Signature Series™ SVT2

UL Certified and FM Approved Industrial Smoke Vents

FM APPROVED

c UL us LISTED

Patented Prismatic Polycarbonate Performance

Sunoptics® Industrial Smoke Vents are ideal for use in industrial and commercial buildings where emergency smoke evacuation requirements are needed. Sunoptics has multiple smoke vent models and certifications available for your smoke vent needs and location.

- **UL/ULC #793 Listed (U.S. & Canada)**
- **Factory Mutual (FM) Approval Class #4430**
- **Class 4 Hail Rating**

SUNOPTICS®
High Performance Prismatic Skylights

P.O. Box 780249, Tallassee, AL 36078
Toll Free (800) 289-4700
WWW.SUNOPTICS.COM

The Originator and Innovator of the High Performance Prismatic Skylight

45th Anniversary 1978 - 2023

Signature Series™ SVT2

UL Listed & FM Approved Industrial Smoke Vent

TECHNICAL SPECIFICATIONS

FRAME

Sunoptics SVT2 Smoke Vent frame type will be frame series model 870B (curb mounted frame) as manufactured by Sunoptics, Inc, P.O. Box 790249, Tallassee, AL 36078 , Phone (800) 289-4700.

Smoke Vent frames will be fabricated from 6063 T6 aluminum with a natural mill finish. Frames will have integral condensation and weepage gutters which drain moisture to the outside. Frame corners are mitered and welded. The polycarbonate glazing will be fully sealed with a silicone seal.

Note: Multi-glazed units default to include an Insulated Thermal Break (ITBR), Curb Seal gasket, Weather Sweep (WSW) and screws. Single-glazed units do not include these options.

UL LISTED SMOKE VENTS

Sunoptics UL Listed Smoke Vents will be model SVT2 as manufactured by Sunoptics, Inc. SVT2 UL Listed Smoke Vent lens shape can be Signature™ Series dome shape lens (SIGL), which are made from ClearArmour® Polycarbonate lenses. SNOW LOAD LIFT IN PSF: 10lb. or 30lb. *See ID Frame Call Out for specific dimensions.*

FM APPROVED SMOKE VENTS

Sunoptics Factory Mutual (FM) Approved Smoke Vents will be Sunoptics model SVT2 as manufactured by Sunoptics, Inc.

FM #4430 Approved Prismatic Smoke Vent are double glazed using ClearArmour® clear polycarbonate over ClearArmour® high-white polycarbonate lens, CC1 Rated, in a Signature Series dome configuration. SNOW LOAD LIFT IN PSF: 10lb. only. Must have a minimum 360°F fusible link. *See ID Frame Call Out for specific dimensions.*

FUSIBLE LINK

The smoke vent will operate by a fusible link. The fusible links offered start at a minimum temperature rating of 165-degrees Fahrenheit (165°F / 73.89°C) to a maximum of 386-degrees Fahrenheit (386°F / 196.66°C). In case of a fire, the fusible link will melt at the chosen temperature, releasing the doors via gas shocks. When the smoke vent doors are released, the doors will open to a minimum angle of 90 degrees.

Interior and exterior release pull rings are included to manually open the smoke vent as needed for code inspection and early release for firefighter needs.

LENS SHAPE - INFO - DETAILS

The Signature™ Series lens provides a proprietary dome design created to capture and distribute more light at low-light levels throughout the day. The sleek and compact lens design offers an efficient way to provide glare free, full-spectrum daylighting with the Sunoptics industrial smoke vent.

LENS HAIL CLASS RATING

Material Type	Lens Material	Resistance Rating	Hail Size
Polycarbonate	CC1/CC1P125	Class 4	2"

WARNING

Smoke Vents should not be installed in locations with an operating temperature in excess of -75-degrees Fahrenheit (-75°F / -59.44°C) or 180-degrees Fahrenheit (180°F / 82.22°C).

Smoke Vents not for use in harsh, corrosive, marine and high-humidity environmental conditions such as marina, greenhouses, petrol-chemical facilities or other chemicals where the smoke vents may be exposed to such conditions.

Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate lenses. Refer to the Polycarbonate Environmental Compatibility Tables located at www.sunoptics.com for suitable uses.

CLEANING POLYCARBONATE LENSES

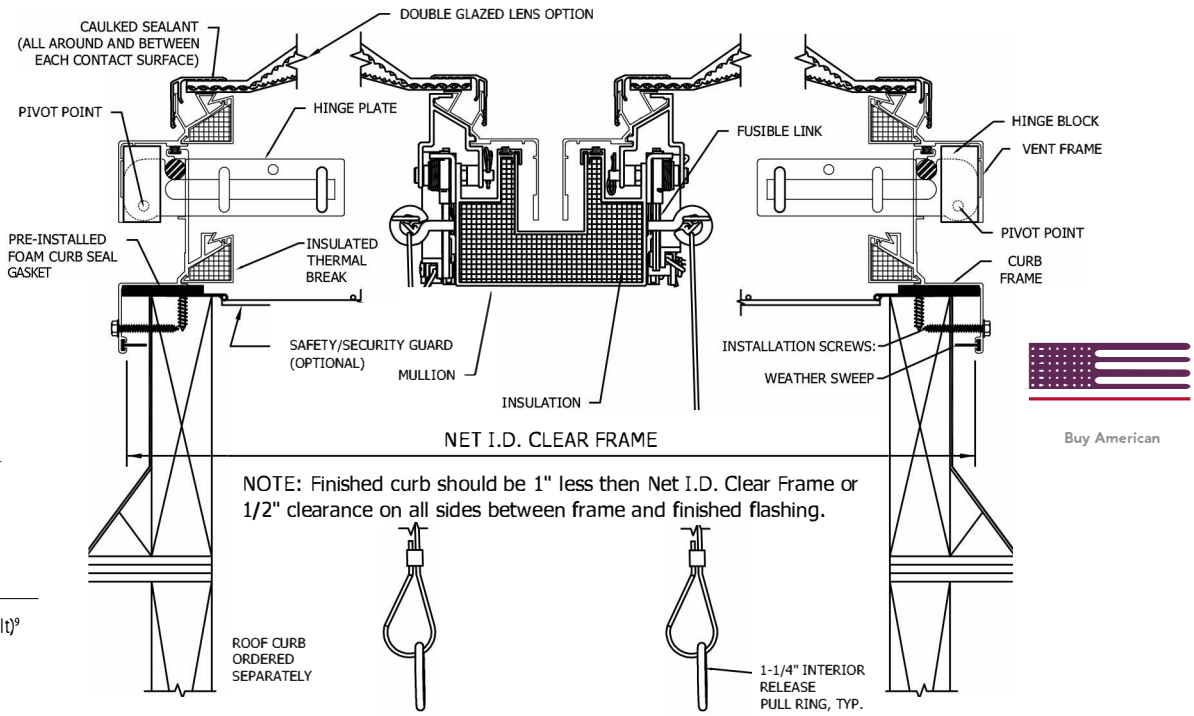
Frequency of cleaning is determined by site conditions. When cleaning polycarbonate lenses, use only water or water with a mild soap. Use a soft rag to minimize scratching the polycarbonate. A pressure washer is acceptable to use as well. Never use ammonia, aromatic or petroleum based products to clean polycarbonate lenses. This will cause deterioration and cracking of the lens and will void the warranty.

Consult factory regarding Smoke Vent installation in locations with operating temperatures in excess of -75°F (-59.44°C) or 165°F (73.89°C).

SIDE PROFILE

Double-Glazed (DGZ) Profile Shown.

Details Not To Scale.



Buy American

AVAILABLE SIZES

ID Frame Call-Out

4070	51-1/4"x 87-1/4"
4080	52-1/4"x 100-1/4"
5060	63-5/8"x 75-5/8"
5558	67 3/4" x 70-3/4"

See ID Frame call-outs under Ordering Logic for dimension options.

Snow Load

10LB	10-Pound Snow Load (default)
30LB	30-Pound Snow Load[8]

Fusible Link

360FL	360-Degree Fusible Link (default)[9]
370FL	370-Degree Fusible Link
386FL	386-Degree Fusible Link

P.O. Box 780249, Tallassee, AL 36078 | 800-289-4700

www.sunoptics.com

SVT2
UL Listed & FM Approved Industrial Smoke Vent

SUNOPTICS® High Performance Prismatic Skylights

Type:	
Project:	

SVT2 Smoke Vent | Frame Model 870B

OVERVIEW

Sunoptics® Industrial Smoke Vents are ideal for use in industrial and commercial buildings where emergency smoke evacuation requirements are needed. Sunoptics has multiple smoke vent models and certifications available for your smoke vent needs and location.

The Sunoptics SVT2 UL Listed Smoke Vents are available in single- and double-glazed versions; two lens options; ClearArmour® prismatic polycarbonate options with snow load ratings of 10 and 30 pounds per square foot.

The Sunoptics SVT2 FM Approved model smoke vents are available in single- and double-glazed versions made with ClearArmour® prismatic polycarbonate with a snow load rating of 10 pounds per square foot.

