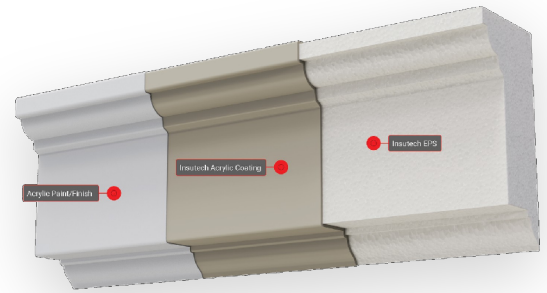


TECHNICAL DATASHEET

CLADECO® — COATED-EPS ARCHITECTURAL CLADDING SYSTEM

A product by Insutech · International Company for Insulation Technology



EPS CORE · ACRYLIC SHELL · PAINT FINISH

Product characteristics

Technical characteristics are obtained in the laboratory at 23 °C (± 2 °C) air temperature and 50 ± 5% relative humidity. Cladeco® is a meshless coated-EPS cladding system — a CNC-machined EPS core with a hard acrylic-polymer shell — a direct substitute for GRC, GRP and cast stone.

General characteristics

Identified uses	Decorative architectural elements and facade cladding for exterior use
System type	CNC-machined EPS core with a meshless acrylic-polymer shell
Product lines	Cladeco Elements (cornices, columns, keystones, trims, sills) & Cladeco Facades
Core material	Expanded polystyrene (EPS), 15–35 kg/m ³ (typ. 24–30 for cladding)
Shell	Meshless acrylic-polymer render, formulated with international high-quality acrylic manufacturers
Shell thickness	3–4 mm
Finish / colour	Paint-ready, off-white surface
Installed weight	3–8 kg/m ² (≈ 7× lighter than GRC · ≈ 12× lighter than stone)
Custom shapes	Unlimited — CNC machined, no molds, no minimum order quantity
Typical lead time	2–6 weeks from approved shop drawings
Service temperature	–30 °C to +80 °C (cured system)

Material composition

Core	Closed-cell expanded polystyrene (EPS) — lightweight, insulating, dimensionally stable
Shell composition	93.5% acrylic copolymer & 6.5% additives
Shell appearance / colour	Semi-transparent off-white, cures to a hard mineral-look surface
Bond to substrate	Cement-based adhesive + mechanical pins (render · concrete · block)
Not resistant to	Solvents · exposure of the uncured shell to low temperatures or freezing

Technical Service

Technical Service Representatives provide assistance in the selection and specification of products. For more detailed information, service and advice, please contact our technical team · www.insutech-eg.com

Physical characteristics

Appearance	Rigid coated profile / panel; hard mineral-look acrylic surface
Colour	Off-white, paint-ready
Installed weight	3–8 kg/m ²
Core density	15–35 kg/m ³ (see core properties, p.3)
Shell density	1.08 kg/L ± 0.2 (cured render)
Thermal conductivity (core)	0.032–0.040 W/m·K — insulating, adds R-value to the facade
pH (shell)	6.0 – 9.0
UV resistance	Resistant — non-degrading
Water absorption, shell (EN 1062-3)	3.67% (standard maximum 6%)
Water absorption, core (EN 12087)	≤ 3% by volume (total immersion)
Adhesion on EPS (EN 13494)	≥ 313.15 kPa — rupture in the EPS, at 3 mm shell & 24 kg/m ³ core
Impact strength (EN 13497)	No damage after 10 J impact (3 mm shell on 24 kg/m ³ EPS)
Resistant to	Weathering · water · aggressive atmospheres · cracking · algae & fungus growth · low and high temperatures after curing

Reaction to fire

Core reaction to fire (EN 13501-1)	Euro Class E
Cured acrylic shell	Not flammable
Hazardous decomposition	Fire creates carbon dioxide (CO ₂) and carbon monoxide (CO)
System fire performance	Project-specific — specify a rated build-up where required by the facade design

Packaging

Supply form	Elements CNC-cut and coated to approved shop drawings; edge-protected and crated per project
Handling	Lifted and positioned by hand — 1–2 crew, no crane required

Storage conditions and terms

Temperature range	+5 °C to +35 °C
Humidity range	40% – 80%
Storage	Keep dry and out of direct sunlight; store flat and fully supported

Warranty

Product warranty	10-year warranty on the Cladeco® product, subject to approved specification, correct installation and normal maintenance.
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Technical Service

Core material – technical properties

The Cladeco® core is a closed-cell expanded-polystyrene (EPS) block, CNC-machined to the required profile. Core grade is selected per project; the table below sets out the certified property range across the standard density grades.

EPS CORE	Property	Code · Method	15	20	25	30	35
	Density (kg/m ³ , ±5%)	—	15	20	25	30	35
	Thermal conductivity (W/m·K)	λD · EN 12667	≤0.036	≤0.035	≤0.034	≤0.033	≤0.032
	Compressive stress at 10% (kPa)	CS(10/Y) · EN 826	≥70	≥100	≥150	≥200	≥250
	Tensile strength (kPa)	TR · EN 1607	≥70	≥100	≥150	≥200	≥250
	Bending strength (kPa)	BS · EN 12089	≥115	≥150	≥200	≥250	≥350
	Dimensional stability (%)	DS(70)3 · EN 1604	3	3	3	3	3
	Reaction to fire	EN 13501-1	E	E	E	E	E
	Specific heat (J/kg·K)	EN 12524	1450	1450	1450	1450	1450
	Water-vapour diffusion resist. (μ)	MU · EN 12086	20–40	30–70	30–70	40–100	40–100
	Water absorption, immersion (% vol)	WL(T) · EN 12087	≤3	≤3	≤3	≤3	≤3
	Water absorption, diffusion (% vol)	WD(V) · EN 12088	≤3	≤3	≤3	≤3	≤3
Using temperature (°C)	—	75	75	75	75	75	

Core property values to EN test methods. Cladding elements typically use 24–30 kg/m³ grades; the coated shell, adhesive and pins complete the wall build-up. INSUTECH reserves the right to modify product specifications due to customer request and/or continuous product development without prior notice. This publication revokes any previous one · Issue 1 / © 2026 Insutech.



One profile, a fraction of the weight.

The same cornice geometry that would be made in GRC or carved stone is delivered in coated EPS — lifted and bonded by hand, with no steel sub-frame and no crane. Custom shapes are CNC-machined from approved drawings, so there are no molds and no minimum order.