

MATERIAL PROPERTY DATASHEET

**THIN | STANDARD**

Manufactured in Finland



High pressure decorative laminates (HPL), less than 2mm thick, according to EN438:3-2016, consisting of a surface of decorative paper(s) impregnated with melamine thermosetting resins and core made of layers of kraft paper impregnated with phenolic thermosetting resins. These components are bonded together with simultaneous application of heat ( $\geq 150^{\circ}\text{C}$ ) and high specific pressure ( $>7\text{ MPa}$ ) to obtain a homogeneous non-porous material with increased density. These thin laminates are normally intended for bonding by the composite manufacturers to supporting substrate in order to produce finished panels. They are available in HGS, VGS, LTS and in flame retardant HGF, VGF grades.

Properties	Test method	Property or attribute	Unit	Requirements			
				Standard	Vertical	Light Duty	
<b>SURFACE QUALITY</b>							
Surface Quality	EN438-2: 4	Spots, dirt, similar surface defects	mm <sup>2</sup> /m <sup>2</sup>	$\leq 1$			
		Fibres, hairs & scratches	mm/m <sup>2</sup>	$\leq 10$			
<b>DIMENSIONAL STABILITY</b>							
Dimensional Tolerances	EN438-2: 5	Thickness	mm	$\pm 0,10$ for thickness $0,5 \leq t < 1,0$ $\pm 0,15$ for thickness $1,0 \leq t < 2,0$			
	EN438-2: 6	Length & Width	mm	$\pm 10\text{ mm} / -0\text{mm}$			
	EN438-2: 8	Squareness	mm	$\leq 1,5$			
	EN438-2: 7	Edge Straightness	mm/m	$\leq 1,5$			
	EN438-2: 9	Flatness Measured on full size sheet	mm/m	$\leq 60$			
<b>PHYSICAL PROPERTIES</b>							
Surface Wear Resistance	EN438-2: 10	Initial point	Revolutions	$\geq 150$	$\geq 50$	n/a	
Immersion in Boiling Water	EN438-2: 12	Gloss finish Other finish	Rating of Appearance	$\geq 3$ $\geq 4$		n/a	
Resistance to Water Vapour	EN438-2: 14	Gloss finish Other finish	Rating of Appearance	$\geq 3$ $\geq 4$		n/a	
Resistance to Dry Heat (160°C)	EN438-2: 16	Gloss finish Other finish	Rating of Appearance	$\geq 3$ $\geq 4$		n/a	
Resistance to Wet Heat (100°C)	EN438-2: 18	Gloss finish Other finish	Rating of Appearance	$\geq 3$ $\geq 4$		n/a	
Dimensional Stability	EN438-2: 17	Cumulative dimensional change	Longitudinal%	$\leq 0,55$	$\leq 0,75$	$\leq 0,55$	$\leq 0,75$
			Transversal %	$\leq 1,05$	$\leq 1,25$	$\leq 1,05$	$\leq 1,25$
Impact Resistance (Small Ball)	EN438-2: 20	Spring Force	N	$\geq 20$	$\geq 15$	$\geq 20$	$\geq 15$
Scratch Resistance	EN438-2: 25	Smooth Textured	Rating of Appearance	$\geq 2$	$\geq 1$	$\geq 2$	$\geq 1$
				$\geq 3$	$\geq 2$	$\geq 3$	$\geq 2$
Stain Resistance	EN438-2: 26	Groups 1 and 2 Group 3	Rating of Appearance	$\geq 4$ $\geq 4$			
Light Fastness	EN438-2: 27	Grey Scale Rating	Contrast		$\geq 4$		
Density	EN ISO 1183-1	Density	g/cm <sup>3</sup>		$\geq 1,35$		
<b>FIRE BEHAVIOUR</b>							
Reaction to Fire	EN13501-1	The reaction to fire of Formica® Laminate 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.					
<b>Remarks</b>							
<ul style="list-style-type: none"> <li>- Satin NDF surface finish /low gloss - avoid application in high traffic areas, extremely wet areas or in presence of elevated temperatures</li> <li>- LTS Material having special decorative effects, typically with speciality overlays such as laminate flakes</li> </ul>							
<b>Disclaimer</b>							
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