



Product Data

ClearGuard® Polycarbonate Hurricane Panels

ClearGuard Hurricane Panels are manufactured to stringent quality control standards from the strongest transparent thermoplastic commercially available—polycarbonate. Offering a combination of light weight, excellent light transmission and ease of fabrication & installation, ClearGuard hurricane panels meet or exceed the performance of any directly competitive product in its class. This superior performance is backed by a full ten year warranty against excessive yellowing or product failure up to and including tested and approved criteria for hurricane protection.

Product Approvals

ClearGuard Hurricane Panels have been extensively tested, and meet all applicable codes, including IBC/IRC, new Florida Building Code, including HVHZ, Texas Department of Insurance (TDI) and the stringent ASTM E330, 1886 & 1996 test criteria.

Availability

ClearGuard is readily available through a nationwide network of Authorized Dealer/Installers both as a turn-key installation or DIY. ClearGuard panels are offered in industry standard lengths, custom cut-to-size pieces or twenty foot stock lengths.

PRODUCT ATTRIBUTES

- Transparent, up to 85% light transmission
- Toughest clear thermoplastic available
- Excellent weathering & UV resistance
- Exceptional impact strength
- Highly resistant to denting, creasing or bending
- Will not rust or corrode
- Light weight, half that of aluminum or steel
- Compatible with existing framing systems
- UV stabilized for long service life
- 10 year warranty against breakage & yellowing

APPLICATIONS

- Primary hurricane protection for windows, openings
- New construction, residential housing
- Retrofit/conversion, metal to clear
- Commercial storefronts
- Vandal resistant over-glazing
- Industrial glazing



**CLEAR
GUARD**

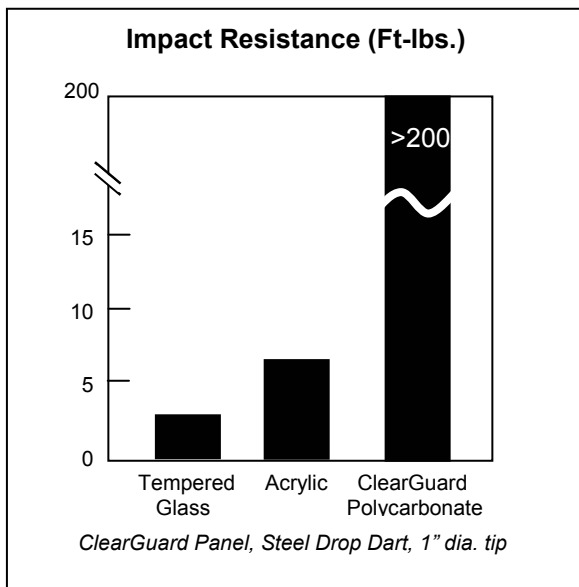
Transparent Protection Systems, Inc. is dedicated to supplying the highest quality hurricane protection products available. As part of The Nytef Group, TPS offers over thirty years experience in the manufacture of extruded thermoplastic products for industry-specific applications. TPS offers full technical support and test report documentation for all products manufactured and sold. ClearGuard is a Registered Trademark of Transparent Protection Systems, Inc.



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Property	Test Method	Units	ClearGuard Panels
Mechanical			
Specific Gravity	ASTM-D792	---	1.20
Tensile Strength	ASTM-D638	psi	9,500
Tensile Elongation	ASTM-D638	%	110
Tensile Modulus of Elasticity	ASTM-D638	psi	330,000
Flexural Strength	ASTM-D790	psi	13,500
Flexural Modulus of Elasticity	ASTM-D790	psi	340,000
Compressive Strength	ASTM-D695	psi	12,500
Izod Impact (notched)	ASTM-D256	ft.-lbs./in.	17.0
Impact/Wind Load Testing			
Static Wind Load	ASTM-E330	psf	142
Impact/Cyclic Wind Load	ASTM-E1886	---	pass
Impact/Cyclic Wind Load	ASTM-E1996	---	pass
Large Missile Impact	TAS 201	---	pass
Uniform Static Air Pressure	TAS 202	---	pass
Cyclic Wind Load	TAS 203	cycles	1,342/pass
Thermal			
Coefficient of Linear Thermal Expansion	ASTM-D696	in./in./°F	3.8 x 10 ⁻⁵
Continuous Use Temp	UL 746	°F	265
Heat Deflection Temp., @ 264 psi	ASTM-D648	°F	270
Weathering			
QUV Accelerated Weathering @ 1,500 hrs.	ASTM-G26	Δ YI	< 8
Tensile Strength after QUV weathering @ 4,500 hrs.	ASTM-D638	psi	9,386
Miami-Dade BCCO Product Approval, Exterior Plastics	C/L #0445	---	pass
Miscellaneous			
Flammability	UL-94	---	HB @ .093"
Color		---	Transparent
Light Transmittance @.093"	ASTM-D1003	%	85



High Impact Strength

ClearGuard Hurricane Panels are manufactured from virtually indestructible polycarbonate resin, with 250 times the impact strength of float glass and over 30 times that of acrylic.

Code Compliance

ClearGuard Hurricane Panels have been extensively tested to virtually all hurricane protection standards and meet all applicable codes, including IBC/IRC, new Florida Building Code (including HVHZ), Texas Department of Insurance (TDI), and the stringent ASTM E330, 1886 & 1996 test criteria.



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