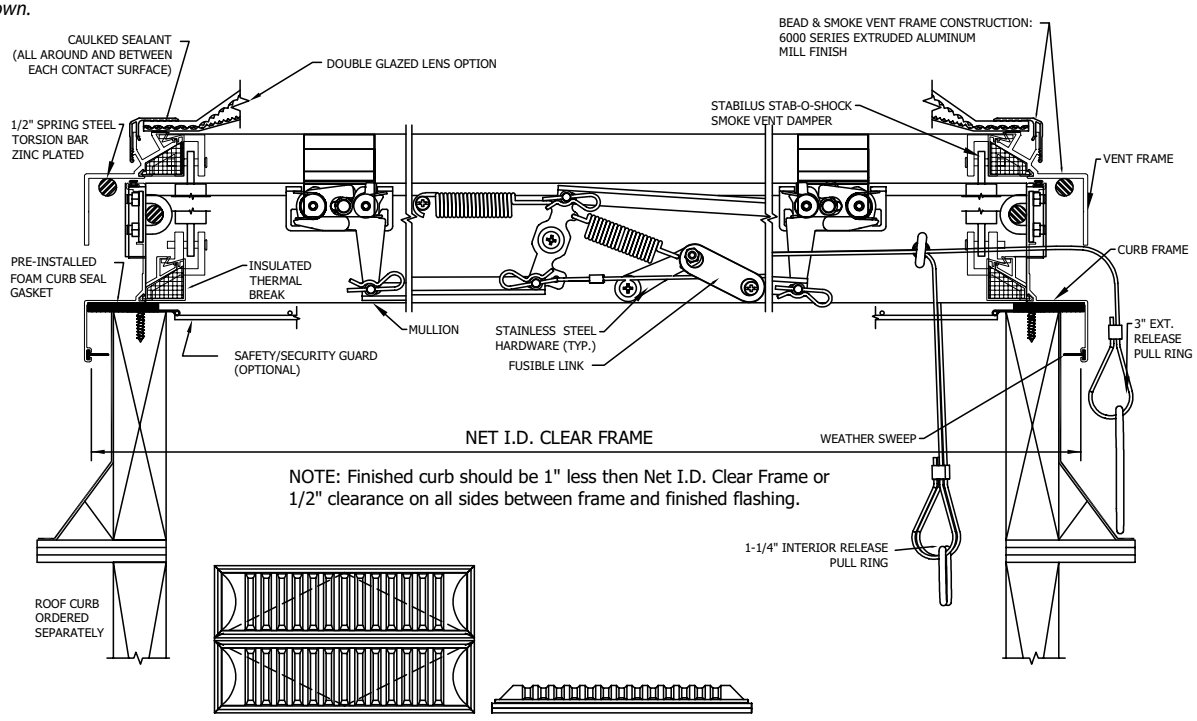
Raising the bar in quality and performance, Sunoptics Smoke Vents are tested and certified by third-party independent organizations to ensure compliance to safety, quality and performance standards.

10lb Snow Load Unit Shown

PRODUCT PROFILE

Double-Glazed (DGZ) Profile Shown.

Details Not To Scale.



See ID Frame call-outs under Ordering Logic for dimension options.

AVAILABLE CERTIFICATIONS AND LISTINGS

- UL/ULC Listed (US & Canada), Tested and Certified to meet UL/ULC 793 Requirements
- CE Certified
- Factory Mutual (FM) Approval Class Number 4430
- Lens Hail Class Ratings for Class 4 (2" hail resistance)

Warranty: 10-year limited warranty available. Complete warranty terms and conditions located at: www.sunoptics.com

Note: Actual performance may differ as a result of end-user environment and application.

Specifications subject to change without notice.

SVT2- UL Listed & FM Approved Industrial Smoke Vent

TECHNICAL SPECIFICATIONS

FRAME

Sunoptics SVT2 Smoke Vent frame type will be frame series model 870B (curb mounted frame) as manufactured by Sunoptics Inc., P.O. Box 780249, Tallassee, AL 36078 | 800-289-4700

Smoke Vent frames will be fabricated from 6063 T6 aluminum with a natural mill finish. Frames will have integral condensation and weepage gutters which drain moisture to the outside. Frame corners are mitered and welded. The polycarbonate glazing will be fully sealed with a silicone seal.

Note: Multi-glazed units default to include an Insulated Thermal Break (ITBR), Closed Cell Foam Curb Seal Gasket, Weather Sweep (WSW) and screws. Single-glazed units do not include these options.

UL LISTED SMOKE VENTS

Sunoptics UL Listed Smoke Vents will be model SVT2 as manufactured by Sunoptics, Inc. SVT2 UL Listed Smoke Vent lens shape can be Signature™ Series dome shape lens (SIGL), which are made from ClearArmour® Polycarbonate lenses. SNOW LOAD LIFT IN PSF: 10lb. or 30lb. Maximum size 32 sq. ft.; minimum size 20 sq. ft. *See ID Frame Call-Out for specific dimensions.*

FM APPROVED SMOKE VENTS

Sunoptics Factory Mutual (FM) Approved Smoke Vents will be Sunoptics model SVT2 as manufactured by AES Sunoptics, Inc.

FM #4430 Approved Prismatic Smoke Vent are double glazed using ClearArmour® clear polycarbonate over ClearArmour® high-white polycarbonate lens, CC1 Rated, in a Signature Series dome configuration. SNOW LOAD LIFT IN PSF: 10lb. only. Must have a minimum 360°F fusible link. Maximum size 5080 (ID 63-1/4″ x 99-1/4″); minimum size 4060 (ID 51-1/4″ x 75-1/4″). *See ID Frame Call-Out for specific dimensions.*

FUSIBLE LINK

The smoke vent will operate by a fusible link. The fusible links offered start at a minimum temperature rating of 360-degrees Fahrenheit (360°F / 182.22°C) to a maximum of 370-degrees Fahrenheit (370°F / 187.77°C). In case of a fire, the fusible link will melt at the chosen temperature, releasing the doors via gas shocks. When the smoke vent doors are released, the doors will open to a minimum angle of 90 degrees.

Interior and exterior release pull rings are included to manually open the smoke vent as needed for code inspection and early release for firefighter needs.

LENS SHAPE - INFO - DETAILS

The Signature™ Series lens (SIGL) provides a proprietary prismatic dome design created to capture and distribute more light at low-light levels throughout the day. The sleek and compact lens design offers an efficient way to provide glare-free, full-spectrum daylighting with the Sunoptics industrial smoke vent.

LENS HAIL CLASS RATING

Material Type	Lens Material	Resistance Rating	Hail Size
Polycarbonate	CC1/CC1P125	Class 4	2"

WARNING

Smoke Vents should not be installed in locations with an operating temperature in excess of -75-degrees Fahrenheit (-75°F / -59.44°C) or 180-degrees Fahrenheit (180°F / 82.22°C).

Smoke Vents not for use in harsh, corrosive, marine and high-humidity environmental conditions such as marina, greenhouses, petrol-chemical facilities or other chemicals where the smoke vents may be exposed to such conditions.

Certain airborne contaminants can diminish the integrity of polycarbonate lenses. Refer to the the Polycarbonate Environmental Compatibility Tables located at www.sunoptics.com for suitable uses.

CLEANING PLASTIC LENSES

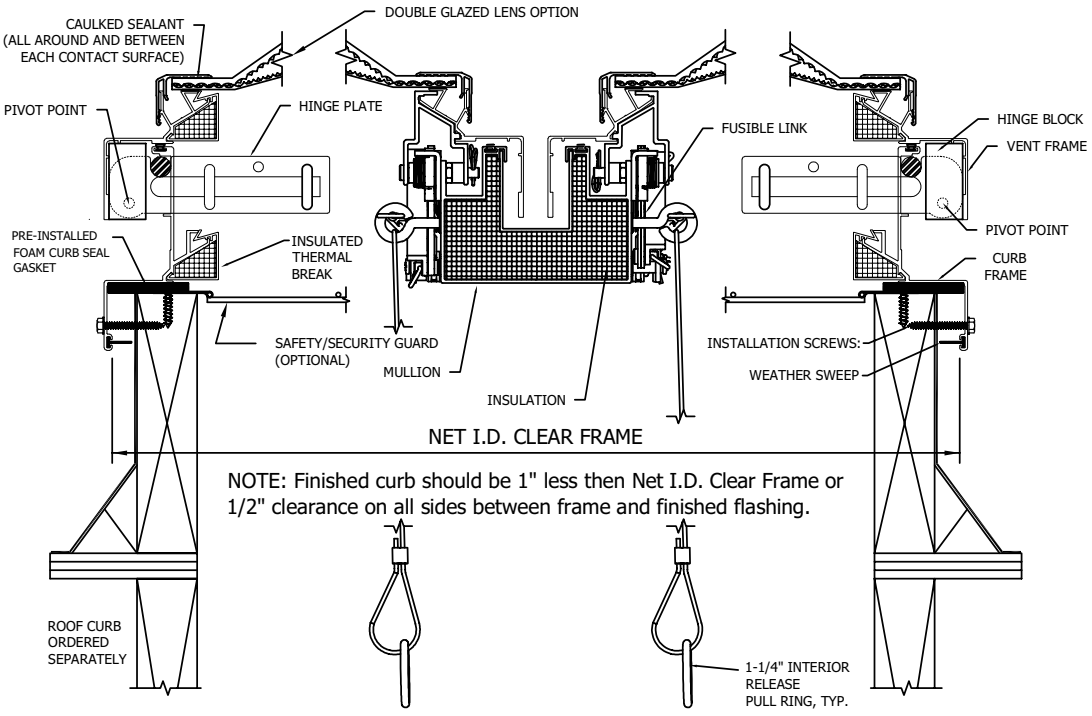
Frequency of cleaning is determined by site conditions. When cleaning polycarbonate lenses, use only water or water with a mild soap. Use a soft rag to minimize scratching the polycarbonate. A pressure washer is acceptable to use as well. Never use ammonia, aromatic or petroleum based products to clean polycarbonate lenses. This will cause deterioration and cracking of the lens and will void the warranty.

Consult factory regarding Smoke Vent installation in locations with operating temperatures in excess of -75°F (-59.44°C) or 165°F (73.89°C).

SIDE PROFILE

Double-Glazed (DGZ) Profile Shown.

Details Not To Scale.



See ID Frame call-outs under Ordering Logic for dimension options.

