

# TECHNICAL INFORMATION SHEET

## SunWave™ Smoke Vent



Item Description  
Smoke Vent

### Product Information

#### Description:

**Smoke Vents (Acrylic)** provide a double glazed, 100% Impact Modified 0.181" (4.6 mm) outer lens and a 50% Impact Modified 0.120" (3 mm) inside lens that is hail rated up to 1.75" (44.5 mm) (Class 3) in a side-by-side dome configuration. The fusible link activation temperature for this unit is 370 °F (188 °C). This smoke vent provides a snow load rating of 10 or 30 psf, is UL listed, but not FM Approved.

**Smoke Vents (Polycarbonate)** provide a double glazed, 0.165" (4.2 mm) polycarbonate outer lens and a 0.125" (3.18 mm) polycarbonate inside lens that is hail rated up to 2" (50.8 mm) (Class 4) in a side-by-side dome configuration. The fusible link activation temperature for this unit is 370 °F (188 °C). This smoke vent provides a snow load rating of 10 or 30 psf, is UL listed, and can be rated FM Approved if requested.

**NOTE:** All units open a minimum of 105° at the specified fusible link activation temperature.

#### Selection Information:

##### Smoke Vents (Acrylic and Polycarbonate):

- Rated Design Pressure: 60 psf
- Upon review of Pre-Installation Notice (PIN), additional wind speed coverage may be available. Contact your regional Building Systems Advisor for more information.

##### NOTE:

- It is the responsibility of the designer/building owner to determine the appropriate product(s) to be used for the specific project and related conditions.
- Improper use of product may void warranty coverage.

#### Method of Application:

- Substrates must be clean, dry, smooth, and free of sharp edges, fins, loose or foreign materials, oil, and grease.
- Install in accordance with current Firestone specifications, details, and workmanship requirements.
- Fasten the SunWave Prismatic Skylights with the included #12 x 1½" (38 mm) 300 series stainless steel screws with neoprene/stainless steel bonded washers.

#### Storage:

- Store products in manufacturer's unopened packaging until ready for installation.
- Store materials in a dry area, protected from freezing, staining, contamination or damage.

#### LEED® Information:

Post Consumer Recycled Content: 50%  
Pre-Consumer Recycled Content: 25%  
Manufacturing Location: Sacramento, CA

\*NOTE: LEED® is a registered trademark of the U.S. Green Building Council.

# TECHNICAL INFORMATION SHEET

---

## SunWave™ Smoke Vent

### Precautions:

- To provide fall protection, a Safety-Security Guard (SSG) Screen is integrated into all SunWave curbs; see SunWave Roof Curb TIS #1802. Installer shall be responsible for fall protection when SunWave curbs are not used.
- SunWave Smoke Vents not for use in harsh, corrosive, marine and high-humidity environmental conditions such as marina, greenhouses, petrochemical facilities or other chemicals where Smoke Vents may be exposed to such conditions.
- Smoke Vents should not be installed in locations with operating temperatures in excess of -75 °F (-59.4 °C) or 180 °F (82.2 °C).

### Cleaning Acrylic Lenses:

Frequency of cleaning is determined by site conditions. When cleaning lenses, use only water or water with a mild soap. Use a soft rag to minimize scratching the lenses. A pressure washer is acceptable to use as well.

Never use ammonia, aromatic or petroleum based products to clean lenses. This will cause deterioration and cracking of the lens and will void the warranty.

### Compliance Information:

**FM #4430** Approved Smoke Vent shall be double glazed using CLEAR ARMOR® Clear Prismatic Polycarbonate over CLEAR ARMOR® High White Prismatic Polycarbonate lens, glazed in a SunWave Prismatic Series Dome configuration.

**UL Listed** Smoke Vent Lens will have a SunWave Prismatic Dome configuration consisting of 100% Impact Modified acrylic or CLEAR ARMOR® Polycarbonate.

