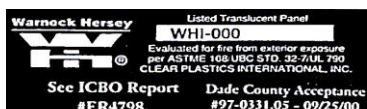


SUMMARY OF UNIQUAD/QUADWALL® / PENTAGLAS® TEST DATA AND RESULTS

Test Description	Test Procedure	Results & Comments
1. Flammability:		
• Self-Ignition	ASTM 1929-3	1058°F
• Smoke Density of Plastic	ASTM D-2843	54%
• Burning Extent	ASTM D-635	CCI rating-less than 1.0” burn extent
• Interior Flame Spread And Smoke Development	ASTM E-84 CAN/ULC,S102.2-M88	Class A/Class 1. <i>Class B (II) is available</i>
• Exterior Class “A” Roof Construction-Optional	ASTM E-108, UL790/UBC 32-7	A special Quadwall® configuration is listed and labeled for Class “A” rating by independent recognized laboratory. Class “B” or “C” are available
2. Weathering:		
• 10 yrs. Florida Weathering Evaluation	ASTM E-330, E695, E-1886,1996	Impact loading, Large missile, Uniform Air load and Cyclic wind loading shall not decrease after 10 years exposure to Florida weather
• Weathering Evaluation	ASTM D4364-84	Successful exposure to concentrated natural sunlight radiation of 56000 MJ/M ² (1540 MJ/M ² of U.V.) at New River Site, Arizona.
• Color Change	ASTM D2244	No more than 3.0 units Delta E after 60 months.
• Light Transmission	ASTM D1003	Shall not decrease more than 6% after 10 years.
• Heat Exposure Evaluation (weathering effect-tendency for potential failure)	300°F, 25 minutes.	The interior and exterior faces do not darken more than 0 units Delta L/ASTM D2244, and 0% Light Transmission/ ASTM D 1003.
3. Water Penetration	ASTM E-331	No penetration at test pressure per AAMA 501 recommendation
4. Air Infiltration	ASTM E-283/NFRC 400	Pass requirements per NFRC 400
5. Impact:	ATSM E-822-81	Panel repels hailstones of 1-3/16” at velocity 82’/sec. – no penetration
Missile Impact Level D	ASTM 1886&ASTM E1996	Successfully tested for 350 Ft. Lbs.
Large Missile Impact	FBC 2004, TAS 201-94	Successfully tested per S. Florida hurricane large missile cannon test for 350 Ft-Lbs.
Impact Loading 3” Concentrated Load	ASTME 695 ASTM E661-90	Successfully tested for 500 Ft. Lbs. 400 lbf load – no damage
6. Accelerated Delamination	300°F, 25 minutes. & Sub-zero temp.	The faces do not become readily detached No delamination occurs under load.
7. “U” Factor Quadwall- 2 Panels	Per NFRC 100	0.23 to 0.08 Center of Glass (2 panel assembly)
8. “U” Factor Pentaglas- 1 Panel		0.48 to 0.38 Center of Glass (1 panel assembly)
8. Condensation Resistance Factor		87 for standards Quadwall
9. SHGC Quadwall – 2 panels	Calorimeter	0.08 to 0.41 (as required)* (2 panel assembly)
10. SHGC Pentaglas - 1 Panel	Calorimeter	0.26 to 0.74 (as required)* (1 panel assembly)
10. Transmission Haze	ASTM D1003/E167	85% -100% based on colors
11. Acoustical UniQuad/Quadwall	ASTM E90/E413-10	STC rating of 23-43 depend upon system configuration.
12. Code Compliance Eval. Reports	ICC Evaluation Reports Dade Cty Hurricane Resist. Florida Building code	ICC ESR-1253; 94160 Dade County Approval #05-1207.01 FL6475, FL6599, FL6600, FL8804, FL16751, FL17695
13. OSHA Compliance – Point Load	29 CFR 1910,23 (e) (8), CA 1632(b)(3), 3212(b)	600 lb. Point load with no damage, (1 sqf area)
14. OSHA Compliance - Fall Protection	ASTM E 695-03	500 Ft. Lbs. Impact Loading.
15. ISO Quality Standard	SI ISO 9002	complies with SI ISO 9002 – Certificate #10700
16. P.C Expansion/Contraction	Linear thermal expansion	0.0000375 in/in/°F

The above listed test reports are available and can be submitted upon request.



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