Technical Datasheet

D014
Decorative

AISLANTUM

Thermal insulation outdoor coating with ceramic technology.
Provides durability and increased energy savings.

Description

D014 is an insulation coating that acts reflecting the sun radiation and releasing the heat absorbed by emittance.

D014 is made of acrylic resins which give excellent paint adhesion properties, elasticity, waterproof and durability. In addition the incorporation of ceramic fillers technology gives the paint high resistance to thermal conductivity and high reflectance.

These features allow cost savings both heating and air conditioning, reaching the same finishing that a waterproof coating.

Characteristics

- The main quality of Aislantum is to provide insulation to the exterior surface, reducing energy consumption.
- It provides an excellence thermal protection cause of their high reflectance, significantly reducing the temperature on the inside.
- It reflects more than 80% of the sun light (ASTM E903-12).
- It gives waterproof for all types of roofs, with large ability to cover cracks and resistance to weather conditions (frost / thawed cycles, rain, etc.).
- Excellent flexibility at low temperatures. Shockproof. 300% Elongation.
- High tensile strength.
- Adhesion to any surface: building materials, polyurethane foam or galvanized steel.
- Excellent water vapor permeability.
- Excellent washing resistance.
- Fireproof Material (B-s2, d0) according to UNE-EN 13501-1: 2007.
- Eco-friendly product, does not contain organic solvents, toxic pollutants or harmful to people or the environment product.
- Excellence coverage power.
- It is applied as a conventional paint and leaves the same appearance
- It does not require finishing.

Basic Characteristics

Determined at 23 ºC and 60% HR:

Solvent:	Water
Weight solids:	63.2%±2%
Density:	1.10 ± 0.05 g/ml
pH:	9.0 ± 0.5
Elongation:	300%
Colour:	White (ask for others)
Finish:	Satin
Touch dry	1 hour
Dry thought	24 hours
Recoating time:	8 hours
Theoretical yield:	1 l/m^2 (1000 µm, in 3 layers)

Certifications

- Solar reflectance determination according to ASTM E903-12:

Solar reflectance 82,2 ± 0.2

- Solar emittance determination according to ASTM C1371-04ª (2010)e1.

Solar emittance: 0,90 ± 0.03

- SRI determination according to ASTM E1980-11.

Convection coefficient	SRI
Low (0-2 m/s)	**102,4 ± 0.3**
Medium (2-6 m/s)	**102,5 ± 0.3**
High (6-10 m/s)	**102,6 ± 0.3**

The **Solar Reflectance Index** (SRI) measures a surface's ability to reject solar heat, defined such that a standard black is 0% (reflectance 0.05, emissivity 0.90) and a standard white (ideal case) has an SRI equivalent to 100% (reflectance 0.80 and emissivity 0.90).

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Comparative analysis of the surface temperature of the unexposed side to radiation from three pieces of cement with different coatings and an additional piece uncoated when they are exposed to simulated solar radiation.

The test involves placing four pieces of cement on a vertical frame to allow a controlled radiation (as specified in Annex A of the UNE-EN ISO 12543-4: 1998). The surface temperatures of the unexposed side and the room temperatures are recorded along the time.

En la siguiente gráfica se muestra la evolución de las temperaturas superficiales de la zona no expuesta de cada una de las probetas:

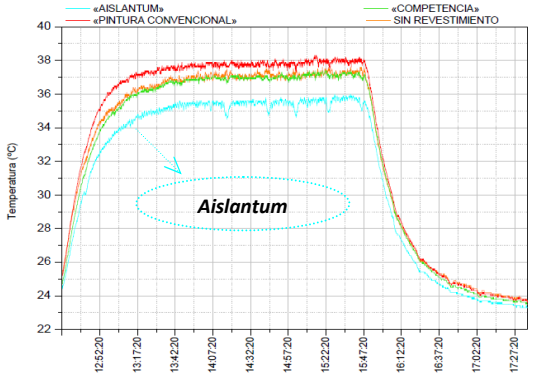

Figura 3: Gráfico de la evolución de las temperaturas superficiales de la zona no expuesta de las probetas

Cabe reseñar que el tiempo empleado en alcanzar la temperatura ambiental después de apagar la fuente de radiación es de 1 hora y 50 minutos.

The conclusions are that the temperature reached in the inside, not exposed to radiation, of the **Aislantum** sample was lower than the temperature reached in the other samples (normal coating and competitor coating). The temperature rise of the competitor coating against **Aislantum** was 1.55 ºC higher (+4.4%), and the temperature rise of the standard coating against **Aislatum** was 2.35ºC (+6.6%).

Taking this value to the conduction heat transfer equation

$Q = (U \cdot A \cdot \Delta T)/e$ energy savings is significant.

Real Case

An application of Aislantum coating was applied over a fiber-cement roof of a confection warehouse in Madrid

The aim was to lower the temperature inside the warehouse, improving comfort and energy savings.

The roof surface temperatures were:

Time	Tª room.	Without Aislantum	With Aislantum
11:00	35 ºC	38 ºC	29 ºC
12:00	43 ºC	44 ºC	33 ºC
13:00	45 ºC	52 ºC	35 ºC
14:00	45 ºC	58 ºC	38 ºC
15:00	47 ºC	60 ºC	40 ºC
16:00	47 ºC	59 ºC	39 ºC
17:00	47 ºC	57 ºC	38 ºC
18:00	45 ºC	55 ºC	36 ºC

From 11:00 to 18:00 the surface without **Aislantum** temperature rises 17ºC, while the **Aislantum** coated surface only rises 7ºC, which means important energy savings.

Application directions

The surfaces must be dry, clean and free from dust, oil and other pollutants.

Aislantum can be applied as conventional paints (roller, brush or airless spray) and with the same surface pretreatment.

It can be applied over all surfaces (cement, metal…) without special equipment or preparations.

As water based product no health harmful solvents are released during the application or after it.

To reach a good insulation performance a minimum thicknes of 1000 dry microns should be applied in three or more layers.

Remarks

Substrate and room temperature must be above 5ºC with maximum relative humidity of 80%.

Shelf life: 24 months, unopened. Store indoors between 5ºC and 35ºC

After this time the use of the product is not recommended. Ask for a possible inspection in our plant.

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