

NATURAL MATERIALS

FOR TECHNICAL SOLUTIONS



AMORIM
ISOLAMENTOS

MDFAÇADE

DESCRIPTION

MDFAÇADE expanded insulation cork is a special expanded cork reference of Amorim Isolamentos, recommended for exterior applications. The product was born, responding to the challenge launched by architects Álvaro Siza and Eduardo Souto Moura, to the project of Portugal Pavilion, at Expo Hannover in 2000. The project is now located in Coimbra since 2002, without any apparent anomaly.

ADVANTAGES

- > 100% natural and fully recyclable
- > Excellent thermal and acoustic insulation
- > Mechanical stability
- > CO² sink (Carbon Negative)
- > Visual Cork

PRODUCT LINES

- > Board dimension: 1000x500 (mm)
- > Thickness up to 220 (mm)
- > Option: Overlapping system

PRODUCT SPECIFICATIONS

Test	Result
Density	130 Kg/m ³
Thermal Conductivity	0,043 W/m°C
Fire Reaction	Euroclass E

MECHANICAL CHARACTERIZATION

Test	Standard	Results
Bending behaviour; ob [kPa]:	EN 12089:2013	ob: 227 kPa Bending at maximum force: 14,54 mm
Dimensional stability:	EN 1604:2013	Length: Δel (%)=0.3 Width: Δeb (%)=0.3 Thickness: Δed (%)=0.40
Tensile strength perpendicular to faces; omt [kPa]:	EN 1607:2013	omt= 67,81 kPa
Tensile strength perpendicular to faces; Wet conditions; omt [MPa]:	ETAG 004:2011; EN 1607:2013	Set 1 - omt = 64.91*E-3 MPa Set 2 - omt = 64.15*E-3 MPa
Deformation under specified compressive load and temperature conditions; ε1, ε2 [%]:	EN 1605:2013	Relative deformation ε1: 0,949 % Relative deformation ε2: 4,63 %
Compressive stress at 10% strain; σ10 [kPa]:	EN 826:2013	σ10= 185 kPa
Shear strength; τ [kPa]:	EN 12090:2013	τ = 110 kPa
Behaviour under point load; Fp [kN]:	EN 12430:2013	Fp = 0.93 kN
Dynamic stiffness; S't [MN/m ³]:	ISO 9052-1:1989; ISO 7626-5:1994	S't=90 MN/m ³

APPLICATION SYSTEMS

> ADHESIVE



> MECHANICAL FIXING



HYGROTHERMAL CHARACTERISATION

Test	Standard	Results
Thermal conductivity coefficient λ [W/m.°C]	EN 12667:2001	Mean value: $\lambda = 0,0426$ W/m.°C
Declared value for thermal conductivity and thermal resistance; λD [W/(m.°C)]; RD [(m ² .°C)/W]:	EN 13170:2012 Annex A	$\lambda D = 0.045$ [W/(m.°C)] RD = 1.55 [(m ² .°C)/W]
Short term water absorption by partial immersion; Wp [kg/m ²]	EN 1609:2013	Wp: 0.18 kg/m ²

Water vapour transmission properties [EN 12086:2013]	Mean value
Water vapour transmission rate g [mg/(h.m ²)]	455.54
Water vapour permeance W [mg/(m ² .h.Pa)]	0.33
Water vapour resistance Z [(m ² .h.Pa)/mg]	3.09
Water vapour permeability δ [mg/(m.h.Pa)]	0.01
Water vapour diffusion resistance factor μ [-]	54.61
Water vapour diffusion equivalent air layer thickness Sd [m]	2.19

HYGROSCOPIC ADSORPTION PROPERTIES

