## SOLID | SOLID CORE



High pressure decorative laminates (HPL) according to EN 438-9:2013, consisting of a surface of decorative paper(s) impregnated with aminoplastic resins and a core of coloured cellulosic fibrous layers impregnated with 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.

The surface and the core layers have different colours to achieve a succession of coloured layers with particular desing effects resulting from routering and engraving.

		I		
		EN 438 classification Standard		BCS EN 438-9
PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT	
SURFACE QUALITY				
Surface quality	EN 438-2.4	Spots, dirt and similar surface defects Fibres, hairs and scratches	mm²/m² mm/m²	≤ 1 ≤ 10
DIMENSIONAL TOLERANCES				
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Dimensional tolerances	EN 438-2.5	Thickness tolerance	mm mm mm mm	$\pm$ 0,25 for thickness 2,0 ≤ t < 3,0 $\pm$ 0,40 for thickness 3,0 ≤ t < 5,0 $\pm$ 0,50 for thickness 5,0 ≤ t < 8,0 $\pm$ 0,70 for thickness 8,0 ≤ t < 12,0 $\pm$ 0,80 for thickness 12,0 ≤ t < 16,0
	EN 438-2.6	Length and width	mm	+ 10 / - 0
	EN 438-2.7	Straightness of edges	mm/m	≤ 1,5
	EN 438-2.8	Squareness	mm/m	≤ 1,5
	EN 438-2.9	Flatness (measured on full-size sheet).	mm/m mm/m	≤ 12,0 for thickness 2,0 ≤ t < 6,0 ≤ 8,0 for thickness 6,0 ≤ t < 10,0
			mm/m	≤ 5,0 for thickness 10,0 ≤ t
GENERAL PROPERTIES				
		The state of the s	1 8 :::	
Resistance to surface wear	EN 438-2.10	Initial Point	Revolutions	≥ 150
		Mass increase - 2 ≤ t < 5 mm Mass increase - 5 ≤ t mm	%	≤ 5 ≤ 3
Resistance to immersion in boiling water	EN 438-2.12	Thickness increase - 2 ≤ t < 5 mm Thickness increase - 5 ≤ t mm	%	≤ 6 ≤ 4
		Appearance - Gloss Finish	Rating	≥ 3
		Appearance - Other finish	Rating	≥ 4
Resistance to water vapour	EN 438-2.14	Appearance - Gloss Finish Appearance - Other finish	Rating Rating	≥ 3 ≥ 4
		Appearance - Gloss Finish	Rating	≥3
Resistance to dry heat (160 °C/20')	EN 438-2.16	Appearance - Other finish	Rating	≥ 4
		Cumulative dimensional change - 2 ≤ t < 5 mm Cumulative dimensional change - 5 ≤ t mm	Longitudinal % Longitudinal %	≤ 0,60 ≤ 1,00
Dimensional stability at elevated temperatures	EN 438-2.17	Cumulative dimensional change - 2 ≤ t < 5 mm Cumulative dimensional change - 5 ≤ t mm	Transversal % Transversal %	≤ 0,50 ≤ 0,80
Basistana ta annian				Surface ≥ 4
Resistance to crazing	EN 438-2.24	Appearance	Rating	Core ≥ 3
Resistance to scratching	EN 438-2.25	Appearance - Smooth Finishes Appearance - Textured Finishes	Rating Rating	≥ 2 ≥ 3
Resistance to staining	EN 438-2.26	Appearance - Group 1 & 2 Appearance - Group 3	Rating Rating	≥ 5 ≥ 4
Light fastness (Xenon-arc)	EN 438-2.27	Contrast	Grey scale rating	Surface ≥ 4 Core ≥ 3
Flexural Modulus	EN ISO 178	Stress	Мра	≥ 9000
Flexural strength	EN ISO 178	Stress	Mpa	≥ 80
	1 2.1.00 170			
Electrostatic properties	EN 61340-4-1	Point to point resistance Vertical resistance	Ω	10 <sup>9</sup> ÷ 10 <sup>11</sup> 10 <sup>9</sup> ÷ 10 <sup>11</sup>
Density	EN ISO 1183	Density	g/cm <sup>3</sup>	≥ 1,40
FIRE PERFORMANCES				
	The reaction to fire of Co	olid Caro Solid in related to the final installed! The	unufacturar of the final :+-!!	I panal in responsible for the c
Reaction to fire	execution of the test in a	olid Core Solid is related to the final installed panel. The ma accordance with the applicable standards and test methods	required for the specific appl	a parison is responsible for the correct ication field.
OTHER PROPERTIES				
Thermal resistance / conductivity	EN 12664	Thermal resistance / conductivity	W/mK	0,2 to 0,5
Formaldehyde emission	EN 13986	Formaldehyde emission classification	Class	E1
	EN 1186-3	3% acetic acid 24h at 40°C		< 10
Contact with food - Overall migration	EN 1186-3 EN 1186-14	50% ethanol 24h at 40°C 95% ethanol 24h at 40°C	mg/dm²	< 10 < 10
	EN 1186-14	isooctane 24h at 40°C		< 10
Contact with food - Formaldehyde specific migration	EN 13130-23	3% acetic acid 24h at 40°C	mg/kg	< 15
Evaluation of micro-organisms action	EN ISO 846	Microbial growth - Smooth finish Microbial growth - Textured finish	Rating Rating	0 - no microbal growth 1 - slight and slow microbal growth