**OSHA Regulation Section 1926.502(i)(2)** applies to covers being placed in the openings in a roof at the time of installation. This regulation states *“All [other] covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.”* An independent third-party testing laboratory performed a 400 pound drop test on a SunWave unit which resulted in no damage after impact and five minutes of continued exposure. Therefore, when properly installed to a building architecturally designed for, and supportive of smoke vents, SunWave Smoke Vents are considered compliant with this OSHA requirement.

**NOTE:** No plastic smoke vent of any kind is immune to degradation over time and any smoke vent would be unlikely to continue to meet the OSHA 1926.502 requirements after having been exposed to 10 to 20 years of UV radiation. It is imperative building owners, contractors, designers, and architects comply with OSHA section 1910.23(a)(4) and install an appropriate guard or screen to prevent injuries to third parties.

**OSHA Section 1910.23(a)(4)** establishes the requirements for all smoke vent roof openings. This regulation states, *“Every skylight floor opening and hole shall be guarded by a standard skylight screen or a fixed standard railing on all exposed sides.”* To ensure that our products comply with this OSHA regulation, all Firestone SunWave Curbs include standard integrated fall protection screens. These screens come factory-installed in our curbs, ensuring that all our curb installations meet the regulation. Therefore, when properly installed to a building architecturally designed for, and supportive of smoke vent, SunWave Smoke Vents are considered compliant with this OSHA requirement. However, please note that Firestone Building Products Company, LLC is not responsible for the installation or architectural designs required for proper use of Firestone SunWave products. Use of a certified installer and consultation with an architect before using Firestone SunWave products is advised.

