

STEP.BY | COMPACT

MATERIAL PROPERTIES DATA SHEET

STEP.BY COMPACT is a high pressure decorative laminates (HPL), having thickness 2 mm or greater, according to EN 438-1:2016, EN 438-2:2016 and EN 438-4:2016.

The core is composed of layers of kraft paper impregnated with thermosetting resins. The decorative surface, in one or both sides, is made of paper impregnated with aminoplastic thermosetting resins. All the layers are bonded together by a high pressure and high temperature process to obtain a high density homogeneous non-porous material. STEP.BY COMPACT is available in standard CGS type according to EN 438-4:2016.

PROPERTIES	TEST METHOD	PROPERTY OR ATTRIBUTE	VALUES	UNIT
GENERAL PROPERTIES				
Surface quality	EN 438-2:2016 Par. 4	Spots, dirt and similar surface defects Fibers, hair and scratches	≤ 1 ≤ 10	mm ² /m ² mm/m ²
Dimensional tolerances	EN 438-2:2016 Par. 5	Thickness ⁽¹⁾	$\pm 0,20$ $2,0 \leq t < 3,0$ $\pm 0,30$ $3,0 \leq t < 5,0$ $\pm 0,40$ $5,0 \leq t < 8,0$ $\pm 0,50$ $8,0 \leq t < 12,0$ $\pm 0,60$ $12,0 \leq t < 16,0$	mm
	EN 438-2:2016 Par. 6	Length and width	+ 10 / - 0	mm
	EN 438-2:2016 Par. 7	Straightness of edges	$\leq 1,5$	mm/m
	EN 438-2:2016 Par. 8	Squareness	$\leq 1,5$	mm/m
	EN 438-2:2016 Par. 9	Flatness (measured on full-size sheet)	$\leq 8,0$ $2,0 \leq t < 6,0$ $\leq 5,0$ $6,0 \leq t < 10,0$ $\leq 3,0$ $t \geq 10,0$	mm/m
PHYSICAL PROPERTIES				
Resistance to immersion in boiling water	EN 438-2:2016 Par. 12	Mass increase	≤ 5 $2,0 \leq t < 5,0$ ≤ 2 $t \geq 5,0$	%
		Thickness increase	≤ 6 $2,0 \leq t < 5,0$ ≤ 2 $t \geq 5,0$	%
		Surface appearance	≥ 4	Rating
		Edge appearance	≥ 3	Rating
Dimensional stability at elevated temperatures	EN 438-2:2016 Par. 17	Cumulative dimensional change	$\leq 0,4$ $2,0 \leq t < 5,0$ $\leq 0,3$ $t \geq 5,0$	Longitudinal % ⁽²⁾
			$\leq 0,8$ $2,0 \leq t < 5,0$ $\leq 0,6$ $t \geq 5,0$	Transversal % ⁽²⁾
Resistance to impact by large diameter ball	EN 438-2:2016 Par. 21	Drop height Indent diameter	≥ 1400 $2,0 \leq t < 6,0$ ≥ 1800 $t \geq 6,0$ ≤ 10	mm
Resistance to crazing	EN 438-2:2016 Par. 24	Appearance	≥ 4	Rating
Density	EN ISO 1183	Density	$\geq 1,35$	g/cm ³
Flexural modulus	EN ISO 178	Stress	≥ 9000	MPa
Flexural strength	EN ISO 178	Stress	≥ 80	Mpa
SURFACE PROPERTIES				
Resistance to surface wear	EN 438-2:2016 Par. 10	Initial point	≥ 150 ≥ 2000 AC3 - Upon request ≥ 4000 AC4 - Upon request	Revolutions
Resistance to water vapour	EN 438-2:2016 Par. 14	Appearance	≥ 4	Rating
Resistance to dry heat (160°C)	EN 438-2:2016 Par. 16	Appearance	≥ 4	Rating
Resistance to wet heat (100°C)	EN 438-2:2016 Par. 18	Appearance	≥ 4	Rating
Resistance to scratching	EN 438-2:2016 Par. 25	Force	≥ 3 for textured finishes	Rating
Resistance to staining	EN 438-2:2016 Par. 26	Appearance	5 groups 1 & 2 ≥ 4 group 3	Rating
Light Fastness (Xenon-arc)	EN 438-2:2016 Par. 27	Contrast	≥ 4	Grey scale rating
Slipperiness ⁽³⁾	B.C.R.A. Method	Coefficient of dynamic friction μ	$\geq 0,40$ dry leather $\geq 0,40$ wet rubber	-
	DIN 51130	Group of anti-slip properties	R 11	-

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ENVIRONMENTAL PROPERTIES				
Formaldehyde emission	EN 13986	Formaldehyde emission rating	E1	Rating
Volatile organic chemical emission	AFNOR NF EN ISO 16000-9	Classification	A+	Rating
		TVOC emission	≤ 0,2	mg/m ³
Phenol Free ⁽⁴⁾	AFNOR NF EN ISO 16000-9	Phenol emission	< 0,002	mg/m ³

Notes

- (1) t: nominal thickness [mm]
- (2) Longitudinal: parallel to the fiber direction (usually parallel to the direction of sanding). Transversal: at right angles to the fiber direction
- (3) Slipperiness values are available for finish SAND (SN)
- (4) Phenol is not used as raw material in STEP.BY COMPACT production. 0,002 mg/m³ is the detection limit (DL) value of the test.

Note to STEP.BY COMPACT sheets 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 (40 to 60 RH%) at room temperature (20 to 25 °C), avoiding weathering and UV exposure. In any case, the removal must be made within four months from the date of shipment by Puricelli. Puricelli cannot be responsible for the misuse of the laminates covered with the protective film, nor for the consequences for non-recommended applications.