## Note to laminates with adhesive protective film

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 temporature (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 case of thick laminate with the protective film on both sides, it must always be removed from both sides at the same time.

In any case, the removal must be made within six months from the date of shipment by Apra Industriale cannot be responsible for the misuse of the laminates covered with the protective film, nor for the consequences for non-recommended applications.

Disclaimer

The Product Technical Sheets provide all the technical information relevant to the performance of the product as tested by Arpa Industriale or certified testing agencies. Arpa Industriale maintains the right to change an after the product composition and production process and thereby the performance characteristics of the product at all times, as reported to the Arpa Industriale website. Customers and end-users of the product are requested to check for the latest technical information regarding the products performance on the website of Arpa Industriale before application. In any case, Arpa Industriale, we never contractual relationship, will refer only to the technical information published on its website. Arpa Industriale will not assume any liability if the end-user or customer refer to any other technical information of the products.

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# SOLID | UNICOLOR



High pressure decorative laminates (HPL) according to EN 438-9:2013, consisting of a surface of decorative paper(s) impregnated with aminoplastic resins and a core of coloured cellulosic fibrous layers impregnated with 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.

The surface and the core layers have the same colour producing a uniformly coloured laminate.

Unicolor is available in the types: BTS less than 2 mm thick and BCS having thickness 2 mm or greater