# TECHNICAL INFORMATION SHEET

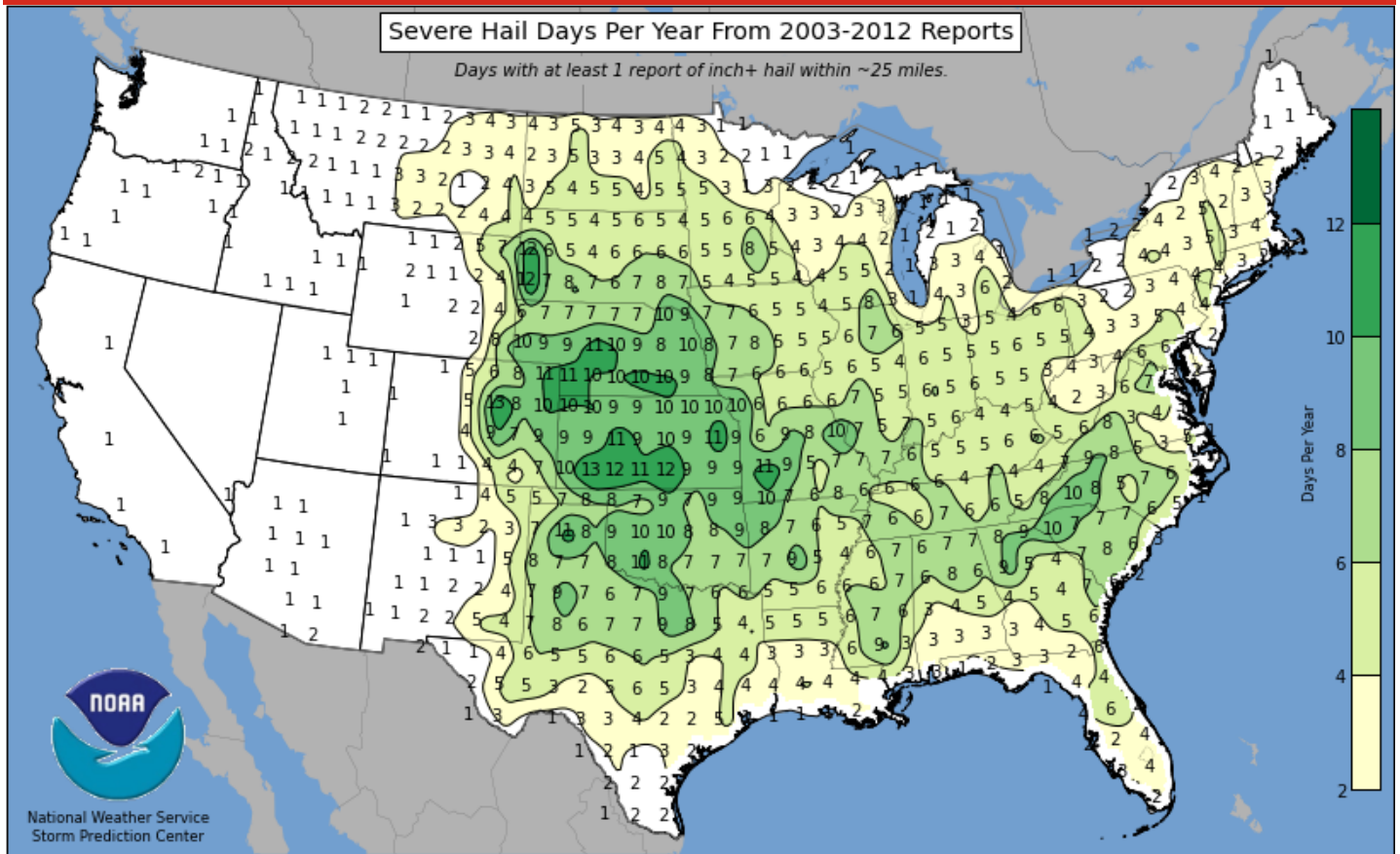
## SunWave™ Smoke Vent

### Distribution of Hail Sizes 1990-2010

Range Size	Number of Events	Percentage Total	Percentage Cumulative
< .75" (19.05 mm)	316	0.14%	0.14%
.75" < 1" (19.05 mm < 25.4 mm)	110,104	49.50%	49.64%
1" < 2" (25.4 mm < 50.8 mm)	101,048	45.43%	95.06%
2" < 3" (50.8 mm < 76.2 mm)	9,185	4.13%	99.19%
3" < 4" (76.2 mm < 101.6 mm)	841	0.38%	99.57%
4" to 8" (101.6 mm < 203.2 mm)	952	0.43%	100.00%

\*Source: CDS business Mapping, LLC Daniel Munson and Gloria Molina

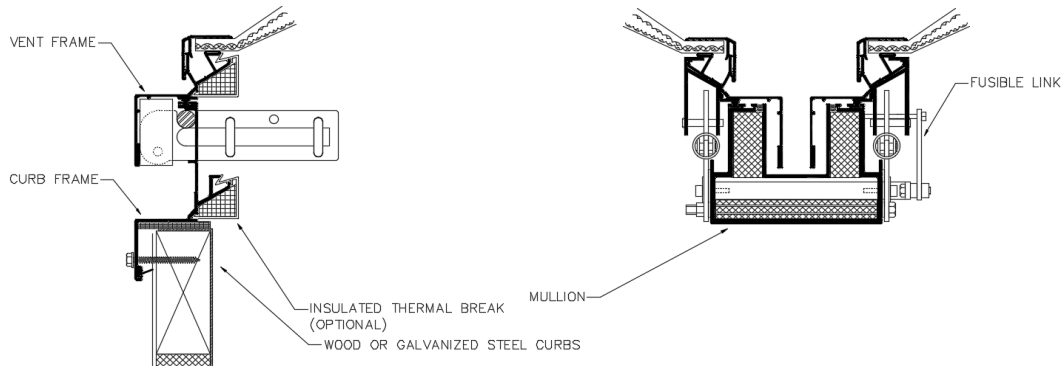
### Average Severe Hail Days Per Year



## TECHNICAL INFORMATION SHEET

### SunWave™ Smoke Vent

#### Design Specification:



#### Design Specification Notes:

- Smoke Vents shall operate by a fusible link with a minimum temperature rating of 165 °F (73.9 °C). The fusible link mechanism with gas shocks shall include an exterior manual release cable for testing.
- Smoke Vents shall open to a minimum angle of 105°.
- Skylights shall be fabricated from 6061-T6 aluminum, finish to be natural mill. Frames shall have integral condensation and weepage gutters which drain interior moisture to the outside. Corners shall be mitered and welded. Acrylic and polycarbonate glazing shall be separated from the skylight frame with a silicon seal.
- Skylight frames shall be glazed using 100% or 50%, impact modified prismatic acrylic or prismatic polycarbonate in a SunWave Prismatic Dome configuration.
- Multi-glazed units default to include Insulated Thermal Break, Curb Seal Tape, Weather Sweep, and screws.
- Single-glazed units default to not include Thermal Break, Curb Seal Tape, Weather Sweep, or screws.

