

# ISONEM<sup>®</sup> THERMAL ROOF



## Roof Thermal Insulation Coating

**THERMAL ROOF** is a waterproofed and thermal insulated coating that is applied liquidly. **THERMAL ROOF** was developed within the framework of Space Shuttle Program by NASA and was reinforced with ceramic micro- spheres. The bright white formula reinforces with ceramic of **THERMAL ROOF** reflect sun rays of 80%. **THERMAL ROOF** reduces the need for ventilation and the costs of cooling. **ISONEM THERMAL ROOF** roof coating keeps its elasticity and resistance to -34 °C in winter. Membrane film has got water impermeability, and the moisture inside the building evaporates. When applied on horizontal roofs, it keeps the accumulated water, fills most of the cracks and makes it waterproof.

**USAGE AREAS:** Concrete tiles, metal roofs, plastic panels, polystyrene and polyurethane foams, mobile home roofs, gravel roofs, asphalt shingle roofs, concrete roofs, bitumen and galvanic metal roofs, houses, apartments, buildings, depots, commercial buildings, hotels, office buildings, and factories.

### APPLICATION:

Preparation of Surface: Ensure that the surfaces is clean and free of dirt, oil, loose and peeling paints and other foreign materials. All cracks, junctions, and roof leaking locations should be patched and necessary repairs or changes must be done on leaky roof.

Surfaces requiring primer should be primed with **ISONEM UNIVERSAL PRIMER** as one coat with consumption approximately 200-300 gr/m<sup>2</sup>. Wait for 4 hours in order to apply the main product. Before and during application of **THERMAL ROOF**, mix the paint at various times. Do not mix with other paints or add solvent. Do not apply below 10 °C. It can be applied on dry or slightly moist surfaces with a roller, a brush or a sprayer. Please use the paint abundantly in holes and cracks. Minimum two layers are recommended. Each layer should be painted perpendicular to the former one. **THERMAL ROOF** is ready to use. Dilution is not recommended.

**TECHNICAL PROPERTIES:** •Colour: White or in preferred colours •Carrier: Acrylic Emulsion •Solvent: Water- based •Flash Point: None •Touch Dry Duration: 1 hour

**ENERGY-SAVING:** Test results made by Thermilate Europe Ltd. in England; ITU (Istanbul Technical University) test results

**METHOD:** The hot room test was applied by using infrared thermometer and thermocouple.

**METHOD:** ISO 8301 (ITU)

### TEST DETAILS:

•Sample Thickness (Gypsum board+ Thermal Roof dry film): 0.00995 M •Dimensions: 0.304 x 0308M •Air Temperature: 25.04 °C •Covered Surfaces Temperature: 18.00 °C •Cold Surface Temperature: 13.10 °C •Density of Heat Flow: 71.60 W/m<sup>2</sup> •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 •Test Duration: 84 hours •Ambient Temperature in Building: 22 °C •ITU (Istanbul Technical University) test according to ISO 8301; lambda value: 0,040 •Temperature Sensors: Temperatures were measured by using thermocouple probes. Also, infrared light located between units was used. •Method and Conditioning Temperature: 2 samples were prepared and left for conditioning. •Measured Errors: Errors up to 3% were taken into account and the test was carried out 2 times. •Thermal Energy Saving Results: The increase in heat resistance of gypsum board of 9,5 mm coated with **ISONEM** sample on a blank coating, is 22.8% in a single layered application.

**CONSUMPTION:** 1 Lt/m<sup>2</sup> ( at least 1-1,5mm thickness)

**PACKING:** 18 Lt plastic pail

**STORAGE CONDITIONS/SHELF LIFE:** 12 months from date of production if stored properly in unopened and undamaged original sealed containers at temperatures between +5°C to +35°C at dry conditions. Protect from excessive temperature and frost.