		EN 438 classification Standard		BCS EN 438-9				
PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	UNIT					
SURFACE QUALITY								
	1	Contact distance of similar profess defeats	2, 2					
Surface quality	EN 438-2.4	Spots, dirt and similar surface defects Fibres, hairs and scratches	mm²/m² mm/m²	≤ 1 ≤ 10				
DIMENSIONAL TOLERANCES								
Dimensional tolerances	EN 438-2.5	Thickness tolerance	mm	± 0,25 for thickness 2,0 ≤ t < 3,0				
			mm mm mm	$\pm$ 0,40 for thickness 3,0 ≤ t < 5,0 $\pm$ 0,50 for thickness 5,0 ≤ t < 8,0 $\pm$ 0,70 for thickness 8,0 ≤ t < 12,0 $\pm$ 0,80 for thickness 12,0 ≤ t < 16,0				
	EN 438-2.6	Length and width	mm	+ 10 / - 0				
	EN 438-2.7	Straightness of edges	mm/m	≤ 1,5				
	EN 438-2.8	Squareness	mm/m	≤ 1,5				
	EN 438-2.9	Flatness (measured on full-size sheet).	mm/m mm/m mm/m	≤ 12,0 for thickness 2,0 ≤ t < 6,0 ≤ 8,0 for thickness 6,0 ≤ t < 10,0 ≤ 5,0 for thickness 10,0 ≤ t				
GENERAL PROPERTIES								
Resistance to surface wear	EN 438-2.10	Initial Point	Revolutions	≥ 150				
Resistance to immersion in boiling water		Mass increase - 2 ≤ t < 5 mm	%	≤ 5				
	EN 438-2.12	Mass increase - 5 ≤ t mm	%	≤3				
		Thickness increase - 2 ≤ t < 5 mm Thickness increase - 5 ≤ t mm	% %	≤ 6 ≤ 4				
		Appearance - Gloss Finish Appearance - Other finish	Rating Rating	≥ 3 ≥ 4				
Resistance to water vapour	EN 438-2.14	Appearance - Gloss Finish Appearance - Other finish	Rating Rating	≥ 3 ≥ 4				
Resistance to dry heat (160 °C/20')	EN 438-2.16	Appearance - Gloss Finish Appearance - Other finish	Rating Rating	≥ 3 ≥ 4				
Dimensional stability at elevated temperatures	EN 438-2.17	Cumulative dimensional change - 2 ≤ t < 5 mm  Cumulative dimensional change - 5 ≤ t mm	Longitudinal %	≤ 0,60 ≤ 1,00				
		Cumulative dimensional change - 2 ≤ t < 5 mm Cumulative dimensional change - 5 ≤ t mm	Transversal % Transversal %	≤ 0,50 ≤ 0,80				
Resistance to crazing	EN 438-2.24	Appearance	Rating	Surface ≥ 4 Core ≥ 3				
Resistance to scratching	EN 438-2.25	Appearance - Smooth Finishes Appearance - Textured Finishes	Rating Rating	≥2 ≥3				
Resistance to staining	EN 438-2.26	Appearance - Group 1 & 2	Rating	≥5				
Light fastness (Xenon-arc)	EN 438-2.27	Appearance - Group 3  Contrast	Rating  Grey scale rating	≥ 4 Surface ≥ 4				
				Core ≥ 3				
Flexural Modulus	EN ISO 178	Stress	Mpa	≥ 9000				
Flexural strength	EN ISO 178	Stress	Mpa	≥ 80				
Electrostatic properties	EN 61340-4-1	Point to point resistance Vertical resistance	Ω	10 <sup>9</sup> ÷ 10 <sup>11</sup> 10 <sup>9</sup> ÷ 10 <sup>11</sup>				
Density	EN ISO 1183	Density	g/cm <sup>3</sup>	≥ 1,40				
FIRE PERFORMANCES								
Reaction to fire	The reaction to fire of Un	icolor Solid is related to the final installed panel. The man	ufacturer of the final installed pa	anel is responsible for the correct				
OTHER PROPERTIES								
Thermal resistance / conductivity	EN 12664	Thermal resistance / conductivity	W/mK	0,2 to 0,5				
Formaldehyde emission	EN 13986	Formaldehyde emission classification	Class	E1				
Contact with food - Overall migration	EN 1186-3 EN 1186-3 EN 1186-14 EN 1186-14	3% acetic acid 24h at 40°C 50% ethanol 24h at 40°C 95% ethanol 24h at 40°C isooctane 24h at 40°C	mg/dm <sup>2</sup>	< 10 < 10 < 10 < 10 < 10				
Contact with food - Formaldehyde specific migration	EN 13130-23	3% acetic acid 24h at 40°C	mg/kg	< 15				
Evaluation of micro-organisms action	EN ISO 846	Microbial growth - Smooth finish Microbial growth - Textured finish	Rating Rating	0 - no microbial growth 1 - slight and slow microbial growth				

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SOLS-rev06-E-21-07-2017