

## Wind-Load Garage Doors

Wind can be unpredictable and destructive. This is why C.H.I. Windbreaker Series and iSeries doors are wind chamber tested to ensure wind-load resistance. These extra-sturdy designs provide enhanced defense against the elements.

C.H.I. developed the resilient Windbreaker Series garage doors to protect against high wind conditions. The super-resilient C.H.I. iSeries Impact Approved doors have strength designed to withstand direct collision of projectiles and other windborne debris at high speeds.

When you see the C.H.I. Windbreaker Series seal and the iSeries seal you can be certain that your garage door is designed, tested, and built to the most rugged specifications.



### Qualified Wind-Load C.H.I. Residential Garage Doors

DOOR DESIGN	MODELS/SERIES	CORE INSULATION	SECTION TYPE	WINDBREAKER SERIES		ISERIES	
				WITHOUT WINDOWS	WITH WINDOWS	WITHOUT WINDOWS	WITH WINDOWS
Raised Panel - Short	2250	No Insulation	Pan	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2251	Polystyrene	Pan	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2240	No Insulation	Pan	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2241	Polystyrene	Pan	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2283	Polystyrene	Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2285	Polystyrene	Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	2216	Urethane	Thermally-Broken Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
Raised Panel - Long	4250	No Insulation	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	4251	Polystyrene	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	4240	No Insulation	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	4241	Polystyrene	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	4285	Polystyrene	Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	4216	Urethane	Thermally-Broken Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
	Flush	2284	Polystyrene	Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor
2286		Polystyrene	Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
2217		Urethane	Thermally-Broken Sandwich	Zones 1 - 7+	Zones 1 - 7+	See Distributor	See Distributor
Stamped Carriage House	5250	No Insulation	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5251	Polystyrene	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5240	No Insulation	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5241	Polystyrene	Pan	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5283	Polystyrene	Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5216	Urethane	Thermally-Broken Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
Overlay Carriage House	5500 Series	Polystyrene	Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5400 Series	Polystyrene	Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor
	5300 Series	Polystyrene	Sandwich	Zones 1 - 7+	See Distributor	See Distributor	See Distributor

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7
'Exposure "B"	90 mph	100 mph	110 mph	120 mph	130 mph	140 mph	150 mph
'Exposure "C"	—	—	93 mph	101 mph	110 mph	118 mph	127 mph
To 10' wide	13.2 pos 14.9 neg	16.2 pos 18.3 neg	19.5pos 22.0 neg	23.2 pos 26.2 neg	27.3 pos 30.8 neg	31.4 pos 35.5 neg	36.0 pos 40.6 neg
To 18' wide	12.7 pos 14.1 neg	15.8 pos 17.6 neg	18.7 pos 20.8 neg	22.2 pos 24.7 neg	26.2 pos 29.1 neg	30.1 pos 33.5 neg	34.5 pos 38.4 neg

DESIGN PSF PSF - Pounds Per Square Foot

DOORS MUST INCLUDE EITHER A LOCK OR AN OPERATOR TO MEET SPECIFICATIONS. MODELS AVAILABILITY PER ZONE ARE SUBJECT TO CHANGE WITHOUT NOTICE.

## GARAGE DOOR WIND LOAD GUIDE – VALUES IN PSF

Mean Roof Height	Door Size	Based on the 2010 Florida Building Code & ASCE7-10, Exposure B, 115 – 200 MPH Ultimate Design Wind Speed, MPH (V <sub>ult</sub> )									
		Ultimate Wind Speed →	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH	190 MPH
Less Than 30 Feet	Single 9' x 7'	12.5 -14.2	13.7 -15.5	16.1 -18.2	18.5 -20.9	21.3 -24.1	24.3 -27.5	27.6 -31.2	30.6 -34.6	34.2 -38.6	38.0 -43.0
	Double 16' x 7'	12.0 -13.4	13.1 -14.6	15.5 -17.2	17.7 -19.7	20.4 -22.7	23.3 -26.0	26.4 -29.4	29.3 -32.6	32.7 -36.5	36.4 -40.6
Equivalent Nominal Wind Speed →		89 MPH	93 MPH	101 MPH	108 MPH	116 MPH	124 MPH	132 MPH	139 MPH	147 MPH	155 MPH

