MANTI CERAMIC HIGH DENSITY

Nanocomposite heat-insulating paste coating

FEATURES

Packaging: 20 L

Coverage: 1 L/ 1 m^2 / 1 mm

Recommended thickness: 2 – 10 mm approx.

Reflectance Index: SRI = 109%(ASTM E1980)

Thermal conductivity: λ_d= 0.001 W/(m·K) (Test R 1995870)

(see the recommendations on the second page)

Viscosity: 22.000 mPas (EN ISO 3219)

Density: 763 kg/m3

Colour: Natural white

VOC: 0,43 gr/lt

Vapour diffusion resistance: V2 (EN 15824:2017)

Water permeability: W2 (EN 15824:2017)

Specific heat: 1.290 J/(kg·K)

Reaction to fire: Euro Class A2 S1 d0

Guarantee: 15 years

Composition	Patented, single-component, pre-mixed product containing ceramic nanomolecules for thermal insulation
General information	This is an innovative product with a high insulating capacity due to the combination of very low conductivity and thermal reflectance properties. Breathable and certified moisture-proof and mould-proof.
Use	Extremely thin protection that drastically reduces heat loss, protecting surfaces from corrosion and the formation of new fungus and mould. Particularly suitable for effective thermal insulation of walls and underfloor layers in both civil buildings and commercial structures. Applicable on any type of masonry surface with a healthy or restored base. Follow the steps in the application manual.
Application	Trowelling is used for application, as better illustrated in the laying manual. Avoid application at temperatures below + 5°C.
Special remarks	Quick application with trowel. Non-toxic, odourless, low VOC. 100% recyclable. See safety data sheet. Optimal thermal efficiency is achieved about 60 days after application.

Technical recommendations for Application Thermal Calculations of Manti Ceramic High Density

With reference to the thermal performance of the product Manti Ceramic High Density, we would like to formalize the technical criteria governing the variation of the equivalent thermal conductivity (λ) as a function of thickness, as opposed to the use of a fixed lambda value independent of the considered thickness (which typically involves rounding to the third decimal place).

The thickness of the product used for the measurements for certification purposes was in fact below one millimeter. As the applied thickness increases, the thermal conductivity of the Manti Ceramic product varies proportionally. In particular, the contribution due to thermal reflectance—a phenomenon mainly related to the surface properties of the coating—is maximum at very small thicknesses and tends to decrease in relative terms as the overall thickness increases, while the other properties responsible for inhibiting heat flow increase in a linear manner.
Based on multiple experimental tests carried out under real conditions, conducted both by our company and by independent third-party organizations, the following adjustments in heat transfer calculations are recommended:

Thickness (mm)	Thermal conductivity coefficient λ (W/mK)	Thermal transmittance U (W/m^2K)	Resistencia térmica R ($(m^2K)/W$)
1	0,0012	1,200	0,833
2	0,0013	0,650	1,538
3	0,0014	0,467	2,143
4	0,0015	0,375	2,667
5	0,0016	0,320	3,125
6	0,0017	0,283	3,529
7	0,0018	0,257	3,889
8	0,0019	0,238	4,211
9	0,0020	0,222	4,500
10	0,0021	0,210	4,762