Material Property Datasheet

TRESPA® ATHLON®

Decorative high-pressure compact laminates according to EN 438-4:2005 of thicknesses of 6 mm (± 1/4 in) or greater for indoor applications. Sheets consisting of layers of wood-based fibres (paper and/or wood) impregnated with thermosetting resins and surface layer(s) on one or both sides, having decorative colours or designs. The surface layers are impregnated with melamine based resins. These components are bonded together with simultaneous application of heat (≥ 150° C / ≥ 302° F) and high specific pressure (> 7 Mpa) to obtain a homogeneous non-porous material with increased density and integral decorative surface. When they are self-supporting, interior-grade compact laminates are ready for installation and only require cutting to size, drilling, etc. to suit the application. They are available in the Standard grade (CGS) and in the Fire-Retardant grade (CGF).

Properties	Test method	Property or attribute	Unit	Result [A]	
				Grade: CGS (Athlon®) Standard: EN 438-4 Colour/Decor: All [B]	Grade: CGF (Athlon® FR) Standard: EN 438-4 Colour/Decor: All [B]
Surface quality					
Surface quality	EN 438-2 : 4	Spots, dirt, similar surface defects	mm^2/m^2	≤ 1	
			in^2/ft^2	≤ 0.0001	
		Fibres, hairs & scratches	mm/m^2	≤ 10	
			in/ft^2	≤ 0.036	
Dimensional tolerances					
Dimensional tolerances	EN 438-2 : 5	Thickness	mm	6.0 ≤ 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	
			in	0.2362 ≤ t < 0.3150 : +/- 0.0157	
				0.3150 ≤ t < 0.4724 : +/- 0.0197	
				0.4724 ≤ t < 0.6299 : +/- 0.0236	
				0.6299 ≤ t < 0.7874 : +/- 0.0275	
				0.7874 ≤ t ≤ 0.9842 : +/- 0.0315	
	EN 438-2 : 9	Flatness	mm/m	≤ 2	
			in/ft	≤ 0.024	
	EN 438-2 : 6	Length & width	mm	+ 5 / - 0	
			in	+ 0.1968 / - 0	
	EN 438-2 : 7	Straightness of edges	mm/m	≤ 1	
			in/ft	≤ 0.012	
	Trespa Standard	Squareness	mm	2550 x 1860 = max. difference between diagonals (x-y) = 4	
				3050 x 1530 = max. difference between diagonals (x-y) = 4	
				3730 x 1860 = max. difference between diagonals (x-y) = 5	
			in	100.39 x 73.23 = max. difference between diagonals (x-y) = 0.1575	
				120.08 x 60.24 = max. difference between diagonals (x-y) = 0.1575	
				146.85 x 73.23 = max. difference between diagonals (x-y) = 0.1969	
Physical properties					
Resistance to surface wear	EN 438-2 : 10	Wear resistance - Revolutions (min)	Initial point	≥ 150	
			Wear value	≥ 350	
Resistance to impact by large diameter ball	EN 438-2 : 21	Indentation diameter - 6 ≤ t mm with drop height 1.8m	mm	≤ 10	
Resistance to scratching	EN 438-2 : 25	Force	Rating (min)	≥ 3	
Resistance to dry heat (160°C/320°F)	EN 438-2 : 16	Appearance	Rating (min)	≥ 4	
Resistance to wet heat (100°C/212°F)	EN 12721	Appearance	Rating (min)	≥ 4	
Resistance to immersion in boiling water	EN 438-2 : 12	Mass increase (% max)	t ≥ 6 mm	≤ 1	
		Thickness increase (% max)	t ≥ 6 mm	≤ 1	
		Appearance	Rating (min)	≥ 4	
Dimensional stability at elevated temperature	EN 438-2 : 17	Cumulative dimensional change	Longitudinal %	≤ 0.30	
			Transversal %	≤ 0.60	
Resistance to staining	EN 438-2 : 26	Appearance - Rating (min)	Group 1 & 2	5	
			Group 3	4	
Light fastness (xenon arc)	EN 438-2 : 27	Contrast (Wool scale)	ASTM G53-91 (314-400nm)	≥ 6	
Resistance to water vapour	EN 438-2 : 14	Appearance	Rating (min)	≥ 4	
Resistance to cigarette burns	EN 438-2 : 30	Appearance	Rating (min)	≥ 3	
Resistance to crazing	EN 438-2 : 24	Appearance	Grade (min)	≥ 4	
Modulus of elasticity	EN ISO 178	Stress	Mpa	≥ 9000	
	ASTM D638-08	Stress	psi	≥ 1305000	
Flexural strength	EN ISO 178	Stress	Mpa	≥ 100	
	ASTM D790-07	Stress	psi	≥ 14500	
Tensile strength	EN ISO 527-2	Stress	Mpa	≥ 70	
	ASTM D638-08	Stress	psi	≥ 10150	
Density	EN ISO 1183	Density	g/cm^3	≥ 1.35	
	ASTM D792-08	Density	g/cm^3	≥ 1.35	
Resistance to fixings	ISO 13894-1	Pull out strength	N	6 mm : ≥ 2000	
				8 mm : ≥ 3000	
				≥ 10 mm : ≥ 4000	
				0.2362 in : ≥ 2000	
				0.3150 in : ≥ 3000	
				≥ 0.3937 in : ≥ 4000	

[A] Due to conversion from metric values, the US values provided are approximate.
[B] All data are related to the products mentioned in the Trespa® Athlon® standard delivery programme.

Please visit www.trespa.info for the most up to date version of this document.

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Properties	Test method	Property or attribute	Unit	Result [A]	
				Grade: CGS (Athlon®)	Grade: CGF (Athlon® FR)
				Standard: EN 438-4	Standard: EN 438-4
				Colour/Decor: All [B]	Colour/Decor: All [B]
Fire performance					
Europe					
Reaction to Fire	EN 438-7	Classification t ≥ 6 mm / 0.2362 in	Euroclass	D-s2, d0	B-s2, d0
		Classification t ≥ 8 mm / 0.3150 in (Metal Frame)	Euroclass		B-s1, d0
Reaction to Fire (France)	NF P 92-501	Classification	Class	M3	M1
North America					
Material Surface Burning Characteristics	ASTM E84/UL 723	Classification	Class	B	A [C]
		Flame Spread Index	FSI	26-75	0-25
		Smoke Developed Index	SDI	0-450	0-450
Other properties					
Realease of formaldehyde	EN 717-2	Classification	Class	E1	

[A] Due to conversion from metric values, the US values provided are approximate.
[B] All data are related to the products mentioned in the Trespa® Athlon® standard delivery programme.
[C] Laboratory test results are not intended to represent hazards that may be present under actual fire conditions.

Please note:
Trespa® Athlon® is engineered for vertical interior applications such as wall coverings, sanitary cubicles, lockers, and partitions as well as horizontal interior ceiling applications and worktops such as office and scientific furniture. For other applications please contact your local Trespa representative.
Storage, machining, mounting and cleaning instructions are provided by the manufacturer.

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