire retardant paint.

2.2. Preparation for application

Input control documentation:

- Certified copies of certificates of conformity;
- Passport quality;
- Compliance with the marking on the packaging of the accompanying documentation;
- Paint shelf life;
- Integrity of packaging and packaging (use of paint from damaged packaging is not allowed);
- The appearance of the paint in accordance with paragraph 3 of this section of the process regulations.

Surface preparation - remove dust and other contaminants, degrease to degree 1 according to State Standard 9.402 with solvent xylene (State Standard 9410), 646 (State Standard 18188) or R-4, R-5 (State Standard 7827).

The paint is mixed with a low speed mixer (no more than 300 min⁻¹) or manually until smooth. Excessive mixing intensity saturates the paint with air, which can lead to coating defects (craters).

The paint is supplied ready for use by airless spray. Dilution is not recommended. If necessary, it is allowed to dilute up to 5% of the paint volume with xylene solvent according to State Standard 9410. The use of other solvents is not allowed!

Before use, the equipment must be thoroughly cleaned from traces of other paints with solvent xylene according to State Standard 9410. The use of other solvents is not allowed!

2.3. Fire retardant coating

Necessary conditions for the production of coating and drying coatings:

- Air temperature from + 5 ° C to + 35 ° C;
- Relative air humidity up to 90%;
- Lack of precipitation;
- The surface temperature above the dew point is not less than 3 ° C;
- Compliance with paint temperatures and the environment.

The application is carried out by piston-type airless spraying machines with a pressure of 20-25 MPa and a flow rate of at least 4 l / min. Filter - 30 Mesh. The nozzle is selected taking into account the availability and geometric dimensions of the painted structure, with a diameter of 0.48-0.68 mm and a spray angle of 20 to 50 ° (example of marking the nozzle: 327 - angle of 30 °, diameter 0.027 "(0.68 mm)) The parameters are recommended, may vary in one direction or another, depending on the capabilities of the equipment used, the configuration of the treated structures and the temperature conditions of the application.

In hard-to-reach places it is allowed to use a brush..

The application is made in layers to the required thickness specified in the project documentation. The application of the next layer is allowed only when the previous one is dried to degree 3 of State Standard 19007. The thickness of the wet layer should not exceed 1 mm.

The quality control of the coating and the thickness of each layer is carried out in accordance with clause 3 of this section of the process schedule. All identified defects must be repaired before the next work begins..

The final formation of fire retardant coating is carried out within 5-15 days, depending on the conditions and the number of layers.

TRANSPORTATION AND STORAGE

"Newton-fireproof" is not a dangerous cargo and can be transported (at a temperature not below plus 4 0C) by all types of covered transport in accordance with the rules applicable to this type of transport according to State Standard 9980.5-86:

- railway transport in accordance with the "Rules for the carriage of goods" and "Technical conditions of transportation and cargo securing of the Ministry of Railways", 1983;
- car transport in accordance with the general rules for the transport of goods by road, approved by the Ministry of Road Transport, Moscow, 1984.

"Newton-fireproof" is stored in a packaged form at a temperature not higher than + 45 ° C in a closed storage area with general exchange ventilation at a distance of one meter from heating appliances, in a sealed plastic container.

WARRANTY OF THE MANUFACTURER

The manufacturer guarantees the compliance of the specified products with the requirements of these specifications, subject to the conditions of transportation and storage.

Guaranteed shelf life "Newton-fireproof" - 12 months from the date of manufacture.

The warranty service life of the coating applied to the structure is at least three years. The service life of the coating with a finishing weatherproof coating is 10 years while maintaining the application technology and operating conditions.

Fire retardant coating is to be restored at the end of the warranty period of operation, as well as in case of damage during operation.

Damaged areas of flame retardant coating are cleaned to a durable layer of paint. Fire protection coating "Newton-fireproof" is applied to the prepared areas in accordance with section 8.