



FIRE TESTING / SURFACE BURN CHARACTERISTICS		RESULTS	CERTIFICATION REQUIREMENT DETAILS
NFPA 285	Fire Propagation	PASS	No flame propagation (vertical or lateral) Temperatures at key distances from source within limits
ASTM E84-17	Flame Spread Index	Class A (0)	Class A: Flame spread 0-25 / ASTM C1186: Flame spread 0
	Smoke Development Index	Class A (0)	Class A: Development 0-450 / ASTM C1186: Development 0
ASTM E136-16	Combustibility	Non Combustible (4% loss, < 0°C)	Max loss of mass during the test ≤ 50%; Surface and interior temp rise ≤ 30°C above furnace temp; No flaming after first 30 seconds
CAN/ULC S114-05	Combustibility	Non Combustible (6.6% loss, < 0°C)	Max loss of mass during the test ≤ 20%; Temp rise of specimens ≤ 36°C. No flaming of any of the specimens during the last 14.5 minutes

ASTM C1186 CERTIFICATION - GRADE IV		RESULTS	RECOMMENDED DESIGN VALUES	CERTIFICATION REQUIREMENT DETAILS
ASTM C1185-08	Tolerance - Length	0.00 mm	6.35 mm	6.35mm maximum variation from nominal dimension
ASTM C1185-08	Tolerance - Width	0.00 mm	6.35 mm	6.35mm maximum variation from nominal dimension
ASTM C1185-08	Tolerance - Thickness within Sheets	3.65 %	≤ 15 %	≤ 15% variation between extreme measure of max measured value
ASTM C1185-08	Tolerance - Thickness between Sheets	0.022 mm	≤ 1.27 mm	≤ 1.27 mm variation between sheets
ASTM C1185-08	Tolerance - Squareness (Diagonal)	0.00 mm	≤ .762 mm	Length variation ≤ 2.6mm/m of sheet length
ASTM C1185-08	Tolerance - Squareness (Width Edge)	0.00 mm	≤ .762 mm	Variation between opposite edges of sheet ≤ 2.6mm/m
ASTM C1185-08	Tolerance - Squareness (Length Edge)	0.00 mm	≤ .762 mm	Variation between opposite edges of sheet ≤ 2.6mm/m
ASTM C1185-08	Tolerance - Straightness (Length)	0.00 mm	.762 mm	Edge dimensions within 2.6mm/m of length
ASTM C1185-08	Tolerance - Straightness (Width)	0.00 mm	.762 mm	Edge dimensions within 2.6mm/m of width
ASTM C1185-08	Density	2,196.1 kg/M ³		Reporting Requirement Only
ASTM C1185-08	Modulus of Elasticity - Equilibrium	25,408.7 MPa		Reporting Requirement Only
ASTM C1185-08	Modulus of Rupture - Equilibrium	(avg) 32.99 MPa	≥ 27.00 MPa	Flexural strength must be ≥ 21.99 MPa
ASTM C1185-08	Modulus of Rupture - Wet	(avg) 29.68 MPa	> 24.00 MPa	Flexural Strength > 17.99 MPa and >50% of Equilibrium Flexural Strength
ASTM C1185-08	Freeze/Thaw - Flexural Strength Retention	97.3 %	≥ 95 %	No visible cracks and ≥ 80% strength retention
ASTM C1185-08	Heat/Rain Exposure - Rainscreen Assy	No Defects	No Defects	No visible cracks/structural alteration of the sheets and frame assembly
ASTM C1185-08	Moisture Content	0.9 %		Reporting Requirement Only
ASTM C1185-08	Moisture Movement	0.00 %		Reporting Requirement Only
ASTM C1185-08	Water Absorption	3.9 %		Reporting Requirement Only
ASTMC 1185-08	Penetration & Water Droplet Formation	0/0		Moisture penetration permitted, but no droplet formation

ASTM E330 | Test Method for Structural Performance of Exterior Windows, Curtain Walls & Doors by Uniform Static Air Pressure Difference

Full-scale transverse loading tests have been performed on typical panels and wall assemblies, providing results that correlate to anchor and fastener testing for the purposes of engineering evaluation and calculation. TAKTL also performs project specific testing as required by our engineers or per project specifications. The attachment system connections used to connect the TAKTL panel attachment to the underlying wall or substrate must be designed by a professional engineer and the details submitted for review and approval.

CONCEALED UNDERCUT ANCHORS - ASTM E488-10E/488M-10					VISIBLE FASTENERS - AISA 905-08				
ANCHOR EMBED	SHEAR	RECOMMENDED DESIGN VALUE	TENSILE	RECOMMENDED DESIGN VALUE	METAL	SHEAR	RECOMMENDED DESIGN VALUE	TENSILE	RECOMMENDED DESIGN VALUE
10.0mm (Standard)	538.4 kgf	403.6 kgf	313.8 kgf	235.8 kgf	18 GA / 50KGI Steel	955.2 kgf	859.5 kgf	285.7 kgf	257.1 kgf
11.5mm	677.4 kgf	508.0 kgf	345.1 kgf	249.4 kgf	16 GA / 50KGI Steel	864.5 kgf	734.8 kgf	371.9 kgf	334.7 kgf
13.0mm	650.4 kgf	487.6 kgf	409.5 kgf	306.1 kgf	2.2mm / 6061 Alum.	803.7 kgf	683.1 kgf	280.3 kgf	252.1 kgf

FREEZE/THAW STRENGTH RETENTION ASTM E488 - C666M-03

SHEAR 117% TENSILE 111%

IMPACT TESTING		RESULTS	CERTIFICATION REQUIREMENT/DETAILS
ASTM C1629	Hard Body	Level 3 (203.3 J)	Level 3: No failure, spider-web cracking appeared on reverse side; no penetration into the stud cavity
	Hard Body - Load Extension	(334.8 J)	Level 3(+): Panel break point, panel rupture, panel remains integral;
ASTM C1629	Soft Body	Level 3 (711.8 J)	Level 3: No failure/visible fracture on exterior face, spider-web cracking appeared on reverse side, no penetration into the stud cavity;
	Soft Body - Load Extension	(2,033.7 J)	Level 3+: No failure/visible fracture on exterior face, back up wall failed;

ACCELERATED WEATHER TESTING/COLOR CHANGE		RESULTS	
ASTM G155-05a/D2244-09a	ColorSeal/T (2,000 hrs)	1.69 ΔE	
ASTM G155-05a/D2244-09a	MicroSeal/T (500 hrs/1,000 hrs)	0.37-3.2 ΔE	Pigment specific

Third party testing performed by Architectural Testing Inc, Intertek, and QAU Laboratories
Please contact our Technical Support Team for project-specific consultation on Certified Test Results and Recommended Values