SVT2- UL Listed & FM Approved Industrial Smoke Vent

ORDERING LOGIC

Example: SVT2 4080 W52.250 L100.250 SIGL DGZ CC1 LENSCLWH 360FL 30LB 870B UL

SERIES		ID Frame Call-Out		ID Frame Width		ID Frame Length		Lens Shape		Glazing	
SVT2	Smoke Vent	**4070**	51-1/4″ x 87-1/4″	**W51.250**	Width 51.250 inches	**L87.250**	Length 87.250 inches	**SIGL**	Signature™ Series	**SGZ**	Single Glaze
		4080	52-1/4″ x 100-1/4″	**W52.250**	Width 52.250 inches	**L100.250**	Length 100.250 inches			**DGZ**	Double Glaze
		5060	63-5/8″ x 75-5/8″	**W63.625**	Width 63.625 inches	**L75.625**	Length 75.625 inches				
		5558	67-3/4″ x 70-3/4″	**W67.750**	Width 67.750 inches	**L70.750**	Length 70.750 inches				

Glazing Material		Glazing Colors		Fusible Link		Snow Load	
CC1	Polycarbonate	**LENSWH**	White (Single Glaze Default) Clear	**360FL**	360-Degree Fusible Link (default)	**10LB**	10-Pound Snow Load (default)
		LENSWHCL	White (Double-Glaze Default)	**370FL**	370-Degree Fusible Link	**30LB**	30-Pound Snow Load

Frame Type		Smoke Vent Frame Finish		Options	
870B	Standard Frame	**MI**	Mill (default)	**(blank)**	No Options
				FMRTG	Factory Mutual (FM) Approved
				UL	UL Listed Smoke Vent

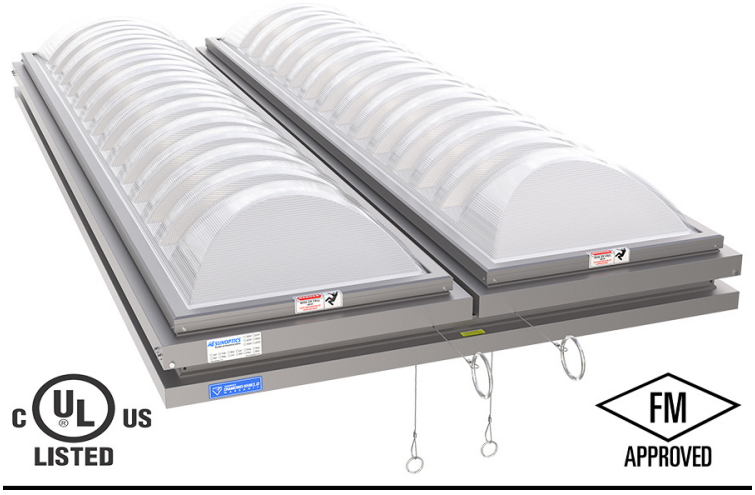
Lead times will vary depending on options selected. Consult with your sales representative.

P.O. Box 780249, Tallassee, AL 36078 | 800-289-4700

www.sunoptics.com

SUNOPTICS, INC
P.O. Box 780249
Tallassee, AL 36078
Tel: 800-289-4700

ON-SITE FIELD INSPECTION PROCEEDURES
SKYLIGHTS / SMOKE VENTS



USERS INSTRUCTIONS

The information presented in this service guide is generic in nature, it can be applied to inspections /servicing skylights systems. This service guide contains information, illustration of the following topics:

Safe Practice Requirements for Servicing / Inspections of Skylight Systems

IMPORTANCE OF SAFETY

THIS MANUAL IS TO BE USED BY SUNOPTICS FIELD TECHNICIANS TO SUPPORT SYSTEM INSPECTIONS

Index

WARNING / CAUTION
IMPORTANT SAFETY INSTRUCTIONS

PLEASE READ: This document is being provided to you as a helpful tool. It is not a substitution for electrical codes, safety codes or best engineering practices. It is your responsibility to ensure your safety, follow all safety rules (including those mandated by the Safety Officer in the facility you are visiting) and follow the instructions of the plant personnel that will accompany you on your visit. Please note that each skylight installation / roofing application are different and unique. Safety must always me your first priority. Never attempt to work around any electrical installations when not accompanied by electrical or maintenance personnel who are familiar with the plant and the electrical system. You always have the right to refuse to work on an installation area if it appears to be unsafe even if accompanied by plant personnel. However, any document and guidance is not a substitution for an escort by electrical or maintenance personnel or safety codes and practices in the facility you are visiting.

- TO REDUCE THE RISK OF DEATH, PERSONSAL OR PROPERTY DAMAGE FROM FIRE, ELECTRICAL SHOCK, FALLING PARTS, CUTS/ABRASIONS, AND OTHER HAZARDS PLEASE READ ALL WARNINGS AND INSTRUCTIONS
- TO AVOID THE RISK OF FIRE OR ELECTRICAL SHOCK, FIXTURE MUST BE INSTALLED IN COMPLIANCE WITH ALL APPLICABLE NATIONAL AND LOCAL ELECTRICAL / BUILDING CODES FOR CODE INTERPRETATION, CONSULT LOCAL CODE AUTHORITY
- BEFORE INSTALLING, SERVICING OR PERFORMING ROUTINE MAINTENANCE UPON THIS EQUIPMENT, FOLLOW THESE GENERAL PRECAUTIONS
- SERVICING OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED LICENSED ELECTRICAN AND MECHANICAL TECHNICIAN
- MAINTENANCE OF THE SKYLIGHTS SHOULD BE PERFORMED BY PERSON(S) FAMILIER WITH THE SKYLIGHT INSTALLATIONS, ROOFING INSTALLATION, CONSTRUCTION, OPERATION AND ANY HAZARDS INVOLVED
- MAKE SURE THAT ALL ELECTRICAL AND GROUNDED CONNECTIONS ARE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ANY APPLICABLE LOCAL CODE REQUIRMENTS
- WEAR ALL PPE EQUIPMENT AS REQUIRED AT ALL TIMES WHEN SERVICING OR PERFORMAING MAINTENANCE

Personal Protective Equipment (PPE) Requirements

- ✓ Hard Hat
- ✓ Ear Plugs
- ✓ Safety Glasses
- ✓ Safety Vest
- ✓ Steel Toe Safety Shoes
- ✓ Safety Gloves
- ✓ Safety Harness
- ✓ Shock Absorbing Lanyard
- ✓ Safety Tie Off
- ✓ Two Way Standing Seam Anchor
- ✓ Knee Pads

Additional Materials Required for PQM Kit

- ✓ Pocket Flashlight
- ✓ Pocket Mirror
- ✓ Binoculars
- ✓ Utility Knife
- ✓ Tape Measure
- ✓ Note Pad
- ✓ Permanent Marker
- ✓ Cordless Driver & Bits
- ✓ Cloth to clean & inspect lens

Skylight Inspection Site Procedures

This section will cover the procedures required for inspection and testing of a Skylight System

Pre – Inspection Procedures:

Step 1: Insure that you meet all of the PPE equipment requirements prior to entering the customer site / installation work area. Reference Page #4

Step 2: Make contact with the service manager or appropriate manager on duty once you have arrived at the site

Step 3: Confirm any special safety requirements / training needed to be completed prior to start of the inspections

Step 4: Have the Service manager open any secured hatch opening for servicing of the skylights

Step 5: Inspect the conditions of the roof installation to insure the area is safe to perform skylight inspections

Reporting / Documenting Procedures:

It is critical that any issues identified during the inspections, installation errors, defects and required testing is documented. When an issue is discovered, it first needs to be documented, which includes pictures and taking notes. Pictures should be as clear and focused on the defect identified. Take as many notes as possible including comments made by contractors, end customer that may support the claim

Step 1: During an inspection if a defect has been identified

A) First photograph the hand written unit number, this will act as a place holder to identify what unit had the defect during the review process

B) Complete visual inspection of skylight including the installation of the skylight for defects

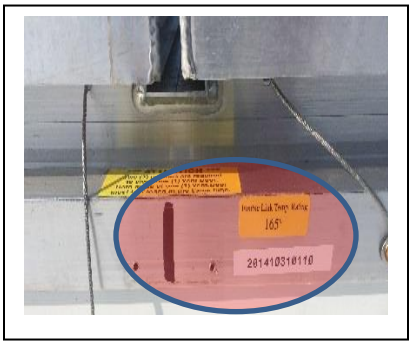
C) Clearly photograph the defect identified, this defect should be centered in the frame clearly identifying the defect in its entirety

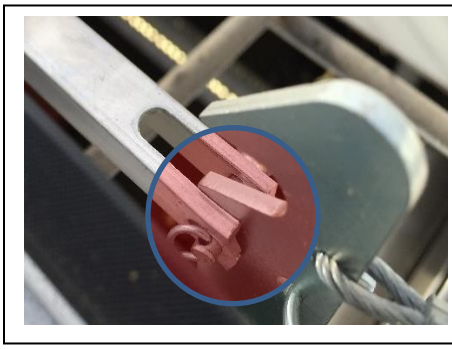
D) Take as many photos applicable regarding the defect

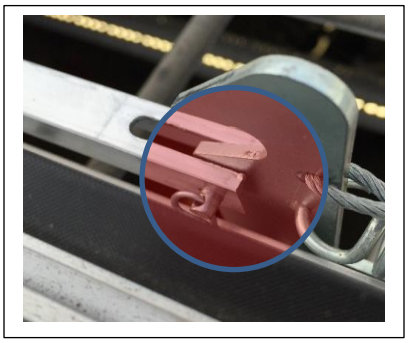
E) If the unit can be repaired, take photos of the repairs that have been completed

F) If replacements / materials are required, contact post sales team to address what is required to be ship as the replacement to support the defect

G) Complete a field service report after completion of the site visit, this should also include photos and a summary sheet of each system inspected







Standard Skylight Visual Inspection Procedures

Step 1: Identify each skylight to be inspected by placing a number on the end of the skylight using a permanent marker
Place the number next to the serial number/product ID label previously installed on the skylight

Step 2: Make a complete visual inspection of the skylight installation to insure that the skylight has been installed securely to the curb

- **A)** Insure that the skylight has been correctly and fully seated onto the curb assembly. Check to insure that it is level, and center on the curb so that no pressure has been applied to the skylight frame during the installation
- **B)** Insure that all mounting screws have been installed, also note if any screws have been over tighten and causing damage to the bead frame and lens. Also check to insure the correct screws have been used to install the units
- **C)** Inspect for cracks /crazing in the lens that could be related to shipping damage, installation or manufacturing defect
- **D)** Inspect for deep scratches (Catches your finger nail)
- **E)** Damaged or bent bead rails related to shipping damage or installation due to over tighten of the mounting screws
- **F)** Inspect the lens and bead rail for defects, including condensation or moisture, water between the lenses, note any signs water was present including: (algae, mold and stains)
- **G)** Insure that the lens has not been cut too short to fit the bead rail
- **H)** Bead not fully secured causing a gap between bead and lens

Note: if no visual issues have been identified with steps #2 (A-H) then proceed with step #3
Refer to Page #8 for Photo Reference

In some cases, you made need to remove one of the skylights to determine where the water is entering the facility. Insure that you have the required PPE equipment in place before proceeding with the following steps
If there are no burglar bars installed, you must make sure that no one is working directly under the skylight that you will be serving. Also extreme caution must be used as to not drop any materials down through the skylight area during serving after the skylight has been removed. Make sure that all safety procedures and PPE equipment are followed

