

TECHNICAL DATA SHEET

ISONEM ANTI FIRE PAINT PLUS

(120 minutes Fire Resistant Paint for Steel, Wood and Concrete Structure)

Product Description

It is a fire-retardant, water based paint that is developed for the protection of the buildings from fire and is fire retardant in the intumescent structure that provides fire insulation via expanding. It forms a seamless layer by drying on the surface on which it is applied. It has excellent flame retardant property, it expands via reacts chemically at the time of the fire and prevents the surface temperature from rising to critical levels. It is water vapor is permeable. Thanks to this feature, it does not prevent the breathing of the surface. It is suitable for use in wood, concrete, prefabricated and steel structures.

Usage Areas

- All kinds of plastered, painted and unpainted interior and exterior surfaces
- Concrete, wood and steel structures
- In roofs, in fire steps
- In all places where non-flammability is desired
- In schools, kindergartens, hospitals, theaters, and theaters
- Plasterboard wall partitions and ceilings
- Thermal power plants and industrial buildings, factories, military facilities

APPLIED STANDARD: EFECTIS ERA EURASIA Testing and Certification Inc. which is accredited by TURKAK, TSE 13501-2: 2016 Fire classification of construction products and building elements - Part 2: Classification using data obtained from re resistance tests (except ventilation installations). According to the results of the inspection and test report 20.05.2019 dated/EEA-19-063 numbered, in accordance with this standard / TS EN 13381-8: 2013 Test Method for Determination of the Contribution of Structural Components to Fire Resistance - Part 8: According to the test results of Test Method of Reactive Protection Applied to Steel Elements, Fire Resistance Classes: R15-R20-R30-R45-R60-R90-R120-R180.

ACCORDING TO THE TEST RESULTS OF EFECTIS ERA AVRASYA Test and Certification Inc.; Main Layer Paint (intumescent paint): According to ISONEM ANTI FIRE PAINT PLUS TÜRKAK Accredited Test Report, the results of the evaluation can be applied to all other steel classes and the limitations given here, as specified in EN 10025-1, as specified in Article 6.1 of 13251-4. The results of the assessment can also be applied to fabricated sections. Cross-section factors should be determined according to EN 13381-8: 2013 standard. The results of this assessment are valid for the following conditions of three or four environmental protections.

Cross-section factor: $65 \text{ m}^{-1} < A_m/V < 527 \text{ m}^{-1}$

Thickness: $1,5 \text{ mm} < d_p < 8,6 \text{ mm}$

Design temperature: $300^\circ\text{C} < Q_a < 750^\circ\text{C}$

Section shape: I, H columns and beams

Technical Specifications

Density (25°C, g/mL)	: 1,15 ± 0,10
pH (25°C)	: 7.0 – 9.0
Viscosity (25°C, mPa.s)	: 10000 - 12000
Solid content (% Weight)	: 64 ± 2
Solid content (% Volume)	: 55 ± 2
Water transmission rate (kg/ m ² . h ^{0.5})	: < 0,1 CLASS W ₃
Adhesion strength by pull-off test (N/mm ²)	: Crack bridging flexible systems without trafficking ≥ 0.8,
Permeability to water vapour (m)	: 5 ≤ S _D ≤ 50 CLASS II
Touch-free Drying	: 2 hours
Through-dry time	: 72 hours
Pot life (23°C)	: X
Solvent	: Water
Class of fire reaction	: B S1 d0
Color	: All requested can be produced in colors

Application Procedure

Surface preparation: Surfaces must be clean and dry before application. Oil, dirt, sludge, such as materials should be cleaned, shield particles should be cleaned. The appropriate primer selection depending on the surface is made according to the following table. ISONEM UNIVERSAL PRIMER (1: 7 diluted with water - 1 part primer, 7 part water) insulation and paint primer should be applied one layer with 100 - 200 g/m² consumption. The primer is then allowed to dry for 4 hours.

Application method: It can be made by brush, roller or a suitable sprayer. It should be mixed until homogenous before use. After the application of primer, it is applied to the surface in two coats 4 hours apart without diluted and the painting process is finished. In exterior applications and in indoor applications that are exposed to water, and high humidity, ISONEM ANTI FIRE PAINT is applied as a topcoat with a brush, roller or a suitable sprayer with consumption of 0.3-0.5 kg/m².

Application Conditions / Limitations

<u>Application</u>	: In perpendicular to each layers
<u>Surface humidity</u>	: Dry surface For concrete, marble, granite, raw wood, etc. surfaces: ISONEM UNIVERSAL PRIMER (diluted)
<u>Primer usage</u>	: For metal/steel surface; ISONEM ANTI RUST PRIMER (Consumption: 250 - 350 g/m ²)
<u>Primer consumption</u>	: 100 - 200 g/m ²

<u>Product usage</u>	: 4 layers
<u>Product consumption</u>	: 2,5 kg/m ² 1 mm for thickness (Surface / material thickness / depending on the desired fire retardant resistance time vary)
<u>Paintable (Coverage) Area</u>	: 7 m ² /bucket (1 mm thickness)
<u>Between two coats</u>	: 4 hours
<u>Recommended application tools</u>	: Roller (synthetic epoxy), brush, spray
<u>Application temperature (°C)</u>	: 5 - 35 °C

Things to consider during and after the application: The application surface must be clean and free from all impurities like dirt, oil, and mud. ISONEM ANTI - FIRE PAINT should be applied as a topcoat on surfaces exposed to water and moisture.

Other ISONEM products recommended: In primer application, ISONEM UNIVERSAL PRIMER or ISONEM ANTI RUST PRIMER should be used depending on the application surface.

IMPORTANT

The surface should be protected from rain, water, mechanical loads and impacts for 24 hours during and after the application.

Packaging & Storage

<u>Packaging</u>	: 18 kg PP in buckets
<u>Storage temperature (°C)</u>	: 5 - 35 °C
<u>Shelf life</u>	: 24 months from date of production if stored in original, unopened, undamaged packages.
<u>Storage condition</u>	: Store tightly closed in a dry and cool place.

Cleaning of Tools

Clean all tools and application equipment with clean water immediately after use.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

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2765		
Isonem Paint and Insulation Technologies Construction Industry Trade Inc. - 35470/İZMİR İTOB OSB 10001 Sok. No:20 Tekeli Menderes / İzmir - TURKEY 19		
2765-CPR-0136 TS EN 1504-2: Surface protection systems for concrete - Coating (Primer + Isonem Anti Fire Paint Plus + Top Coat System) DoP No: 04		
	STANDARD VALUE	CONTROL VALUE
Permeability to water vapour	Class I $S_D \leq 5$ m (permeable to water vapour) Class II $5 \text{ m} \leq S_D \leq 50$ m Class III $S_D > 50$ m (not permeable to water)	Class II - 40 m
Capillary absorption and permeability to water	$w < 0,1 \text{ kg/m}^2 \cdot \text{h}^{0,5}$	$0,05 \text{ kg/m}^2 \cdot \text{h}^{0,5}$
Adhesion strength by pull-off test	Without trafficking $\geq 0,8 \text{ N/mm}^2$ With trafficking $\geq 1,5 \text{ N/mm}^2$	Crack bridging flexible systems without trafficking $0,8 \text{ N/mm}^2$
Dangerous substances comply with 5.4		
Class of fire reaction: B S1 d0		

Statement of Responsibility

The technical information and application advice given in this ISONEM Paint & Insulation Technologies publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

