LAMICOLOR®

LAMCO HPL COMPACT EXTERIOR GRADE

Self-supporting material (from 2 mm) suitable for exteriors. It consists of core layers of kraft paper impregnated with thermosetting resins and an outer layer - on one or both sides - of decorative paper impregnated with aminoplastic resins; all bonded together by means of high pressure (9Mpa) and heat (150°C). It is available in the standard and flame retardant versions, where fire retardant additives are mixed to phenolic resins.This material is produced in conformity to EN 438-6:2005.

PROPERTY	TEST METHOD (EN 438: 2005)	PROPERTY OR ATTRIBUTE	UNIT	VALUES EGS-EDS	VALUES EGF-EDF
Thickness ± tolerance	EN 438-2.5	thickness (t)	mm	2,0 ≤ t < 3,0 ± 0,20 3,0 ≤ t < 5,0 ± 0,30 5,0 ≤ t < 8,0 ± 0,40 8,0 ≤ t <12,0 ± 0,50 12,0 ≤ t < 16,0 ± 0,60 16,0 ≤ t < 20,0 ± 0,70 20,0 ≤ t < 25,0 ± 0,80 25,0 ≤ t to be agreed	
Flatness	EN 438-2.9	maximum deviation	mm/mtl	8,0 (2,0 ≤ t < 6,0) 5,0 (6,0 ≤ t < 10,0) 3,0 (10,0 ≤ t)	8,0 (2,0 ≤ t < 6,0) 5,0 (6,0 ≤ t < 10,0) 3,0 (10,0 ≤ t)
Resistance to wet conditions	EN 438-2.15	mass increase	%	≤ 7 (2 ≤ t < 5) ≤ 5 (5 ≤ t)	≤ 10 (2 ≤ t < 5) ≤ 8 (5 ≤ t)
		appearance	rating	≥ 4	≥ 4
Dimensional stability at elevated temperature	EN 438-2.17	cumulative dimensional change	% long. % transv.	(2 ≤ t ≤ 5) 0,40 0,80	(2 ≤ t ≤ 5) 0,40 0,80
			% long. % transv.	(5 ≤ t) 0,30 0,60	(5 ≤ t) 0,30 0,60
Res. to impact by large diameter ball	EN 438-2.21	drop height	mm (min.)	1400 (2 ≤ t < 6) 1800 (6 ≤ t)	1400 (2 ≤ t < 6) 1800 (6 ≤ t)
		indentation diameter	mm (max)	10	10
Thermal conductivity	DIN 52 612	-	W/m . ° K	0,25	0,25
Coefficient of linear thermal expansion	ASTM D 696	-	° C -1	L = 1,6 x 10^{-5} ca. T = 3,5 x 10^{-5} ca.	L = 1,6 x 10^{-5} ca. T = 3,5 x 10^{-5} ca.
Tensile strenght	EN ISO 527-2	stress	Mpa	≥ 60	≥ 60
Flexural strenght	EN ISO 178	stress	Mpa	≥ 80	≥ 80
Flexural modulus (E)	EN ISO 178	stress	Mpa	≥ 9000	≥ 9000
Density	ISO 1183	density	gr/cm^3	≥ 1,40	≥ 1,40

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WEATHER RESISTANCE REQUIREMENTS

PROPERTY	TEST METHOD (EN 438: 2005)	PROPERTY OR ATTRIBUTE	UNIT	VALUES EGS-EGF	VALUES EDS-EDF
Resistance to climatic shock	EN 438-2.19	appearance	rating	≥ 4	≥ 4
		flexural strenght index Ds	–	≥ 0,95	≥ 0,95
		flexural modulus index Dm	–	≥ 0,95	≥ 0,95
Resistance to UV light	EN 438-2.28	contrast	grey scale rating	no requirement	≥ 3 (after 1500 hours)
		appearance	rating	no requirement	≥ 4 (after 1500 hours)
Resistance to artificial weathering (including light fastness)	EN 438-2.29	contrast	grey scale rating	≥ 3 (after 325 MJ/m^2)	≥ 3 (after 650 MJ/m^2)
		appearance	rating	≥ 4 (after 325 MJ/m^2)	≥ 4 (after 650 MJ/m^2)

Note: The colour of individual lots may vary as a result of the technology and type of used pigments.

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FIRE PERFORMANCE

TEST METHOD	STANDARD	CLASSIFICATION	
		EDF-EGF	EGS-EDS
Small flame and radiating panel	UNI 8457 UNI 9174 UNI 9177	class 1	class 2
Spread of flame	BS 476-7	class 1	class 2
Brandschacht	DIN 4102-1	B1	B2
Epiradiateur	NF P 92-501	M1	M2
Smoke density and toxicity	NF F 16-101	min F2	min F2
Reaction to fire SBI (EN 13823)	EN 13501-1	(t ≥ 6) B-s2,d0 (1) (any kind of frame)	(t ≥ 6) C,s1-d0 (1) (aluminium frame)

(1) Fire behaviour depends on thickness and fitting of the HPL, from technical characteristics of the support and of the glue. The laminate manufacturer should be contacted for details of fire test reports and certifications held, and for information on fire test methods and specifications.