PolyVision®

FLEXIBLE 4

Panel Face: a³ CeramicSteel – 0.56 mm of steel enameled in porcelain with one finished side 0.84 mm total thickness
Panel Core: None
Panel Back: Aluminum – 2 mm aluminum sheet
Adhesive: Rubber Based Contact Adhesive
Edge Treatment: Water Resistant Polyvinylchloride (PVC) Tape on 2 sides

Panel Property	Testing Standard	Unit	Value
Panel thickness	EN 438-2 : 5	mm	2.9
Length tolerance	EN 438-2 : 6	mm	0.1%
Width tolerance	EN 438-2 : 6	mm	0.1%
Squareness	Measured difference in diagonals on a 3050 x 1200 mm panel	mm	± 3
Fire classification (composite panel only)	EN 13501-1		A1
Fire classification (with edge finish and standard framing system)	EN 13501-1		A1
Neutral salt spray test (composite panel only)	ISO 9227		< 24 h
Neutral salt spray test (with edge finish and standard framing system)	ISO 9227		> 1000 h
Minimal edge covering (framing system)		mm	6
Dimensional stability	EN 318		NA
Flatness	EN ISO 28722 (§5.7)		Max. 0.15% deflection of the largest diagonal or to the diameter of the panel
Weight		kg/m²	10.7
Shock resistance	ETAG 034 (§5.4.4.1) (hard body impact) ETAG 034 (§5.4.4.2) (soft body impact)		no collapse, penetration or fracture @ 10 Nm no collapse, penetration or fracture @ 700 Nm
Density	EN 634	g/cm³	3.71
Tension	ASTM C 297	N MPa	Break load > 900 N P_z^{FTU} – 3.6 MPa
Shear test	ASTM D 1002	N Kg/mm²	145 N 0.023 Kg/mm²
E-modulus	EN ISO178	N MPa	Break load – 650 N E_f – 25154 MPa
Bending test	EN 12467 (§7.3.2)	N MPa	Break load – 2105 N MOR – 292 MPa
Sound reduction index	EN ISO 10140-2		32 dB (Rw)
Shear load of fixtures	ETAG 034 (§5.4.2.1.2)		NA
Tensile load of fixtures	ETAG 034 (§5.4.2.1.1)		NA
Wind resistance	ETAG 034 (§5.4.1)	Pa Pa	2000 Pa over pressure 1850 Pa under pressure
Laboratory ageing of sandwich constructions	ASTM C 481 – cycle B		No delamination after 6 test cycles
Bending test after freeze / thaw cycle	EN 12467 (§7.4.1) (100 cycli)	N MPa	Break load – 2973 N MOR – 418 Mpa
Bond test before & after freeze / thaw cycle	EN 12467 (§7.4.1) (100 cycli)	N/mm² N/mm²	Before freeze-thaw: 0.68 N/mm² After freeze-thaw: 0.56 N/mm²

a³ CeramicSteel Surface

0.56 mm thick steel coated with vitreous enamel surface with a total thickness of 0.84 mm

a³ CeramicSteel Surface	Testing Standard	Unit	Value
Gloss – Type G	ISO 2813 ASTM D 523	Gloss units (GU)	65 ± 10 GU (20°)
Gloss – Type M	ISO 2813 ASTM D 523	Gloss units (GU)	60 ± 10 GU (60°)
Color tolerance	ISO 7724 ASTM D 2244-02	ΔE^{94}	$\Delta E^{94} \leq 1.5$ (compared to reference sample)
Reflectance	ISO 7724 ASTM D 2244-02	%	Y-Value up to 93%, depending on color
Orange peel	ISO 2813 ASTM D 523		Short wave (SW) ≤ 55 Long wave (LW) ≤ 25 Distinctness of image (DOI) ≥ 60
Defect appearance	EN 438-2:4		Free from defects liable to change the general appearance of the panel
Mohs hardness	EN 15771		Min. 5
Scratch resistance	ISO 15695	N	Min. 7
Pencil hardness	ASTM D-3363		> 9H
Wear resistance	ASTM C501	g	Max. 0.1 (abrasive S33 1 kg/1000 rev)
Impact	ISO 4532		No damage over 2 mm after 24 h (20 N load)
Coating adhesion	EN 10209 Annex D		Min. class 2
Porosity	EN14430	$\#/m^2$	< 10 (1800 V)
Cold acid resistance	ISO 28706-1-9		Min. class A
Boiling acid resistance	ISO 28706-2-10	g/m^2	Max. 18.5
UV resistance	ISO 4892-3 (cycle 2)	ΔE^{94}	$\Delta E^{94} \leq 0.5$ (2000 h)
Color stability	ASTM C 538	ΔE^{94}	$\Delta E^{94} \leq 5$ (24 h)
Graffiti resistance	EN ISO 28722 (§7)		No color or gloss change after cleaning

This panel conforms to the following internationally recognized standards:

ISO 28722, Vitreous and porcelain enamels – Characteristics of enamel coatings applied to steel panels intended for architecture

European Enamel Authority, EEA 7.13, 7.14 – Quality requirement for architectural panels

European Normalization, EN 14431 – Vitreous and porcelain enamels – Characteristics of the enamel coatings applied to steel panels intended for architecture

Porcelain Enamel Institute, PEI 1001 – Specifications for architectural porcelain enamel

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