

# ISONEM<sup>®</sup> THERMAL ROOF

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Special Paints

## Roof Heat Insulation Coating

**THERMAL ROOF** is a waterproofed and thermal insulating coating that is applied liquidly. The ceramic-reinforced formula reflects 80% of the sun's rays. **ISONEM THERMAL ROOF** decreases cooling expenses by reduces ventilation requirement. **ISONEM THERMAL ROOF** roofing protects its flexibility and strength without cracking up to -34 °C in winter. While It never gets water to inside from film surface applied **ISONEM THERMAL ROOF**, the moisture inside the building evaporates away from the structure. When it is applied to horizontal roofs, it retains accumulated water, closes most cracks and makes them waterproof.

### TECHNICAL SPECIFICATIONS

- **Type** : Acrylic Emulsion
- **Density (g/mL)** : 0.85 ± 0.1
- **PH** : 7 - 9
- **Solid Content (% Weight)** : 53 ± 2
- **Viscosity (25°C, mPa.s)** : 7000 - 9000
- **Solvent** : Water
- **Flash Point (°C)** : N/A (Not Applicable)

**ENERGY SAVIN**: According to Thermilate Europe Ltd in the UK and Istanbul Technical Univ. test results,  
**METHOD** : The hot chamber test was applied. With an infrared thermometer and using a thermocouple. (Thermilate)  
**METHOD** : ITU test method ISO 8301

### TEST DETAILS

- **Sample Thickness (Gypsum board+Thermal Roof dry film)** : 0.00995 M
- **Dimensions** : 0.304 x 0.308 M - **Test Time** : 84 Hours
- **Air Temperature** : 25.04 °C - **Temperature of Coated Surfaces** : 18.00 °C
- **Density of Heat Flow** : 71.60 W/m<sup>2</sup> - **Cold Surface Temperature** : 13.10 °C
- **Temperature Drop on Gypsum Board/Air Surface** : 11.94 K
- **Temperature Drop inside the Air Surface Layer** : 7.04 K
- **Temperature Drop inside Gypsum board** : 4.90 K
- **Heat Resistance of Gypsum Board and Air Layer** : 0.167 m<sup>2</sup> K/w - **Heat Resistance of Air Surface Layer** : 0.099 m<sup>2</sup> K/w
- **Heat Resistance of Gypsum Board and Coating** : 0.068 m<sup>2</sup> K/w - **Ambient Temperature in Building** : 22 °C
- **In the test method report of ITU (Istanbul Technical University) ISO 8301, thermal conductivity value was determined as** : 0,040.
- **Temperature Sensors** : Temperatures are measured using thermocouple type probes. Also, infrared light located between units was used.
- **Methods and Conditions Temperature** : 2 samples were prepared and left for conditioning 7 days.
- **Measured Errors** : Errors up to 3% were taken into account and the test was performed 2 times.
- **Thermal Energy Saving Results** : The increase in the heat resistance of 9,5 mm nominal thickness gypsum board covered with ISONEM sample on a blank coating without ceramic beads is 22.8 % in a single-layered application.
- **According to the measurements of the Selin Laboratory which is accredited by TURKAK, value of lambda h (thermal conductivity value)** : 0,0299

• **Thermal Resistance [R]** : 0,0650 made according to TS 825 method of measurement.

### USAGE AREAS

Concrete tiles, metal roofs, polystyrene and polyurethane foams, mobile home roofs, pebble roofs, asphalt shingle roofs, concrete roofs, roofs made of bitumen and galvanized metal, houses, flats, buildings, warehouses, commercial buildings, hotels, office buildings and factories.

### APPLICATION INFORMATION

**Surface Preparation** : Surfaces to be applied should be cleaned from dirt, oil, loose and peeling paints and other foreign materials. All cracks, joints, sides, and roof infiltration sites should be patched and repaired or altered in damaged or leaky roofing materials. Before application, ISONEM UNIVERSAL PRIMER insulation should be applied in a single layer on 200 - 300 g/m<sup>2</sup> [1: 7 diluted with water, 1 part primer, 7 part water]. Primer should dry for 4 hours.

**Application Method** : Mix the paint at various times before and during application. Do not mix with other paints or add solvents. Do not apply at temperatures below 10°C. It can be applied on dry or slightly damp surfaces with a brush, roller or spray. Please use the paint abundantly in holes and cracks. Minimum two coats are recommended. It is recommended that each coat is painted perpendicular to the previous layer. ISONEM THERMAL ROOF ready to use. Thinning is not recommended.

**COLOR** : It is produced in all colors in the Isonem Color Chart.

**IMPORTANT**  
More or less consumption may cause non-productiveness, side effects.  
The surface should be protected from rain, water, mechanical loads and impacts for 24 hours during and after the application.

### General Features

- Helps to prevent mold and moisture formation
- Sound Insulation
- Thermal insulation
- %100 Water Isolation
- B S1 d0 Fire Class
- Hygienic, does not contain carcinogenic substances
- Elastic
- Helps to prevent condensation
- Can be customized with color chart
- UV Resistance



Surface Floor	Concrete	Marble, Granite	Raw wood	Tile & Ceramic	Membrane, Shingle etc.	Steel & Metal
<b>Application</b>	Perpendicular to each layers	X	Perpendicular to each layers	X	Perpendicular to each layers	Perpendicular to each layers
<b>Surface Humidity</b>	Dry /Slightly Humid	X	Dry /Slightly Humid	X	Dry /Slightly Humid	Dry /Slightly Humid
<b>Application Tools</b>	Roller brush, a suitable spray	X	Roller brush, a suitable spray	X	Roller brush, a suitable spray	Roller brush, a suitable spray
<b>Primer Usage</b>	ISONEM UNIVERSAL PRIMER (1:7 diluted with water, 1 part primer, 7 part water)	X	ISONEM UNIVERSAL PRIMER (1:7 diluted with water, 1 part primer, 7 part water)	X	ISONEM UNIVERSAL PRIMER (1:7 diluted with water, 1 part primer, 7 part water)	Epoxy Shop Primer/ Antirust
<b>Primer.Conspt</b>	200-300 gr / m <sup>2</sup> Min.2 Layers	X	200-300 gr / m <sup>2</sup> Min.2 Layers	X	200-300 gr / m <sup>2</sup> Min.2 Layers	Consult the manufacturer
<b>Product Usage</b>	1L / m <sup>2</sup>	X	1L / m <sup>2</sup>	X	1L / m <sup>2</sup>	1L / m <sup>2</sup>
<b>Product.Conspt</b>	4 Hours	X	4 Hours	X	4 Hours	4 Hours
<b>Betw.Two.Coats</b>	24 Hours	X	24 Hours	X	24 Hours	24 Hours

### Application Conditions and Risks

- Things to consider during and after the application**
- The application surfaces must be clean and free from dirt, oil, rust etc..
- Applicable temperature**
- Between +10 - +35°C
- ISONEM products for surface preparation**
- ISONEM Universal Primer should be used as a primer. The information on consumption and through-dry time depend on manufacturer instructions for Epoxy Shop Primer or Anti Rust Primer.



The information given in this technical data sheet has been prepared according to our knowledge, experiment results, and experiences. The correct and successful implementation of our products is completely beyond our control and responsibility. For this reason, our responsibility is limited to the quality of our product only, and this manual overrides all previous technical statements, descriptions and label information.

" Our products are not classified by Biocidal Products Regulation "