

MATERIAL PROPERTIES DATA SHEET



SOLID | VIS Collection

High pressure decorative laminates (HPL), having thickness 2 mm or greater, according to EN 438-1:2016, EN 438-2:2019, EN 438-4:2016 and EN 438-9:2018, consisting of a surface of decorative paper(s), on one or both sides, impregnated with aminoplastic resins and a core made of layers of kraft paper impregnated with phenolic thermosetting resins. All the layers are bonded together with simultaneous application of heat (approximately 150°C) and high specific pressure (> 7 MPa) to obtain a homogeneous non-porous material with increased density. When these laminates are self-supporting they are ready for installation. VIS is an engineered surface with mineral components that significantly increase wear resistance and organic components that enhance the tactile experience of the texture.

		STANDARD		MATCHED COLOUR CORE	
PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT	VALUES	
SURFACE QUALITY					
Surface quality	EN 438-2:2019 cl.4	Spots, dirt and similar surface defects Fibres, hair and scratches	mm ² /m ² mm/m ²	≤ 1 ≤ 10	
DIMENSIONAL TOLERANCES					
Dimensional tolerances	EN 438-2:2019 cl.5	Thickness tolerance	mm	4,0 ± 0,30	4,0 ± 0,40
			mm	6,0 ± 0,40	6,0 ± 0,50
			mm	8,0 ± 0,50	8,0 ± 0,70
			mm	10,0 ± 0,50	10,0 ± 0,70
			mm	12,0 ± 0,60	12,0 ± 0,80
	EN 438-2:2019 cl.6	Length and width	mm	+ 10 / - 0	
EN 438-2:2019 cl.7	Straightness of edges	mm/m	≤ 1,5		
EN 438-2:2019 cl.8	Squareness	mm/m	≤ 1,5		
EN 438-2:2019 cl.9	Flatness (measured on full-size sheet)	mm/m	4,0 mm: ≤ 8,0	4,0 mm: ≤ 12,0	
		mm/m	6,0 - 8,0 mm: ≤ 5,0	6,0 - 8,0 mm: ≤ 8,0	
		mm/m	10,0 - 12,0 mm: ≤ 3,0	10,0 - 12,0 mm: ≤ 5,0	
GENERAL PROPERTIES					
Resistance to surface wear	EN 438-2:2019 cl.10	Initial Point - KER, URBAN and ALEVE' finish	Revolutions	≥ 3000	
		Initial Point - MIKA finish	Revolutions	≥ 1500	
		Initial Point - LUNA finish	Revolutions	≥ 1000	
Resistance to immersion in boiling water	EN 438-2:2019 cl.12	Mass increase	%	4,0 mm: ≤ 5,0 6,0 * 12,0 mm: ≤ 2,0	4,0 mm: ≤ 5,0 6,0 * 12,0 mm: ≤ 3,0
		Thickness increase	%	4,0 mm: ≤ 6,0 6,0 * 12,0 mm: ≤ 2,0	4,0 mm: ≤ 6,0 6,0 * 12,0 mm: ≤ 4,0
		Appearance	Rating	≥ 4 surface ≥ 3 edge	
Resistance to water vapour	EN 438-2:2019 cl.14	Appearance	Rating	≥ 4	
Resistance to dry heat (160 °C/20')	EN 438-2:2019 cl.16	Appearance	Rating	≥ 4	
Resistance to wet heat (100 °C/20')	EN 438-2:2019 cl.18	Appearance	Rating	≥ 4	n.a.
Dimensional stability at high temperatures	EN 438-2:2019 cl.17	Cumulative dimensional change	Longitudinal %	4,0 mm: ≤ 0,4 6,0 * 12,0 mm: ≤ 0,3	4,0 mm: ≤ 0,6 6,0 * 12,0 mm: ≤ 0,5
		Cumulative dimensional change	Transversal %	4,0 mm: ≤ 0,8 6,0 * 12,0 mm: ≤ 0,6	4,0 mm: ≤ 1,0 6,0 * 12,0 mm: ≤ 0,8
Resistance to impact with large diameter ball	EN 438-2:2019 cl.21	Drop height	mm	4,0 mm: ≤ 1400 6,0 * 12,0 mm: ≤ 1800	n.a.
		Indentation diameter	mm	4,0 mm: ≤ 10 6,0 * 12,0 mm: ≤ 10	n.a.
Resistance to crazing	EN 438-2:2019 cl.24	Appearance	Rating	≥ 4 surface	≥ 4 surface ≥ 3 edge
Resistance to scratching	EN 438-2:2019 cl.25	Appearance	Rating	≥ 3	
Resistance to staining	EN 438-2:2019 cl.26	Appearance - Groups 1 and 2	Rating	≥ 5	
		Appearance - Group 3	Rating	≥ 4	
Light fastness (Xenon-arc)	EN 438-2:2019 cl.27	Contrast	Grey scale rating	≥ 4	
Flexural Modulus	EN ISO 178	Stress	Mpa	≥ 9000	
Flexural strength	EN ISO 178	Stress	Mpa	≥ 80	
Electrostatic property	EN 61340-4-1	Point to point resistance	Ω	1 x 10 ⁹ ÷ 1 x 10 ¹¹	
		Vertical resistance	Ω	1 x 10 ⁹ ÷ 1 x 10 ¹¹	
Density	EN ISO 1183	Density	g/cm ³	≥ 1,35	
OTHER PROPERTIES					
Hygiene	NSF/ANSI 35	Suitability for use as work and nonwork surfaces of food service equipment on which direct food contact during normal preparation or holding operations is not intended, expected, or reasonable	Suitability	NSF certified	
Formaldehyde emission	EN 13986	Formaldehyde emissions	Rating	E1	
Volatile Organic Chemical Emissions	Greenguard Certification Low Chemical Emission UL 2818	Volatile Organic Chemical emissions	Suitability	Greenguard certified	
Food contact	Regulation EU n° 10/2011 and following amendments	Food Contact Materials performance	Suitability	Compliant - conditions of use reported in the Declaration of conformity	

Note to laminates with adhesive protective film

The protective films are designed for temporary surface protection against dirt, scratches and tool marks; they are not designed for protection against corrosion, humidity or chemicals. The laminates covered with the protective film shall be stored in a clean, dry place at room temperature (optimum 20°C), avoiding weathering and UV exposure. The protective film must be removed from the surface of the laminates after the application and before putting into use the finite element. In any case, the removal must be made within six months from the date of shipment by Arpa Industriale. Arpa Industriale cannot be responsible for the misuse of the laminates covered with the protective film, nor for the consequences for non-recommended applications.

Note to surface wear resistance

In the case of structured finishes, the surface wear resistance values may be 100 or more revolutions lower than the nominal values in proportion to how much more is accentuated the shape.

Disclaimer

The Material Properties Data Sheet provides technical information relevant to the performance of the product as tested by Arpa Industriale or certified testing body. Any information contained within this document must be verified and tested for suitability by the user for his or her particular purpose or specific application. Consideration needs to be given to local or specific circumstances. The content of this document reflects our knowledge and experience at the time of publication. The newest version of the document replaces all previous versions. We advise that the newest version may contain technical changes that must be taken into account when using the products. The latest version of the document may be consulted on our website www.arpaindustriale.com. Customers should always check whether an updated version of the document is available. We have made every effort to ensure the accuracy of the information in this document, but it cannot be held liable for any oversights, inaccuracies or typographical errors. Arpa Industriale will not assume any liability if the end-user or customer refer to any other technical information of the products.