Step 3: Remove all mounting screws used to secure the skylight to the curb assembly

Step 4: Clear all equipment/ tools away from the area of the skylight being removed

Step 5: Carefully lift off the skylight by lifting straight up until the skylight is clear from the curb assembly

- **A)** Remove slowly as not to damage the curb seal between skylight and curb
- **B)** Carefully place the skylight over to the side of the curb assembly

Step 6: Complete a visual inspection of the internal lens of the skylight for damage to the lens or bead rail

Step 7: Inspect the seal/gasket that was applied to the curb to insure it has been installed correctly

- **A)** No over lapping of gasket materials that would create a void
- **C)** No tears in the gasket material
- **D)** No gas between section of the gasket materials
- **E)** Check to see if a good seal has been completed around the curb area

Step 8: Re-install the skylight if no issues have been identified or repairs required

Note: Take a picture of the skylight number that you have placed on the skylight, then take pictures off any defects that you may have identified during the inspection. Log the inspection and any notes related to the defects identified to support your findings

Smoke Vent Visual Inspection Procedures

This section will cover the procedures required for inspection and testing of the Smoke Vent Systems

Step 1: Have the Service manager open any secured hatch opening for servicing the Smoke Vent Systems

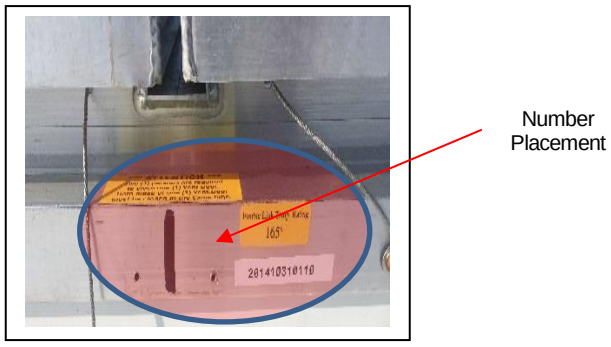
Step 2: Inspect for visual placement of the "Roof Hatch Sign" at the entrance of the roof opening
Note: Report any missing signs to the Manager on Duty prior to leaving the site visit

Step 3: Locate the closing bar needed to test the smoke vent systems
Note: Report to the Manager on Duty that the closing bar cannot be located before leaving the site visit

Step 4: Inspect the conditions of the roof installation to insure the area is safe to perform smoke vent inspections

Visual Inspection Procedures:

Step 1: Identify each smoke vent to be inspected by writing a number on the end of the skylight using a permanent marker. Place the number next to the serial number/product ID label previously installed on the smoke vent



Step 2: Make a complete visual inspection of the smoke vent installation to insure that the smoke vent has been installed securely to the curb assembly

I) Insure that the smoke vent has been correctly and fully seated onto the curb assembly. Check to insure that it is level, and center on the curb so that no pressure has been applied to the skylight frame during the installation

J) Insure that all mounting screws have been installed, also note if any screws have been over tighten and causing damage to the bead frame and lens. Also check to insure the correct screws have been used to install the units

K) Inspect for cracks /crazing in the lens that could be related to shipping damage, installation or manufacturing defects

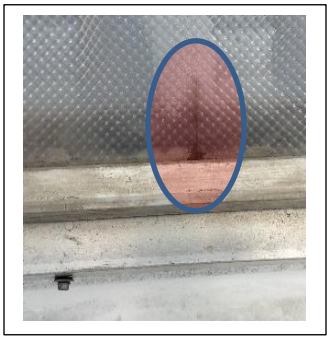
L) Inspect for deep scratches (Catches your finger nail)

M) Damaged or bent bead rails related to shipping damage, installation or due to over tighten of the mounting screws

N) Inspect the lens and bead rail for defects, including condensation or moisture, water between the lenses, note any signs water was present including: (algae, mold and stains)

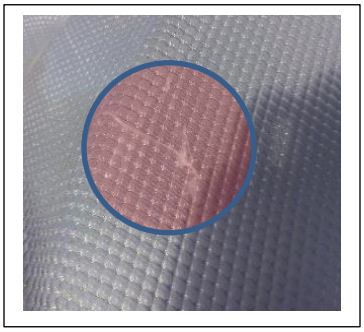
O) Insure that the lens has not been cut too short to fit the bead rail

P) Bead not fully secured causing a gap between bead and lens

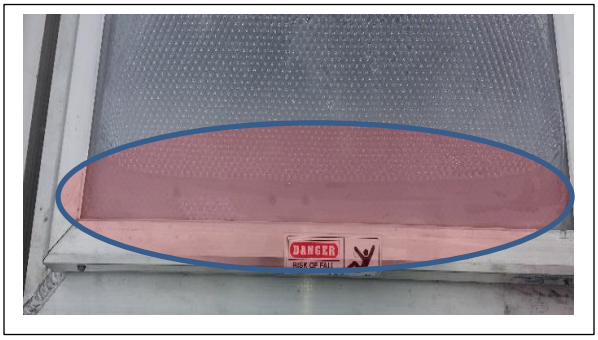


Crack / Crazing

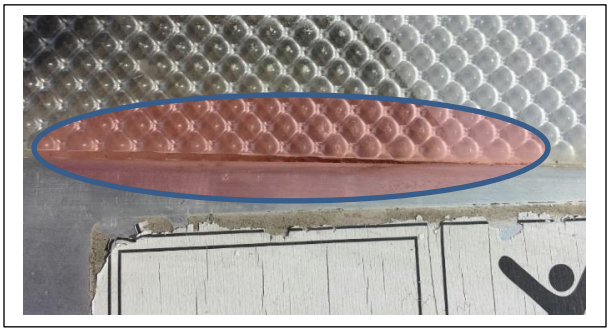
Crack / Crazing



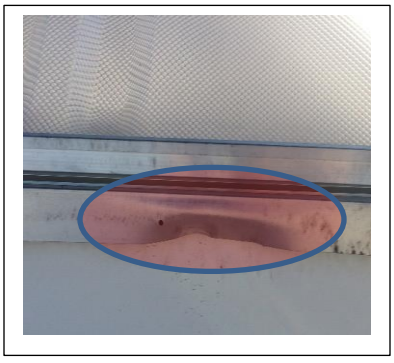
Deep Scratches
(Catches Finger Nail



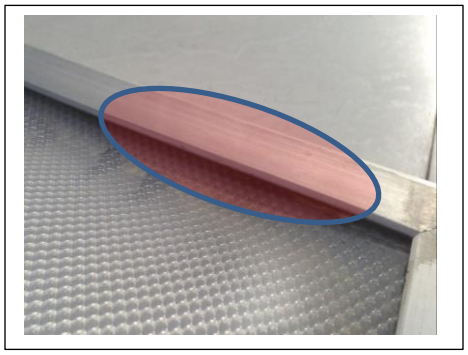
Water Between lens



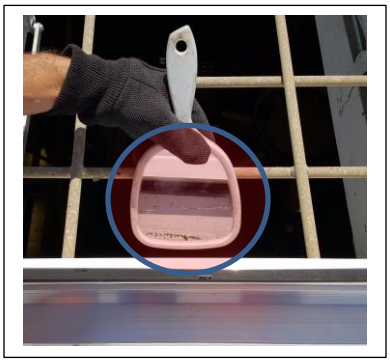
Lens cut to short, Lens Visible Outside of Bead Rail



Damaged Frames



Bead Not Fully Secured, Gap Between Bead and Lens

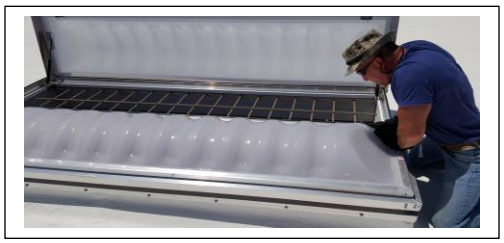


Smoke Vent Testing / Mechanical Inspection Procedures

Step 1: Start by pulling in a downward motion on the release cable to open the "**left side door only"** of the smoke vent

Note: Make sure that all personnel are standing clear with this step is completed

Note: If there are no burglar bars installed, you must make sure that no one is working directly under the skylight that you will be serving. Also extreme caution must be used as to not drop any materials down through the skylight area after the skylight has been removed.



Step 2: Inspect all hardware including damper, pins, and hairpins

Step 3: Complete a visual inspection of the inter lens for cracks or damage

Step 4: Inspect the trigger assembly for function

Step5: Complete visual inspection to insure the correct fusible link has been installed and match the label placed on the outside of the unit

Step 6: Inspect the condition of the connecting rod assembly for damage or breakage

Step 7: Inspect the location of the clevis pin on both ends of the closed right door assembly

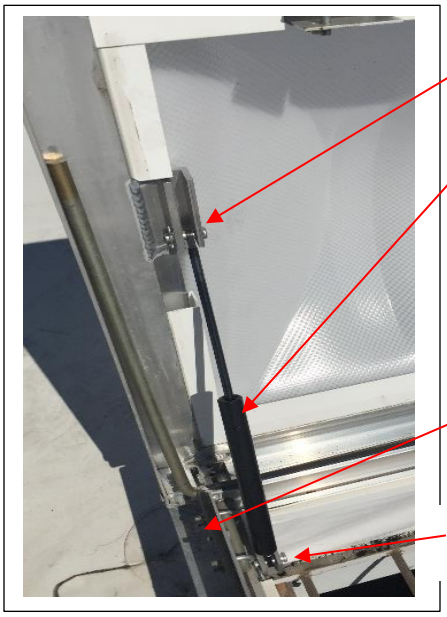
Step 8: While using a mirror inspect for a good seal between curb assembly and smoke vent

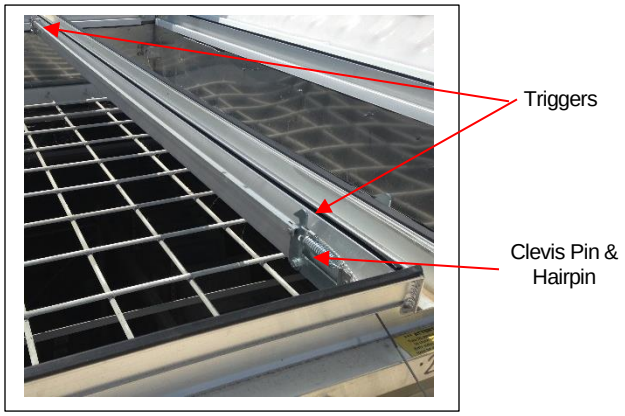
Step 9: Need to reset the left hatch door using two operators to secure correctly

