



## DDL.ECM MANUAL

Datasheet

602



Invention Patent n° 108904  
(Boletim Propriedade Industrial 80/2017)



### TECHNICAL DATA

#### DRY PRODUCT

Weight by package..... 10 kg  
Dry bulk density (EN 1015-10) 350 to 400 kg/m<sup>3</sup>  
Conservation ..... 12 months

#### PASTE PRODUCT

Mixing water ..... 85 % ±2 %  
Mixing time ..... 6 to 9 minutes  
Yield..... 3 to 4 kg/m<sup>2</sup>/cm  
Work time ..... 30 minutes  
Drying time ..... 4 weeks  
Cure time ..... 6 months

#### PERFORMANCE

Class (EN 998-1)..... LW T  
Compressive strength EN 1015-11)..... CS I  
Flexural strength ..... 0.37 N/mm<sup>2</sup>  
Modulus of elasticity..... ≤ 520 N/mm<sup>2</sup>  
Adhesion (EN 1015-12) ..... ≥ 0.1 N/mm<sup>2</sup> - FP:B  
Capillary water absorption (EN 1015-18) .... W 1  
Water vapour permeability coefficient (μ) (EN 1015-19) ..... ≤ 15 kg/m<sup>2</sup>.s.Pa  
Thermal conductivity (<sub>t=10,dry</sub>) (EN 1745) .....  
..... 0.088 W/mK  
Reaction to fire (EN 13501)..... A2 – s1, d0  
Durability .....  
Varies according the conditions at the local of application .....  
Colour ..... Grey

The indications and information are provided in good faith and reflect the last developments. DDL assures the consistent quality of the product, and is not liable regarding its application. Previous tests are recommended to verify the suitability of the product to the substrate and the environmental conditions at the local of application.

Date ..... April 2017 (version 1)

### DESCRIPTION

**DDL.ECM MANUAL** is a premixed dry mortar. It consists in lime (slaked and natural hydraulic) and natural cement as binding materials and properly calibrated aggregates. The core aggregate is cork, which ensures its light weight and high thermal resistance, improved mechanical resistance and low environmental impact. It is free of dense graded aggregates. It is an industrial light thermal insulation mortar (LW / T1 – CS I – W1) for outdoor and indoor application. It's a coarse mortar to use in walls, columns, partitions and ceilings. **DDL.ECM MANUAL** has a moderate mechanical resistance and working time, good plasticity, low level of soluble and hydratable salts, good vapour permeability and low tendency to cracking. The bindings, slaked lime, hydrated lime and natural cement, are in conformity with EN 495-1. **DDL.ECM MANUAL** is in conformity with EN 998-1.

### APPLICABILITY

**DDL.ECM MANUAL** was designed to provide thermal insulation or the elimination of the thermal bridges. The good thermal performance contributes greatly to the isolation of facades, and lowers the dew point. As a result of this, it represents a good solution to interstitial condensation, assuring a high permeability to vapour. **DDL.ECM MANUAL** can be applied in rehabilitation and restoration (stone, brick, and earth masonry), as well as in new constructions.

### PREPARATION AND ENVIRONMENTAL CONDITIONS

Before applying **DDL.ECM MANUAL** the substrate must be clean of all dust, dirt and paint by brushing or chiselling. Salts, grease and other contaminants must also be removed. After the cleaning, the substrate must be wetted with clean water on the previous day to the application. Before the application on highly absorbent materials, the wetting must be repeated. The application must not be done when the temperatures are above 25 °C, nor below 5 °C. The relative humidity must be below 80%. The application must not be done under strong wind. Until after two days post application, the mortar must not be exposed to rain, direct sunlight or frost.

### APPLICATION AND RECOMMENDATIONS

To prepare **DDL.ECM MANUAL**, add 85 % (weight) of water. For every 7.5 kg of mortar add 6.4 litres of water. Mixing should take place with mechanical mixer, low spin (750 rpm) for 3 to 4 minutes, followed by high mixing (1500 rpm) for 3 to 5 minutes until a homogeneous paste is obtained.

Application must be made manually, with minimum thickness of 10 mm, and maximum of 25 mm. When it starts setting, smooth the surface with appropriate tools. Between layers there must be a waiting period of 2 to 4 days for each 10 mm of thickness, and the lower layers must have a coarse surface to maximum adherence.

Edges and wedges will probably require the use of appropriate profiles. Dilatation joint of the substrate must be respected. For accessible floors, the mortar must be reinforced with synthetic or natural nets. The net must be incorporated in the external part of the layer. Not wetting the substrate can cause cracking. Saturation is neither recommended. Too much water mixing makes the mortar prone to cracking and the decreases its mechanical characteristics and durability.

Equipment and tools must be washed with clean water. The product's pH is high, so materials damaged by alkaline must be protected. Do not add any other products. The surface must be finished using DDL.CM FINISH with net reinforcement.

### SAFETY, HEALTH AND STORAGE

Avoid contact with the eyes and skin. Use gloves and safety goggles. Keep away from children. Keep the bag well sealed and in a suitable place. Ensure the adequate transportation of the product. Keep the package in a safe place, do not use or store the product in extreme conditions of temperature, and keep it away from ice and humidity. Always keep in mind the applied legislations. For more information check the label and the safety data sheet.