

MATERIAL PROPERTY DATASHEET

COMPACT | FIRE RETARDANT

Manufactured in Finland



Decorative high-pressure compact laminates according to EN 438-4 thicknesses 2 mm and greater for interior surface solutions. 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. These components are bonded together with simultaneous application of heat and high specific pressure to obtain a homogeneous non-porous material with increased density and integral decorative surface. The laminates below 4mm are normally intended for bonding by the composite manufacturers to supporting substrate in order to produce finished panels.

		Type			Standard
		EN438 Classification			CGF
		Standard			Standard: EN438-4
		Applicability:			Decors/Surface finish: All on offer
Properties	Test method	Property or attribute	Unit	Requirements	
SURFACE QUALITY					
Surface Quality	EN438-2: 4	Spots, dirt, similar surface defects	mm ² /m ²	≤ 1	
		Fibres, hairs & scratches	mm/m ²	≤ 10	
DIMENSIONAL TOLERANCES					
Dimensional Tolerances	EN438-2: 5	Thickness	mm	±0,20 for thickness 2,0 ≤ t < 3,0 ±0,30 for thickness 3,0 ≤ t < 5,0 ±0,40 for thickness 5,0 ≤ t < 8,0 ±0,50 for thickness 8,0 ≤ t < 12,0 ±0,60 for thickness 12,0 ≤ t < 16,0 ±0,70 for thickness 16,0 ≤ t < 20,0	
	EN438-2: 6	Length & Width	mm	+10 mm/ -0mm	
	EN438-2: 8	Squareness	mm	≤ 1,5	
	EN438-2: 7	Edge Straightness	mm/m	≤ 1,5	
	EN438-2: 9	Flatness Measured on full size sheet	mm/m	≤ 8,0 for thickness 2,0 ≤ t < 6,0mm ≤ 5,0 for thickness 6,0 ≤ t < 10,0mm ≤ 3,0 for thickness 10,0 ≤ t	
PHYSICAL PROPERTIES					
Surface Wear Resistance	EN438-2: 10	Initial point	Revolutions	≥150	
Immersion in Boiling Water	EN438-2: 12	Rating Gloss Other	Appearance	≥3	
			Edge Rating	≥4	
		Mass Increase (% max)	2,0 ≤ t < 5,0mm t ≥ 5,0mm	≤7 ≤3	
		Thickness Increase (% max)	2,0 ≤ t < 5,0mm t ≥ 5,0mm	≤9 ≤6	
Resistance to Water Vapour	EN438-2: 14	Gloss Other	Rating of Appearance	≥3 ≥4	
Resistance to Dry Heat (160°C)	EN438-2: 16	Gloss Other	Rating of Appearance	≥3 ≥4	
Dimensional Stability at Elevated Temperatures	EN438-2: 17	Cumulative dimensional changes	Longitudinal (%)	2,0 ≤ t < 5,0mm t ≥ 5,0mm	
			Transversal (%)	2,0 ≤ t < 5,0mm t ≥ 5,0mm	
Resistance to Wet Heat (100°C)	EN438-2: 18	Gloss Other	Rating of Appearance	≥3 ≥4	
Resistance to Impact by Large diameter ball	EN438-2: 21	Drop height	mm 2,0 ≤ t < 6,0 6,0 ≤ t	1400 1800	
Scratch Resistance	EN438-2: 25	Force Smooth Texture	Rating of Appearance	≥2 ≥3	
Stain Resistance	EN438-2: 26	Groups 1 and 2 Group 3	Rating of Appearance	≥4 ≥4	
Light Fastness	EN438-2: 27	Grey Scale Rating	Contrast	≥4	
Modules of elasticity	EN ISO 187	Stress	MPa	≥9000	
Flexural Strength	EN ISO 187	Stress	MPa	≥80	
Density	EN ISO 1183-1	Density	g/cm ³	≥ 1,35	
OTHER PROPERTIES					
Release of Formaldehyde	EN 717-2	Classification	Class	E1	

FIRE BEHAVIOUR				
Reaction to Fire	EN13501-1	$2,0 \leq t < 4,0\text{mm}$	Class	The reaction to fire of Formica semi-finished $2,0 \leq t < 4,0\text{mm}$ is related to the final composite panel where the laminate is bonded to a substrate. Since the test results also depend on the substrate, the adhesive and the bonding techniques applied, the composite manufacturer is responsible for the correct execution of the test in accordance with the applicable standards and test methods required for the specific application field.
		$4,0 \leq t < 6,0\text{mm}$ metal frame	Class	B-s2,d0
		$6,0\text{mm} \leq t$	Class	B-s1,d0
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