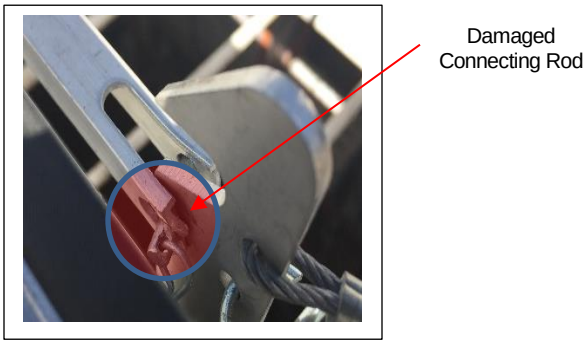
Note: this requires to operators one on each end push simultaneously downward motion until the door has re-latched to the fame assembly. Not doing this can cause damage / breakage to the connecting rod assembly

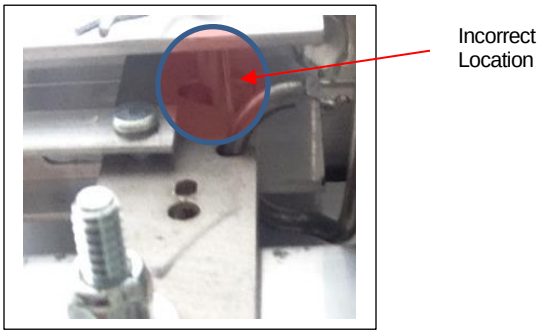
Note: 30 lb. rated smoke vents require additional force to close correctly while using the closing bar

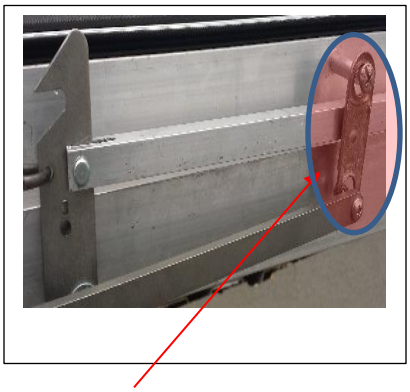
Step 10: Complete the same procedures in steps #1 through #9 for the right-side door of the smoke vent system

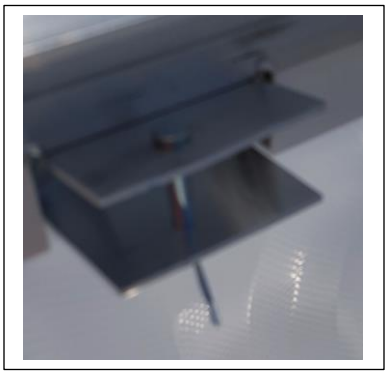

Damper Clevis Pin & Hairpin
Damper
Vent Dorr Bolt & Lock Nut
Hinge Plate Bolts and Nuts
Damper Clevis Pin & Hairpin


Triggers
Clevis Pin & Hairpin


Damaged Connecting Rod

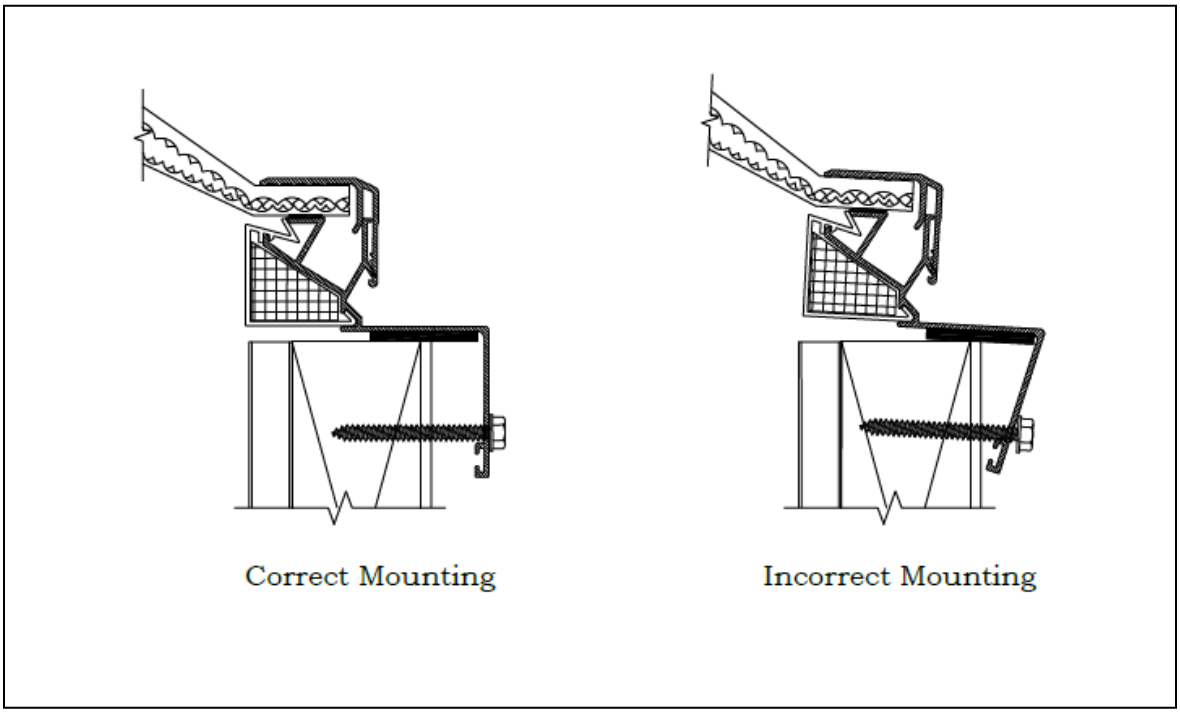

Incorrect Location


Fusible Link (Link Should Match Temperature Label on Outside of Unit



Appendix "A"

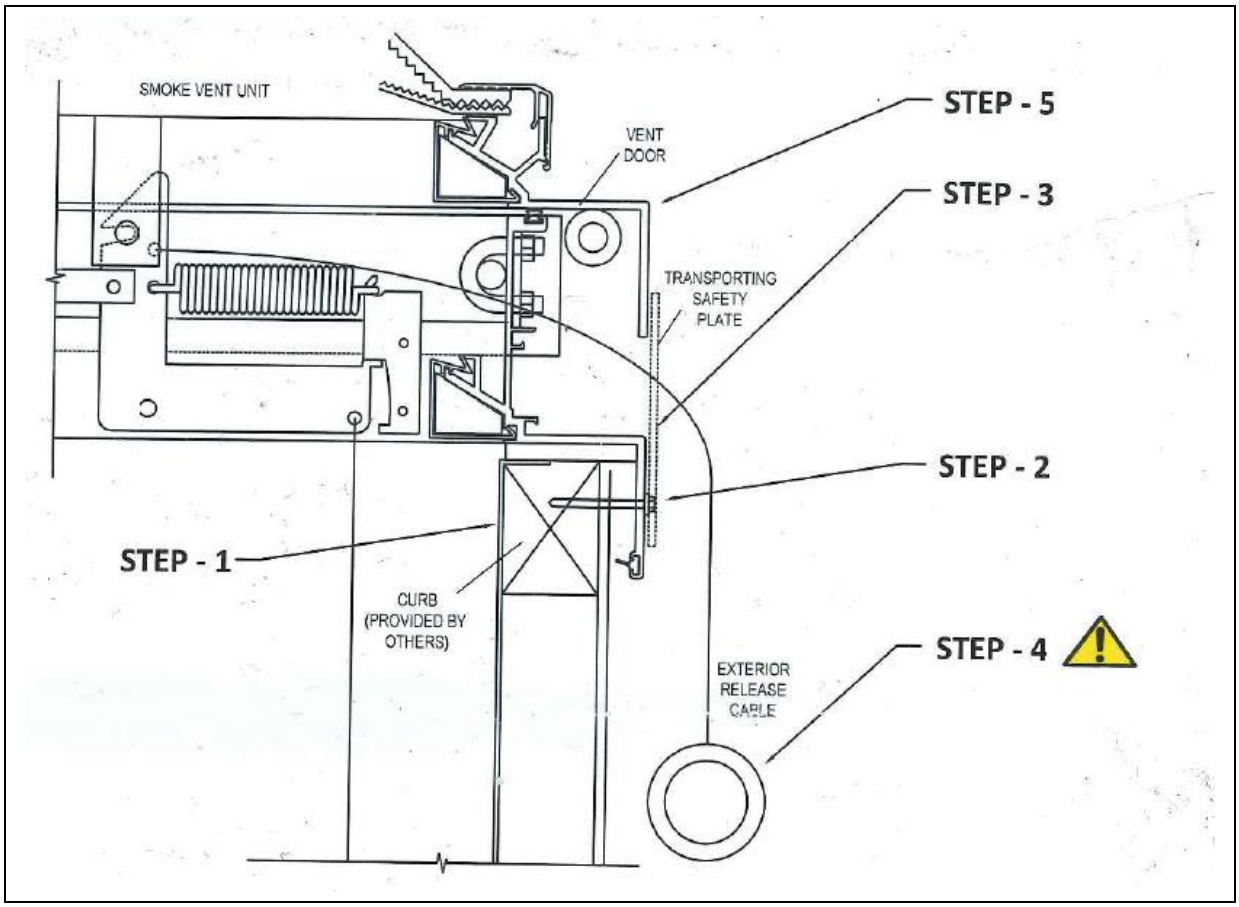
Correct mounting of the skylight to the curb assembly



Note: Insure the correct mounting screws have been used and check to see that the drive screws are just snug to the flange, making sure not to distort the skylight frame

Appendix "B"