### Typical Properties

SkyScape Component	Specification Description		
<b>Smoke Vents (Acrylic)</b>	<b>Single</b>	<b>Double</b>	
Dome Material	N/A	Acrylic	Acrylic
Thickness	N/A	0.165" (4.2 mm) Class 1 0.181" (4.6 mm) Class 3	0.120" (3.0 mm)
Impact Modification %	N/A	100%	50%
Hail Rated	N/A	1.25" (3.18 mm) Class 1 / 1.75" (44.5 mm) Class 3	
Snow Load Rating (psf)	N/A	10lb or 30lb	
Fusible Link	N/A	370 °F (188 °C)	
SHGC (Solar Heat Gain Coefficient)	N/A	0.42	
U-Value	N/A	N/A	
VLT (Visible Light Transmittance)	N/A	0.68	
<b>Smoke Vents (Polycarbonate)</b>	<b>Single</b>	<b>Double</b>	
Dome Material	N/A	Polycarbonate	Polycarbonate
Thickness	N/A	0.165" (4.2 mm)	0.125" (3.18 mm) (.165"/4.2 mm FM approved)
Impact Modification (%)	N/A	N/A	N/A
Hail Resistance	N/A	2.0" (50.8 mm)	
Snow Load Rating (psf)	N/A	10lb or 30lb (FM Approved 10lb only)	
Fusible Link	N/A	370 °F (188 °C)	
SHGC (Solar Heat Gain Coefficient)	N/A	0.42	
U-Value	N/A	N/A	
VLT (Visible Light Transmittance)	N/A	0.64	

# TECHNICAL INFORMATION SHEET

## SunWave™ Smoke Vent

### UL Rated, Class 1, Acrylic over Acrylic Lenses, Double Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNDLC1145	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Acrylic	Double	Yes	No	1.25" (3.18 mm)	10lb	370 °F (188 °C)
W56SUNDLC1146	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Acrylic	Double	Yes	No	1.25" (3.18 mm)	10lb	370 °F (188 °C)
W56SUNDLC1147	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Acrylic	Double	Yes	No	1.25" (3.18 mm)	10lb	370 °F (188 °C)
W56SUNDLC1148	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Double	Yes	No	1.25" (3.18 mm)	10lb	370 °F (188 °C)
W56SUNDLC1156	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Acrylic	Double	Yes	No	1.25" (3.18 mm)	10lb	370 °F (188 °C)

### UL Rated, Class 3, Acrylic over Acrylic Lenses, Double Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNDLC3145	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	10lb	370 °F (188 °C)
W56SUNDLC3345	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	30lb	370 °F (188 °C)
W56SUNDLC3146	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	10lb	370 °F (188 °C)
W56SUNDLC3346	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	30lb	370 °F (188 °C)
W56SUNDLC3147	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	10lb	370 °F (188 °C)
W56SUNDLC3347	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	30lb	370 °F (188 °C)
W56RACDL30	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	10lb	370 °F (188 °C)
W56RACDL32	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	30lb	370 °F (188 °C)
W56RACDL34	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	10lb	370 °F (188 °C)
W56RACDL36	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Acrylic	Double	Yes	No	1.75" (44.5 mm)	30lb	370 °F (188 °C)

