

Material Property Datasheet

TRESPA® TOPLAB®VERTICAL

Decorative high-pressure compact laminates according to EN 438-4:2005 of thicknesses of 6 mm (± 1/4 in) or greater for interior use. Sheets consisting of layers of wood-based fibres (paper and/or wood) impregnated with thermosetting resins and surface layer(s) on one or both sides, having decorative colours or designs. A transparent topcoat is added to the surface layer(s) and cured by Trespas unique in-house technology Electron Beam Curing (EBC), to enhance the scratch resistance and light protecting properties. These components are bonded together with simultaneous application of heat (≥ 150° C / ≥ 302° F) and high specific pressure (> 7 MPa) to obtain a homogeneous non-porous material with increased density and integral decorative surface. They are available in the Standard grade (CGS) and in the Fire-Retardant grade (CGF).

Properties	Test method	Property or attribute	Unit	Result [Ⓜ] [Ⓟ]	
				Grade: CGS (Toplab [®] VERTICAL) Standard: EN 438-4 Colour/Decor: All [Ⓟ]	Grade: CGF (Toplab [®] VERTICAL FR) Standard: EN 438-4 Colour/Decor: All [Ⓟ]
Surface quality					
Surface quality	EN 438-2 : 4	Spots, dirt, similar surface defects	mm ² /m ² in ² /ft ²	≤ 1 ≤ 0.0001	
		Fibres, hairs & scratches	mm/m ² in/ft ²	≤ 10 ≤ 0.036	
Dimensional tolerances					
Dimensional tolerances	EN 438-2 : 5	Thickness	mm	6.0 ≤ t < 8.0: +/- 0.40	
				8.0 ≤ t < 12.0: +/- 0.50	
				12.0 ≤ t < 16.0: +/- 0.60	
			in	16.0 ≤ t < 20.0: +/- 0.70	
				0.2362 ≤ t < 0.3150: +/- 0.0157	
				0.3150 ≤ t < 0.4724: +/- 0.0197	
	EN 438-2 : 9	Flatness	mm/m	≤ 2	
			in/ft	≤ 0.024	
	EN 438-2 : 6	Length & width	mm	+ 5 / - 0	
			in	+ 0.1968 / - 0	
EN 438-2 : 7	Straightness of edges	mm/m	≤ 1		
		in/ft	≤ 0.012		
Trespa Standard	Squareness	mm	2550 x 1860 = max. difference between diagonals (x-y) = 4		
		3050 x 1530 = max. difference between diagonals (x-y) = 4			
		in	100.39 x 73.23 = max. difference between diagonals (x-y) = 0.1575		
Physical properties					
Resistance to surface wear	EN 438-2 : 10	Wear resistance - Revolutions (min)	Initial point Wear value	≥ 50 ≥ 150	
Resistance to impact by large diameter ball	EN 438-2 : 21	Indentation diameter - $\delta \leq t$ mm with drop height 1.8m	mm	≤ 10	
Resistance to scratching	EN 438-2 : 25	Force	Rating (min)	≥ 3	
Resistance to dry heat (160°C/320°F)	EN 438-2 : 16	Appearance	Rating (min)	≥ 4	
Resistance to wet heat (100°C/212°F)	EN 12721	Appearance	Rating (min)	≥ 4	
Resistance to immersion in boiling water	EN 438-2 : 12	Mass increase [% max]	t ≥ 6 mm	≤ 1	
		Thickness increase [% max]	t ≥ 6 mm	≤ 1	
		Appearance	Rating (min)	≥ 4	
Dimensional stability at elevated temperature	EN 438-2 : 17	Cumulative dimensional change	Longitudinal %	≤ 0.25	
			Transversal %	≤ 0.25	
Resistance to staining	EN 438-2 : 26	Appearance - Rating (min)	Group 1 & 2 Group 3	5 5	
Light fastness (xenon arc)	EN 438-2 : 27	Contrast (Wool scale)	ASTM G53-91 (314-400nm)	≥ 6	
Resistance to water vapour	EN 438-2 : 14	Appearance	Rating (min)	≥ 4	
Resistance to cigarette burns	EN 438-2 : 30	Appearance	Rating (min)	≥ 3	
Resistance to crazing	EN 438-2 : 24	Appearance	Grade (min)	≥ 4	
Modulus of elasticity	EN ISO 178	Stress	MPa	≥ 9000	
Flexural strength	EN ISO 178	Stress	MPa	≥ 120	
Tensile strength	EN ISO 527-2	Stress	MPa	≥ 70	
Density	EN ISO 1183	Density	g/cm ³	≥ 1.35	
Resistance to fixings	ISO 13894-1	Pull out strength	N	6 mm : ≥ 2000	
				8 mm : ≥ 3000	
				≥ 10 mm : ≥ 4000	
				0.2362 in : ≥ 2000	
				0.3150 in : ≥ 3000	
				≥ 0.3937 in : ≥ 4000	
Fire performance					
Europe					
Reaction to Fire	EN 13501-1	Classification t ≥ 6 mm / 0.2362 in Classification t ≥ 8 mm / 0.3150 in (Metal Frame)	Euroclass Euroclass	D-s2, d0	B-s2, d0 B-s1, d0
North America					
Material Surface Burning Characteristics [Ⓜ]	ASTM E84/UL 723	Classification Flame Spread Index Smoke Developed Index	Class FSI SDI	n.a. n.a. n.a.	A 0-25 0-450
Other properties					
Release of formaldehyde	EN 717-2	Classification	Class	E1	

[Ⓜ] Due to conversion from metric values, the US values provided are approximate.

[Ⓟ] All data are related to the products mentioned in the Trespa® Toplab[®]VERTICAL standard delivery programme.

[Ⓠ] Laboratory test results are not intended to represent hazards that may be present under actual fire conditions.

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