Material Property Datasheet

TRESPA® METEON®

Decorative high-pressure compact laminates according to EN 438-6:2005 with thicknesses of 6 mm (± ¼ in) or greater for outdoor applications.
Sheets consisting of layers of wood-based fibers (paper and/or wood) impregnated with thermosetting resins and surface layer(s) on one or both sides, having decorative colors or designs. A transparent topcoat is added to the surface layer(s) and cured by Trespa's unique in-house technology Electron Beam Curing (EBC), to enhance weather and light protecting properties. 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. They are available in the Standard grade (EDS; not available in all worldwide areas) and in the Fire-Retardant grade (EDF).

Properties	Test method	Property or attribute	Unit		Result [A] [B]	
					Grade: EDS (Meteon®) Standard: EN 438-6 Color/decor: All [B]	Grade: EDF (Meteon® FR) Standard: EN 438-6 Color/decor: All [B]
Surface quality						
Surface quality	EN 438-2 : 4	Spots, dirt, similar surface defects	mm^2/m^2		≤ 2	
			in^2/ft^2		≤ 0.0003	
		Fibers, hairs & scratches	mm/m^2		≤ 20	
			in/ft^2		≤ 0.073	
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	
			in		0.2362 ≤ t < 0.3150: +/- 0.0157	
					0.3150 ≤ t < 0.4724 : +/- 0.0197	
					0.4724 ≤ t < 0.6299: +/- 0.0236	
	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	
					3650 x 1860 = max. difference between diagonals (x-y) = 5	
					4270 x 2130 = max. difference between diagonals (x-y) = 6	
			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	
					143.70 x 73.23 = max. difference between diagonals (x-y) = 0.1969	
					168.11 x 83.86 = max. difference between diagonals (x-y) = 0.2362	
		Curved Elements [C]	Radius inside/ outside corner	mm	n.a.	970 / 980 +/- 5%
						1290/1300 +/- 5%
				in		38.19 / 38.58 +/- 5%
						50.79 / 51.18 +/- 5%
			Max. height	mm	n.a.	r 970/980: 1300 (-0/+5)
						r 1290/1300: 1300 (-0/+5)
				in		r 38.19 / 38.58: 51.18 (-0/+5)
						r 50.79 / 51.18: 51.18 (-0/+5)
			Max. angle (°)		n.a.	90 +/- 0.5°
Physical properties						
Resistance to impact by large diameter ball	EN 438-2 : 21	Indentation diameter - 6 ≤ t mm with drop height 1.8 m	mm		≤ 10	
Impact resistance	ASTM D5420-04	Mean failure height	ft		1.0466	
		Mean failure energy	J		11.3	
Dimensional stability at elevated temperature	EN 438-2 : 17	Cumulative dimensional change	Longitudinal %		≤ 0.25	
			Transversal %		≤ 0.25	
Resistance to wet conditions	EN 438-2 : 15	Mass increase	%		≤ 3	
		Appearance	Rating		≥ 4	
	ASTM D2247-02	Water resistance	Rating		No change	
	ASTM D2842-06	Water absorption	%		0.5	
Modulus of elasticity	EN ISO 178	Stress	MPa		≥ 9000	
						Curved Elements: ≥ 8000
	ASTM D638-08	Stress	psi		≥ 1305000	
Flexural strength	EN ISO 178	Stress	MPa		≥ 120	
	ASTM D790-07	Stress	psi		≥ 17500	
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® Meteon® standard delivery program.
[C] Availability limited – contact your local Trespa representative for more details.

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] [B]	
				Grade: EDS (Meteon®)	Grade: EDF (Meteon® FR)
				Standard: EN 438-6	Standard: EN 438-6
				Color/decor: All [B]	Color/decor: All [B]
Other properties					
Thermal resistance / conductivity	EN 12524	Thermal resistance / conductivity	W/mK	0.3	
Weather resistance properties					
Resistance to climatic shock	EN 438-2 : 19	Flexural strength index (Ds)	Index	≥ 0.95	
		Flexural modulus index (Dm)	Index	≥ 0.95	
		Appearance	Rating	≥ 4	
Resistance to artificial weathering (incl. Light fastness) *West European cycle*	EN 438-2 : 29	Contrast	Grey scale ISO 105 A02	4-5 [E]	
			Grey scale ISO 105 A03	4-5	
		Appearance	Rating	≥ 4	
Resistance to artificial weathering (incl. Light fastness) [D] *Florida cycle 3000hrs*	Trespa Standard	Contrast	Grey scale ISO 105 A02	4-5 [E]	
			Grey scale ISO 105 A03	4-5	
		Appearance	Rating	≥ 4	
Resistance to SO_2	DIN 50018	Contrast	Grey scale ISO 105 A02	4-5 [E]	
			Grey scale ISO 105 A03	4-5	
		Appearance	Rating	≥ 4	
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 (Germany)	DIN 4102-1	Classification	Class	B2	B1
Reaction to Fire (France)	NF P 92-501	Classification	Class	M3	M1
North America					
Material Surface Burning Characteristics [F]	ASTM E84/UL 723	Classification	Class	n.a.	A
		Flame Spread Index	FSI	n.a.	0-25
		Smoke Developed Index	SDI	n.a.	0-450
Asia Pacific					
Reaction to Fire (China)	GB 8624	Classification	Class	D-s2, d0	B-s1, d0, t1

[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® Meteon® standard delivery program.
[D] Not valid for following colors: A04.0.1/A10.1.8/A20.2.3/A17.3.5/A12.3.7.
For other applications/colors such as project colors, please contact your local Trespa representative.
[E] For more information on Delta E values, please contact the Technical Service Department of Trespa North America at 1-800-487-3772.
[F] Laboratory test results are not intended to represent hazards that may be present under actual fire conditions. For multi-story applications, where local or national building codes may require full-scale fire testing in accordance with NFPA 285(U.S.) or Can/ULC-S134 (Canada), please visit our website www.trespa.info or contact the Technical Service Department of Trespa North America at 1-800-487-3772 for installation information.

Please note:
Trespa® Meteon® is engineered for vertical exterior wall coverings such as façade cladding, balcony panelling as well as horizontal exterior ceiling applications (Trespa® Meteon® Curved Elements are only suitable for vertical exterior wall coverings). For other applications please contact your local Trespa representative.
Storage, machining, mounting and cleaning instructions are provided by the manufacturer.

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