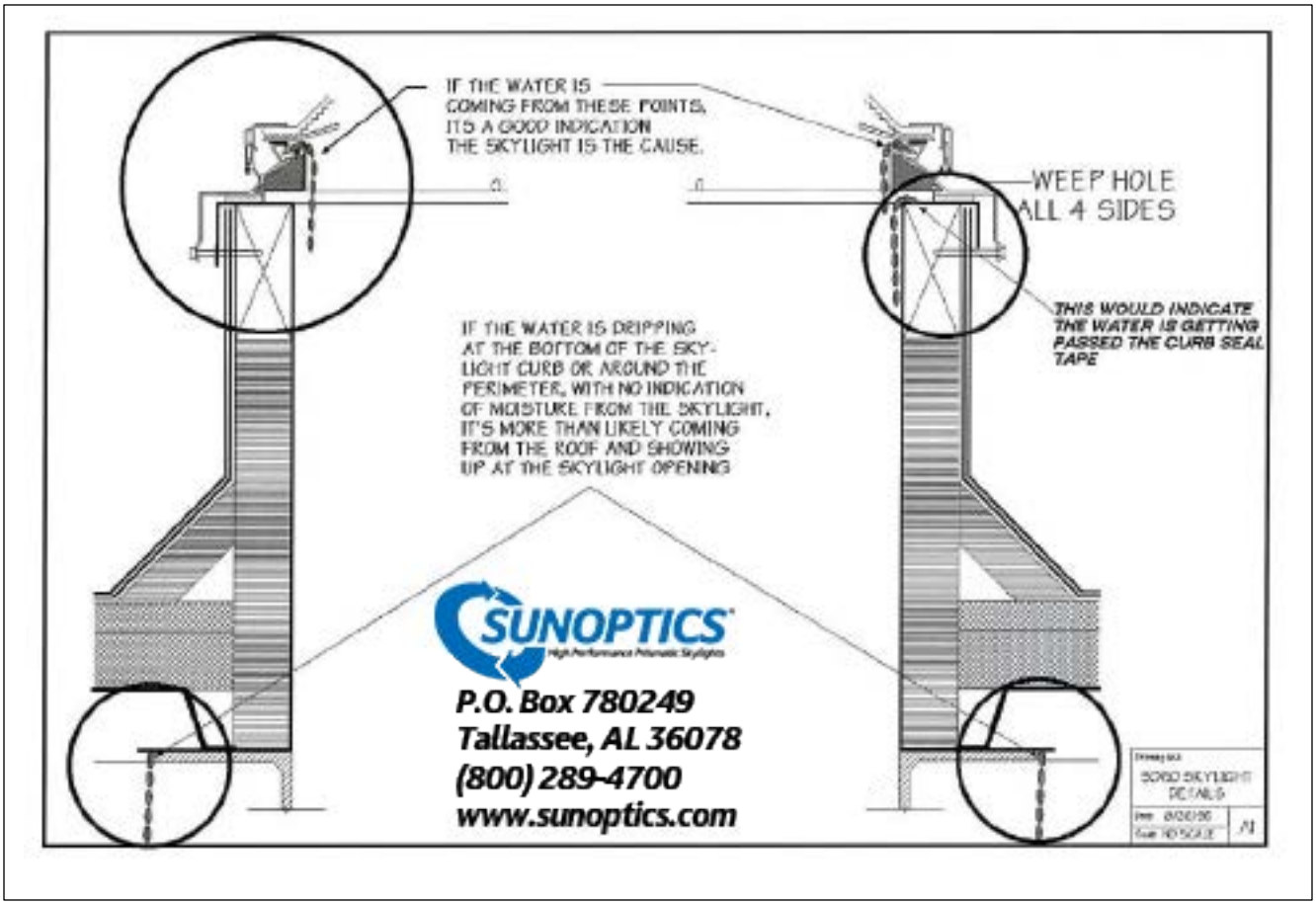
SVT Industrial Smoke Vent



Note: Pull the exterior replace cable to test each venting door section for proper operation.
Warning: All personal need to stand clear of the vent door sections when testing the units

Appendix "C"

Water ingress issues



Note: To locate the root cause of a leak, very close observation is required

Appendix "D"

Water Ingress

Note: Previous inspections has identified a root cause to water ingress between the curb and skylight. Photos reflect what to look for as a point of entry between the skylight and curb assembly. The phots show that the TPO membrane was not cut properly and does not allow for a good seal with the curb seal tape

Note: The photo reflects that the having a break in the curb seal tape will also be a root cause failure for water ingress

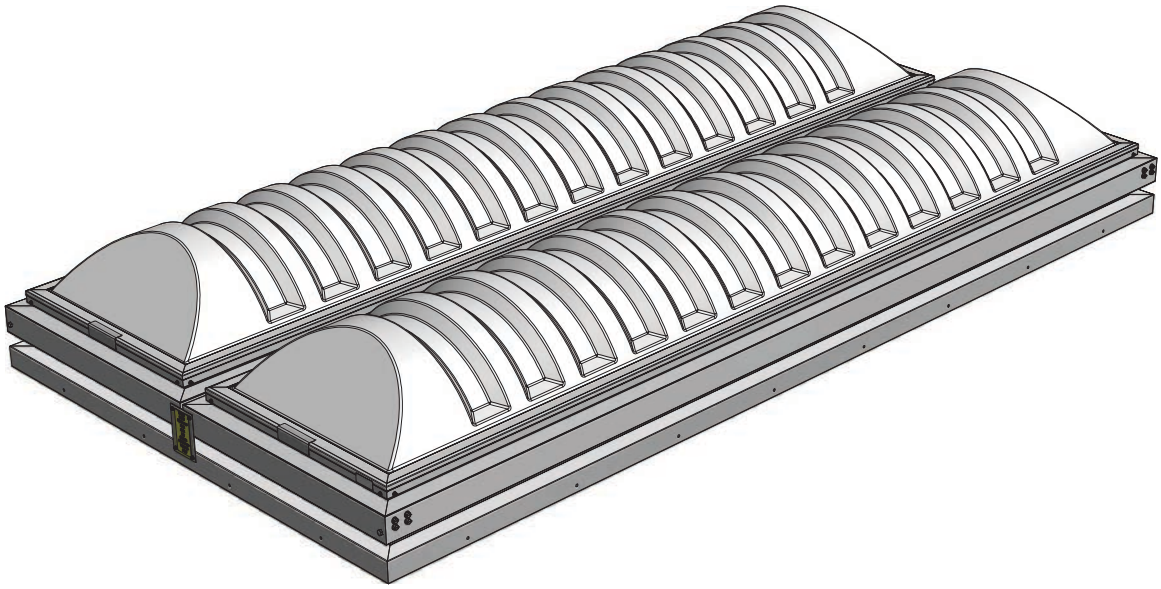
Appendix “E”

Water Ingress

Note: The photos reflect failures types in the curb installation that can contribute to be a root cause failure for water ingress

SUNOPTICS® SVT2 Industrial Smoke Vent

INSTALLATION GUIDE



Sunoptics® Prismatic Skylights and Smoke Vents • 106 Industrial Pakway • Tallassee, AL 36078 • www.sunoptics.com • T: 800.289.4700

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS!
SAVE THESE INSTRUCTIONS AND DELIVER TO OWNER AFTER INSTALLATION

- To reduce the risk of death, personal injury or property damage from fire, electric shock, falling parts, cuts/abrasions, and other hazards please read all warnings and instructions included with and on the smoke vent assembly equipment.
- Before installing, servicing, or performing routine maintenance upon this equipment, follow these general precautions.
- Installation and service of the smoke vent assembly should be performed by a **qualified person**.
- Maintenance of the smoke vent assembly should be performed by person(s) familiar with the smoke vent assembly's construction and operation and any hazards involved. Regular smoke vent assembly maintenance programs are recommended.
- It will occasionally be necessary to clean the outside of the smoke vent assembly. Frequency of cleaning will depend on ambient dirt level and minimum light output which is acceptable to user. The smoke vent lens should be washed in a solution of warm water and any mild, non-abrasive household detergent, rinsed with clean water and wiped dry. Should the smoke vent lens become dirty on the inside, wipe the smoke vent lens and clean it in the above manner.
- **DO NOT INSTALL DAMAGED PRODUCT!** This smoke vent assembly has been properly packed so that no parts should have been damaged during transit. Inspect to confirm. Any part damaged or broken during or after assembly should be replaced.
- These instructions do not purport to cover all details or variations in equipment nor to provide every possible contingency to meet in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's or owner's purposes, this matter should be referred to AES Sunoptics, Inc.

CAUTION
RISK OF INJURY

✓ Wear gloves and safety glasses at all times when installing, servicing or performing maintenance to the smoke vent assembly.

Please see product specific installation instructions for additional warnings or other regulatory statements.

WARNING - Read the entire installation manual, along with the following warnings, prior to proceeding with the installation of the unit.

This installation manual provides minimum installation information for the SVT2 unit. This manual also provides minimum design information and a brief description for the SVT2 unit. All details, drawings and images shown in this manual are not to scale. The design, specifications and exceptions are subject to changes without notice. Each revised version of this installation manual supersedes all previous versions. Please contact your local AES Sunoptics, Inc. representative with regards to updates to the product, design, specifications and/or installation instructions.

Please contact an AES Sunoptics, Inc. representative with regards to the use of materials or methods, which are not specified in this manual, or authorized by AES Sunoptics, Inc.

AES Sunoptics, Inc. (seller) assumes no responsibility or obligation whatsoever for the failure of an installer, contractor, architect or building owner to comply with all applicable laws, ordinances, building codes, electrical codes, energy codes, fire and safety codes and requirements, roof warranties and adequate safety precautions.

The installation of the SVT2 should be done by at least 2 people. The second person should be close enough to come to your aid, if necessary.

INSTALLATION TO BE DONE AT YOUR OWN RISK!

GENERAL SAFETY

AES Sunoptics, Inc. product installations may be dangerous and include the potential for death, personal injury and property damage. Some of the hazardous conditions include, but are not limited to, the following:

- Installation will require working at dangerous heights. When working on ladders, scaffolding, on roofs and in attic spaces, use extreme caution to minimize risks, property damage, personal injury, or death. Use the following procedures, as well as other measures, as examples to reducing risk.
  - Clearing the area(s) below the working space or objects, animals and people.
  - Use proper footwear. Using footwear with excellent traction is recommended.
  - Avoid working on slippery, or wet, surfaces.
  - Supports such as ladders and scaffolding should be well supported and strong.
  - Install the product during calm and dry weather.
  - When working in attic spaces, use the following precautions:
    - Most attic spaces are dark, so use portable lighting such as flashlights to properly light the working area.
    - Always support your weight on structurally sound framing. Do not step on the drywall material because drywall is not designed to carry a person's weight.
  - It is recommended to use respirators, or masks, to avoid lung irritation.
  - Use basic safety procedures when working with electric tools. Use suitable eye protection, such as safety goggles, and clear the work area of electrical wires, gas pipes, water pipes and other obstacles to reduce the risk of fire, electric shock and personal injury.
  - The SVT2 is not designed to support the weight of a person, tools or other materials. If the product is damaged, do not continue with the installation and immediately contact your AES Sunoptics, Inc. representative for instructions and a replacement.

