MATERIAL PROPERTIES DATA SHEET

THIN | **BLOOM**

High pressure decorative laminates (HPL) according to EN 438-1:2016, EN 438-2:2019 e EN 438-3:2016, consisting of a surface of decorative paper(s) 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.
These thin laminates are normally intented for bonding to supporting substrates, normally wood based, to produce panels by the composite manifacturers.
Bloom, a new core technology where lignin has been introduced to significantly reduce the amount of phenol included in the resin by 50%.

				Plain colours **Bloom black core** **EN 438-3**
PROPERTIES	**TEST METHOD**	**PROPERTY OR ATTRIBUTE**	**UNIT**	**VALUES**
SURFACE QUALITY				
Surface quality	EN 438-2:2019 cl.4	Spots, dirt and similar surface defects	mm^2/m^2	≤ 1
		Fibres, hairs and scratches	mm/m^2	≤ 10
DIMENSIONAL TOLERANCES				
Dimensional tolerances	EN 438-2:2019 cl.5	Thickness tolerance	mm	0,7 ± 0,10
	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	≤ 60
GENERAL PROPERTIES				
Resistance to surface wear	EN 438-2:2019 cl.10	Initial Point	Revolutions	≥ 150
Resistance to immersion in boiling water	EN 438-2:2019 cl.12	Appearance - Gloss finish	Rating	≥ 3
		Appearance - Other finish	Rating	≥ 4
Resistance to water vapour	EN 438-2:2019 cl.14	Appearance - Gloss finish	Rating	≥ 3
		Appearance - Other finish	Rating	≥ 4
Resistance to dry heat (160 °C/20')	EN 438-2:2019 cl.16	Appearance - Gloss finish	Rating	≥ 3
		Appearance - Other finish	Rating	≥ 4
Resistance to wet heat (100 °C/20')	EN 438-2:2019 cl.18	Appearance - Gloss finish	Rating	≥ 3
		Appearance - Other finish	Rating	≥ 4
Dimensional stability at elevated temperatures	EN 438-2:2019 cl.17	Cumulative dimensional change	Longitudinal %	≤ 0,55
		Cumulative dimensional change	Transversal %	≤ 1,05
Resistance to impact with small diameter ball	EN 438-2:2019 cl.20	Spring force	N	≥ 20
Resistance to cracking under stress	EN 438-2:2019 cl.23	Appearance	Rating	≥ 4
Resistance to scratching	EN 438-2:2019 cl.25	Appearance	Rating	≥ 3
Resistance to staining	EN 438-2:2019 cl.26	Appearance - Group 1 & 2	Rating	≥ 5
		Appearance - Group 3	Rating	≥ 4
Light fastness (Xenon-arc)	EN 438-2:2019 cl.27	Contrast	Grey scale rating	≥ 4
Electrostatic properties	EN 61340-4-1	Point to point resistance	Ω	$1 \times 10^9 \div 1 \times 10^{11}$
		Vertical resistance	Ω	$1 \times 10^9 \div 1 \times 10^{11}$
Density	EN ISO 1183	Density	g/cm^3	≥ 1,35
FIRE PERFORMANCES				
Reaction to fire	The reaction to fire of HPL BLOOM 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 technique 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.			
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 emission rating	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 10 or more revolutions lower then the nominal values in proportion to how much more is accentuated the shape.