Mean Roof Height	Door Size	Based on the 2010 Florida Building Code & ASCE7-10, Exposure C, 115 – 200 MPH Ultimate Design Wind Speed, MPH (V <sub>ult</sub> )										
		Ultimate Wind Speed →	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170* MPH	175** MPH	180 MPH	190 MPH
15 Feet Single Story	Single 9' x 7'	15.2 -17.2	16.6 -18.8	19.6 -22.2	22.4 -25.3	25.9 -29.2	29.5 -33.4	33.5 -37.8	35.3 -39.9	37.1 -42.0	41.5 -46.9	46.2 -52.2
	Double 16' x 7'	14.6 -16.2	15.9 -17.7	18.8 -20.9	21.5 -23.9	24.8 -27.6	28.3 -31.5	32.1 -35.7	33.8 -37.7	35.5 -39.6	39.8 -44.3	44.2 -49.3
25 Feet Double Story	Single 9' x 7'	16.8 -19.0	18.4 -20.8	21.7 -24.5	24.8 -28.0	28.6 -32.3	32.7 -36.9	37.0 -41.8	39.0 -44.1	41.1 -46.4	45.9 -51.9	51.1 -57.7
	Double 16' x 7'	16.1 -18.0	17.6 -19.6	20.8 -23.1	23.7 -26.5	27.4 -30.5	31.3 -34.9	35.5 -39.5	37.4 -41.7	39.3 -43.8	44.0 -49.0	48.9 -54.5
Equivalent Nominal Wind Speed →		89 MPH	93 MPH	101 MPH	108 MPH	116 MPH	124 MPH	132 MPH	136 MPH	139 MPH	147 MPH	155 MPH

Mean Roof Height	Door Size	Based on the 2010 Florida Building Code & ASCE7-10, Exposure D, 115 – 200 MPH Ultimate Design Wind Speed, MPH (V <sub>ult</sub> )										
		Ultimate Wind Speed →	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	175 MPH	180 MPH	190 MPH
15 Feet Single Story	Single 9' x 7'	18.4 -20.8	20.1 -22.8	23.8 -26.8	27.2 -30.7	31.3 -35.4	35.8 -40.5	40.6 -45.9	42.7 -48.3	45.0 -50.8	50.3 -56.9	55.9 -63.2
	Double 16' x 7'	17.7 -19.7	19.3 -21.5	22.7 -25.4	26.0 -29.0	30.0 -33.4	34.3 -38.2	38.8 -43.3	40.9 -45.6	43.1 -48.0	48.2 -53.7	53.6 -59.7
25 Feet Double Story	Single 9' x 7'	20.1 -22.7	21.9 -24.7	25.8 -29.2	29.5 -33.4	34.1 -38.5	38.9 -44.0	44.1 -49.9	46.5 -52.5	48.9 -55.3	54.7 -61.8	60.8 -68.7
	Double 16' x 7'	19.2 -21.4	21.0 -23.4	24.7 -27.6	28.3 -31.5	32.6 -36.4	37.3 -41.6	42.2 -47.1	44.5 -49.6	46.8 -52.2	52.4 -58.4	58.2 -64.9
Equivalent Nominal Wind Speed →		89 MPH	93 MPH	101 MPH	108 MPH	116 MPH	124 MPH	132 MPH	136 MPH	139 MPH	147 MPH	155 MPH

\*Broward County is 170 MPH, Exposure C for most residential buildings. \*\*Miami-Dade County is 175 MPH, Exposure C for most residential buildings.  
The design pressures listed are the minimum required. Recommended WINDCODE® levels typically meet or exceed the required design pressures.  
MPH = miles per hour    PSF = pounds per square foot

## WINDCODE® “W” RATING GUIDE

EXPOSURE B											
Structural Type	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH	190 MPH	200 MPH	
One Story	W1	W2	W3	W3	W4	W5	W5	W6	W6	W7	
Two Story	W1	W2	W3	W3	W4	W5	W5	W6	W6	W7	
EXPOSURE C											
Structural Type	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170* MPH	175** MPH	180 MPH	190 MPH	200 MPH
One Story	W2	W3	W3	W4	W5	W5/W6	W6/W7	W6/W7	W7	W7	W8
Two Story	W3	W3	W4	W5	W5/W6	W6	W6/W7	W7/W8	W7/W8	W8	W9
EXPOSURE D											
Structural Type	115 MPH	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	175 MPH	180 MPH	190 MPH	200 MPH
One Story	W3	W3/W4	W4/W5	W5	W6	W6	W7	W7/W8	W7/W8	W8	W9
Two Story	W3/W4	W4/W5	W4/W5	W5/W6	W6	W7/W8	W7/W8	W8	W8	W9	W9

\*Broward County is 170 MPH, Exposure C for most residential buildings. \*\*Miami-Dade County is 175 MPH, Exposure C for most residential buildings.  
MPH = miles per hour