ROOFING

- If the SVT2 unit must be removed from the roof, due to re-roofing, please contact your AES Sunoptics, Inc. Representative for information on disassembly and care of the unit

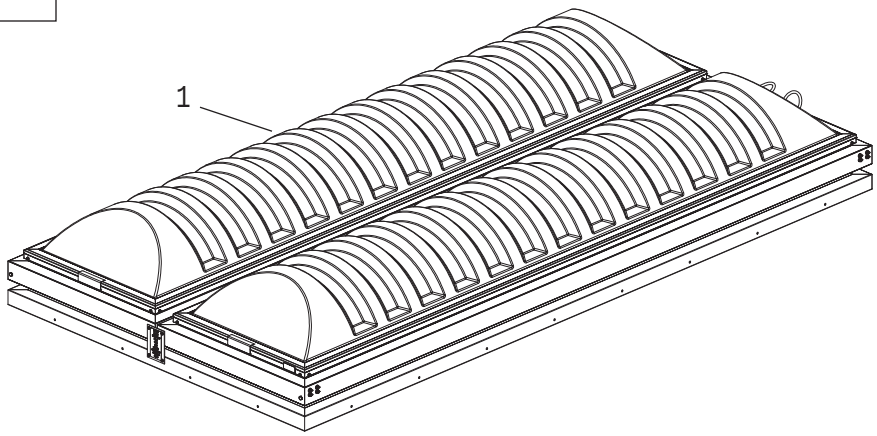
RECOMMENDED TOOLS and MATERIALS:

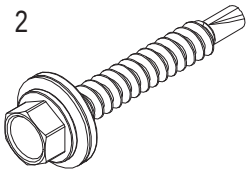
Screw Gun with 5/16” Driver	Screw Gun with Flat Head
Tape Measure	Lumber Crayon
Hammer	Required Safety Equipment

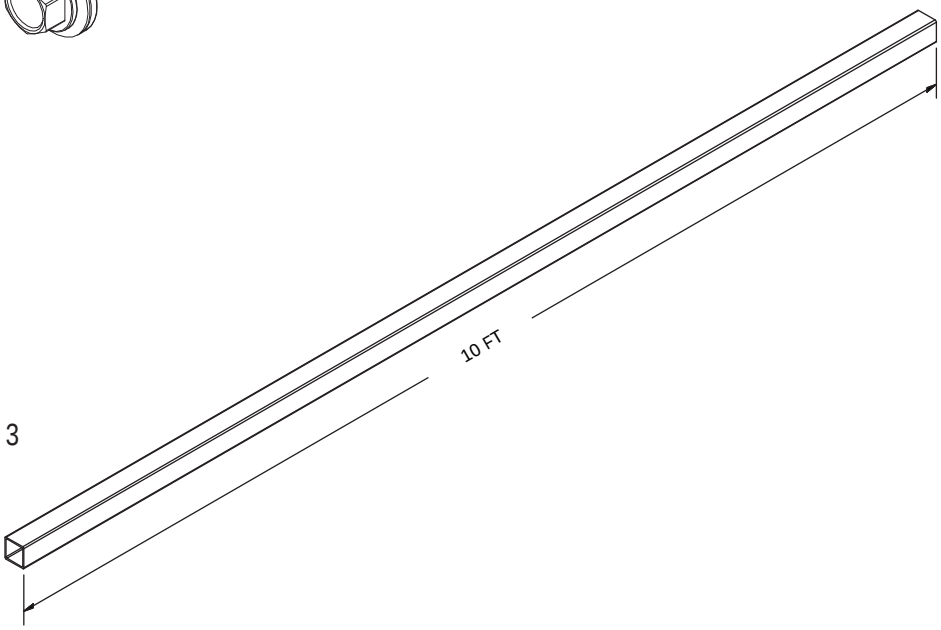
PARTS LIST

ITEM	DESCRIPTION	QTY
1	870B SMOKE VENT ASSEMBLY [1]	1
2	#12 HEX HEAD DRILL TIP SCREWS [3]	X [3]
OPTIONAL ITEMS		
3	CLOSURE BAR [4]	1

NOTES:
X - Quantity Required is based on application and Customer Order.
1) CAUTION: Handle Skylight Material with Care.
2) Components shown not included in all kits. See label on box.
3) Amount of screws is based on size selected.
4) A Closure Bar is recommended when closing 25LB & 30LB Rated Units
** Verify all materials are on site, and available for installation.

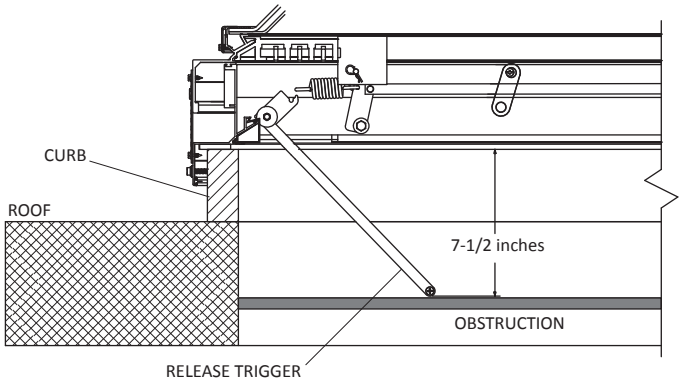




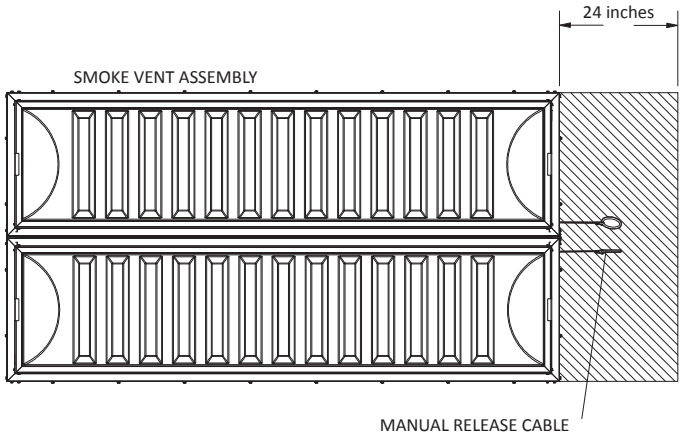


SYSTEM INSTALLATION TIPS

- When using a Smoke Vent Assembly, be sure there is approximately 7-1/2 inches of clearance between the top of the Curb and the first obstruction, i.e. Security Bars, specifically for the Fusible Link Release Trigger.
  Limiting the movement of the Release Trigger may cause the vent doors to not open, as required.



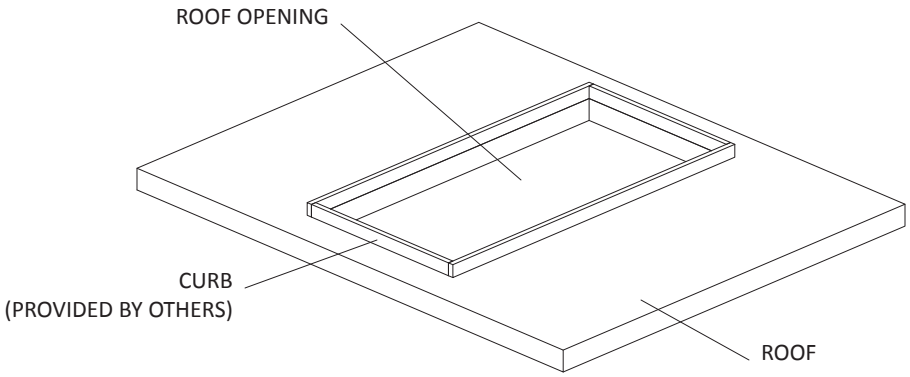
- Be sure to have at least 24” of clearance behind the Manual Release side. Leave enough room for a person to easily access, and operate, the Manual Release Cable.



INSTALLATION INSTRUCTIONS

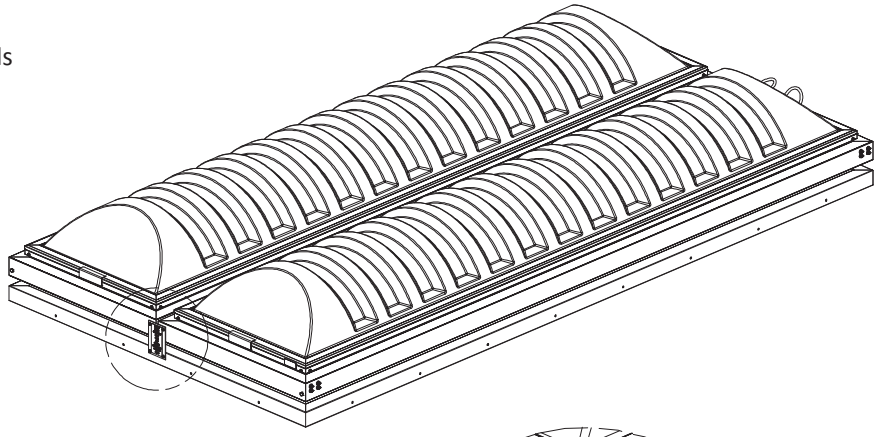
ROOF PREPARATION

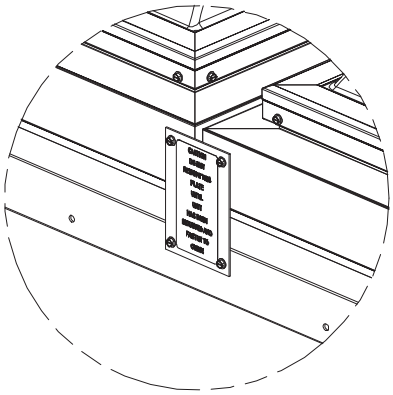
1. Prior to installation, prepare the roof and create an opening which will utilize the provided Smoke Vent Assembly.
2. Install the proper size Curb (not provided) onto the roof.



