

Windstorm Missile and Protection Levels

ASTM E 1996 Description: Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.

Windzone Categories:

Zone 1: Areas bounded by the 90-MPH isotachs (lines on a map connecting points with equal wind speeds)
 Zone 2: Areas between the 90-MPH and the 110-MPH isotachs

Zone 3: Areas between the 110-MPH and the 130-MPH isotachs
 Zone 4: Areas between the 130-MPH and the 150-MPH isotachs

Missile Level	Missile				Impact Speed (m/s)	
A	2g +/- 5% Steel Ball				39.62 (130 f/s)	
B	910g +/- 100g (2.0 lb. +/- 0.25 lb.) 2x4 in. 52.5cm +/- 100mm (1 ft. -9 in. +/- 4 in.) lumber				15.25 (50 f/s)	
C	2050g +/- 100g (4.5lb. +/- 0.25 lb.) 2x4 in. 2.4m +/- 100mm (4 ft. +/- 4 in.) lumber				12.19 (40 f/s)	
D	4100g +/- 100g (9.0 lb +/- 0.25 lb.) 2x4 in. 2.4m +/- 100mm (8 ft. +/- 4 in.) lumber				15.25 (50 f/s)	
E	4100g +/- 100g (9.0 lb +/- 0.25 lb.) 2x4 in. 2.4m +/- 100mm (8 ft. +/- 4 in.) lumber				24.38 (80 f/s)	
Levels of Protection	Enhanced Protection		Basic Protection		Unprotected	
Assembly Height	≤ (30 ft.) 9.1 m	> (30 ft.) 9.1 m	≤ (30 ft.) 9.1 m	> (30 ft.) 9.1 m	≤ (30 ft.) 9.1 m	> (30 ft.) 9.1 m
Wind Zone 1	D	D	C	A	None	None
Wind Zone 2	D	D	C	A	None	None
Wind Zone 3	E	D	D	A	None	None
Wind Zone 4	E	D	D	A	None	None

IMPORTANT NOTICE: This product is not approved in the State of Florida for use as hurricanes, windstorm or impact protection from wind-borne debris from a hurricane or windstorm. In compliance with Florida Statute 553.842, this product may not be advertised, sold, offered, provided, distributed or marketed in the State of Florida as hurricane, windstorm or impact protection from wind-borne debris from a hurricane or windstorm.

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 75-5100-3849-2 Windstorm Missile and Protection Levels

Windstorm Protection Levels with 3M Films

Windstorm Ultra Scotchshield Line		
Product must be combined with IPA to achieve designated level	Missile Level A	Missile Level C
Ultra S 800	●	●
Ultra Prestige S 70	●	
Ultra Night Vision	●	●
Safety Series		
Safety S 14	●	●
Safety Neutral S 35		●
Safety Silver S 20	●	

Windstorm Missile Levels of Protection - ASTM E 996		
Enhanced Protection	≤ 30 ft (9.1m)	Hospitals, health care facilities having emergency treatment facilities; jails and detention facilities; fire, rescue and police stations, and emergency vehicle garages; designated emergency shelters; communications centers and other facilities required for emergency response; power generating stations; other public utility facilities required in an emergency; and buildings and other structures having critical national defense functions.
	> 30 Ft (9.1 mt)	
Basic Protection	≤ 30 ft (9.1m)	All other building structures not listed in he enhanced protection
	>30 Ft (9.1 mt)	
Unprotected	≤ 30 ft (9.1m)	Buildings and other structures that represent a low hazard to human life in a windstorm including, but not limited to: agricultural facilities, production greenhouses, certain temporary facilities, and storage facilities
	>30 Ft (9.1 mt)	

IMPORTANT NOTICE: MUST ALSO CONSIDER REGIONAL BUILDING CODES AND POTENTIAL INSURANCE COMPANY REQUIREMENTS

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Industry information provided by 3M Window Films. If you have questions regarding this information, please contact us at 3Mwindowfilmadmin@mmm.com

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