### UL Rated, Polycarbonate over Polycarbonate Lenses, Double Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNDLP145	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Poly	Double	Yes	No	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLP345	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Poly	Double	Yes	No	2.0" (51 mm)	30lb	370 °F (188 °C)
W56SUNDLP146	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Poly	Double	Yes	No	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLP346	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Poly	Double	Yes	No	2.0" (51 mm)	30lb	370 °F (188 °C)
W56SUNDLP147	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Poly	Double	Yes	No	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLP347	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Poly	Double	Yes	No	2.0" (51 mm)	30lb	370 °F (188 °C)
W56RACDL33	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Poly	Double	Yes	No	2.0" (51 mm)	10lb	370 °F (188 °C)
W56RACDL76	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Poly	Double	Yes	No	2.0" (51 mm)	30lb	370 °F (188 °C)
W56RACDL37	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Poly	Double	Yes	No	2.0" (51 mm)	10lb	370 °F (188 °C)
W56RACDL78	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Poly	Double	Yes	No	2.0" (51 mm)	30lb	370 °F (188 °C)

### FM Rated, Polycarbonate over Polycarbonate Lenses, Double Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNDLFM45	4050	51.25" (130.2 cm)	63.25" (160.7 cm)	Poly	Double	Yes	Yes	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLFM46	4060	51.25" (130.2 cm)	75.25" (191.1 cm)	Poly	Double	Yes	Yes	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLFM47	4070	51.25" (130.2 cm)	87.25" (221.6 cm)	Poly	Double	Yes	Yes	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLFM48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Poly	Double	Yes	Yes	2.0" (51 mm)	10lb	370 °F (188 °C)
W56SUNDLFM56	5060	63.63" (161.62 cm)	75.63" (192.1 cm)	Poly	Double	Yes	Yes	2.0" (51 mm)	10lb	370 °F (188 °C)

# TECHNICAL INFORMATION SHEET

## SunWave™ Smoke Vent

### Class 1, Single Leaf, Acrylic Lens, Single Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNSLAA48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Single	No	No	1.25" (3.18 mm)	None	165 °F (73.9 °C)
W56SUNSLAB48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Single	No	No	1.25" (3.18 mm)	None	286 °F (141.1 °C)
W56SUNSLAC48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Single	No	No	1.25" (3.18 mm)	None	360 °F (182.2 °C)
W56SUNSLAD48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Single	No	No	1.25" (3.18 mm)	None	370 °F (188 °C)
W56SUNSLAF48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Acrylic	Single	No	No	1.25" (3.18 mm)	None	386 °F (196.7 °C)

### Single Leaf, Polycarbonate Lens, Single Glazed

Item Number	ID Frame Call-Out			Lens Material	Glazing	UL Listed	FM Approved	Hail Rating	Snow Load Rating	Fusible Link
	Model	Width	Length							
W56SUNSLPA48	4080	52.25" (132.7 cm)	100.25" (254.6 cm)	Poly	Single	No	No	2.0" (51 mm)	None	370 °F (187.8 °C)

### Custom Ordering\*

Quantity	Outside Curb Dimensions**		
	Min. Size 4' x 5' (1.22 m x 1.52 m) Max Size 5' x 8' (1.52 m x 2.44 m)		
	Width:	Length:	Height:
Dome Configuration			
Single Leaf <input type="checkbox"/>		Side by Side <input type="checkbox"/>	
Class (Hail Rating)		Options (Hail Rating)	
Class 1 (1.25"/31.8 mm) <input type="checkbox"/>	Class 3 (1.75"/44.5 mm) <input type="checkbox"/>	Poly (2.0"/51 mm) <input type="checkbox"/>	FM (2.0"/51 mm) <input type="checkbox"/>
Glazing			
Single <input type="checkbox"/>		Double <input type="checkbox"/>	

\*Custom mold fee applies to SunWave Prismatic domes.

\*\*Custom Dome will be determined by curb dimensions.

Please contact Firestone Technical Services Department at 1-800-428-4511 for further information.

*This sheet is meant to highlight Firestone products and specifications and is subject to change without notice. Firestone takes responsibility for furnishing quality materials which meet published Firestone product specifications or other technical documents, subject to normal roof manufacturing tolerances. Neither Firestone nor its representatives practice architecture. Firestone offers no opinion on and expressly disclaims any responsibility for the soundness of any structure. Firestone accepts no liability for structural failure or resultant damages. Consult a competent structural engineer prior to installation if the structural soundness or structural ability to properly support a planned installation is in question. No Firestone representative is authorized to vary this disclaimer.*