UNIT PREPARATION

1. Inspect the unit for any damage.
2. Be sure that the Shipping Plate on both ends of the unit are still installed. The plates ensure that the Vent Doors are closed during installation.



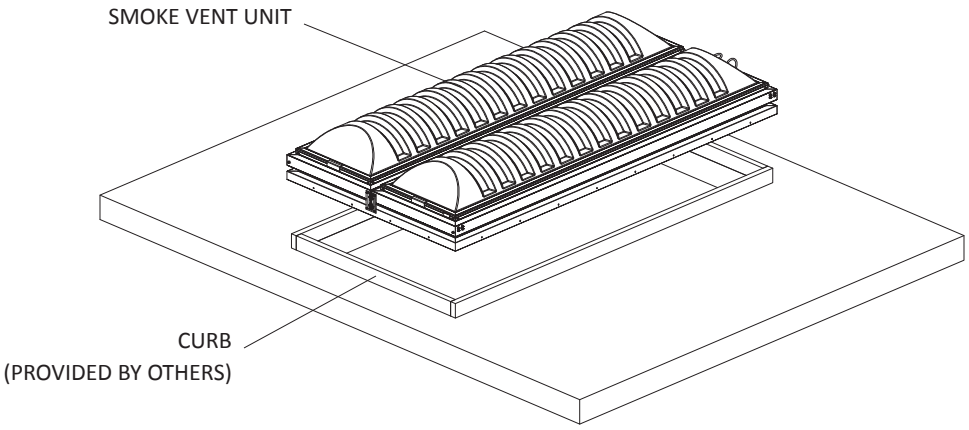


INSTALLATION INSTRUCTIONS

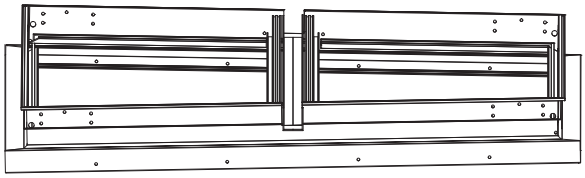
INSTALLATION OF THE SMOKE VENT UNIT

1. Carefully set the Smoke Vent Assembly over the prepared Curb. Make sure the Smoke Vent Unit is square and flat.

2. Move the Smoke Vent Unit on the curb such that there is an equal amount of clearance between the ID frame and the Curb, front-to-back, and side-to-side.

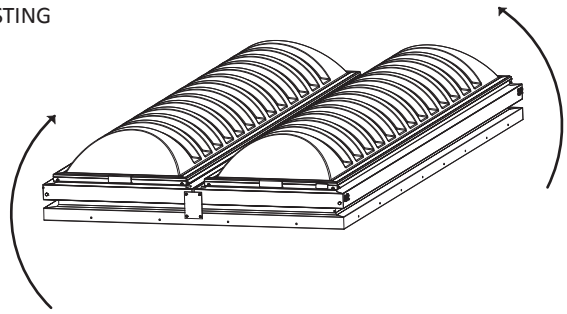


NOTE: While moving the Smoke Vent Assembly, be sure to support each corner of the assembly, and ensure that the assembly does not twist. (See image). Twisting of the unit may cause the internal components of the unit to misalign, and therefore not function properly.



*CURB FRAME ONLY SHOWN FOR CLARITY

EXAMPLES OF TWISTING



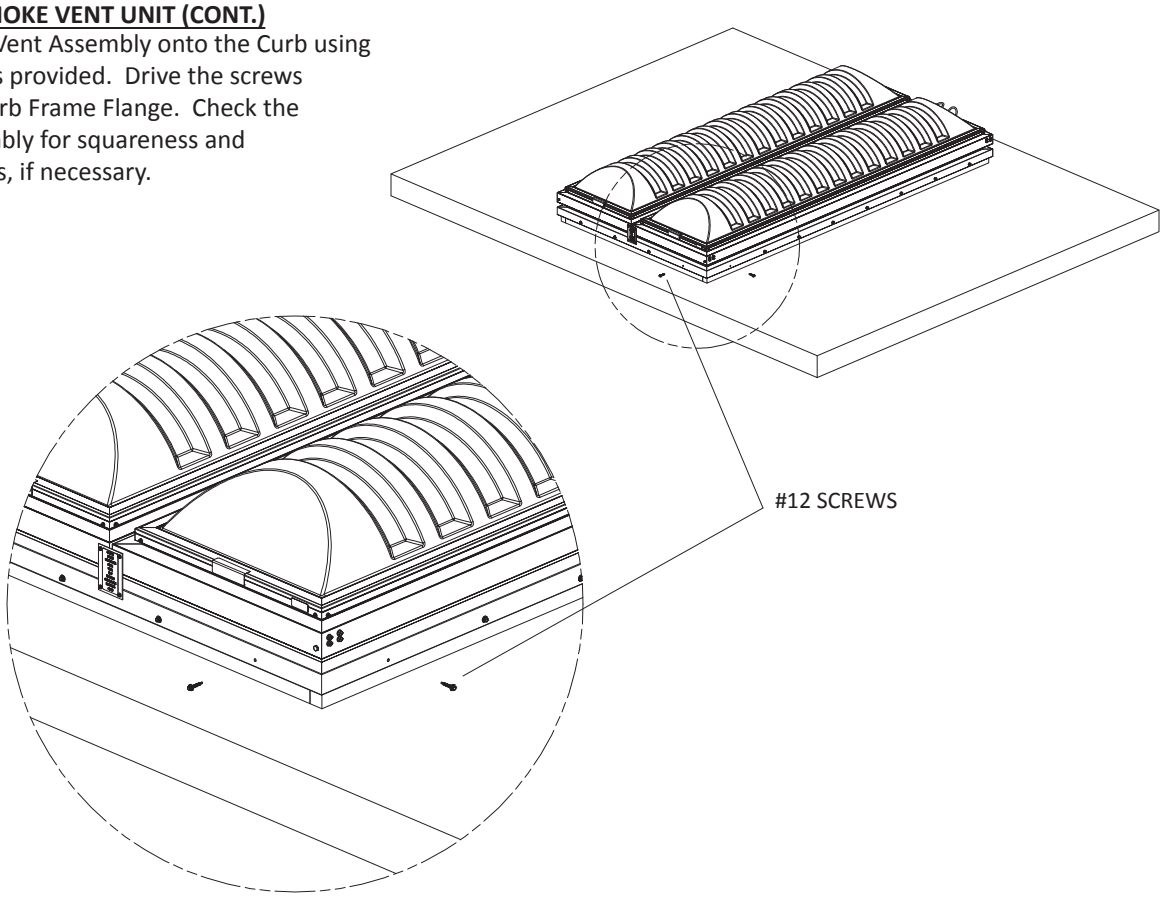
NOTE: When installing the Smoke Vent Assembly onto the curb, be sure that each corner of the assembly is secure and that the frame is square and flat. Ensure that the frame is square. (See image). Misalignment of the unit may cause the internal components of the unit to misalign, and therefore not function properly.

INCORRECT INSTALLATION. FRAME NOT SQUARE

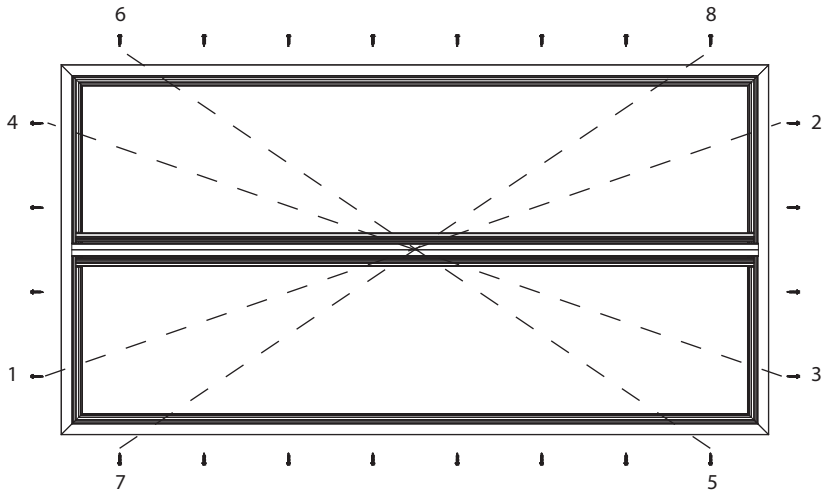
INSTALLATION INSTRUCTIONS

INSTALLATION OF THE SMOKE VENT UNIT (CONT.)

3. Secure the Smoke Vent Assembly onto the Curb using the Drill Tip Screws provided. Drive the screws just snug to the Curb Frame Flange. Check the Smoke Vent Assembly for squareness and readjust the screws, if necessary.



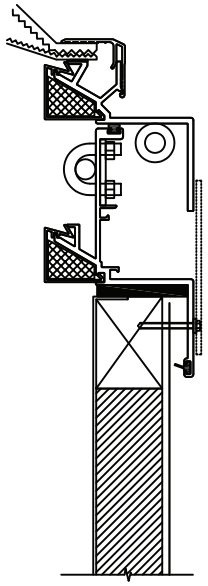
NOTE: Install the screws for the corners of the Curb Frame, in a star pattern as shown. Ensure equal spacing all around, between the Curb and the Curb Frame, and that the unit is square. After installing the corner screws, continue installing the remaining screws for the Curb Frame.



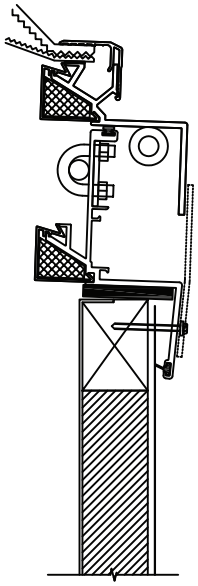
INSTALLATION INSTRUCTIONS

INSTALLATION OF THE SMOKE VENT UNIT (CONT.)

NOTE: When securing the Smoke Vent Assembly onto the Curb, drive the screws just snug to the Curb Frame flange. (SEE BELOW) Overtightening the screws may distort the Flange and in turn create forces which may cause the internal components of the unit to misalign, and therefore not function properly.

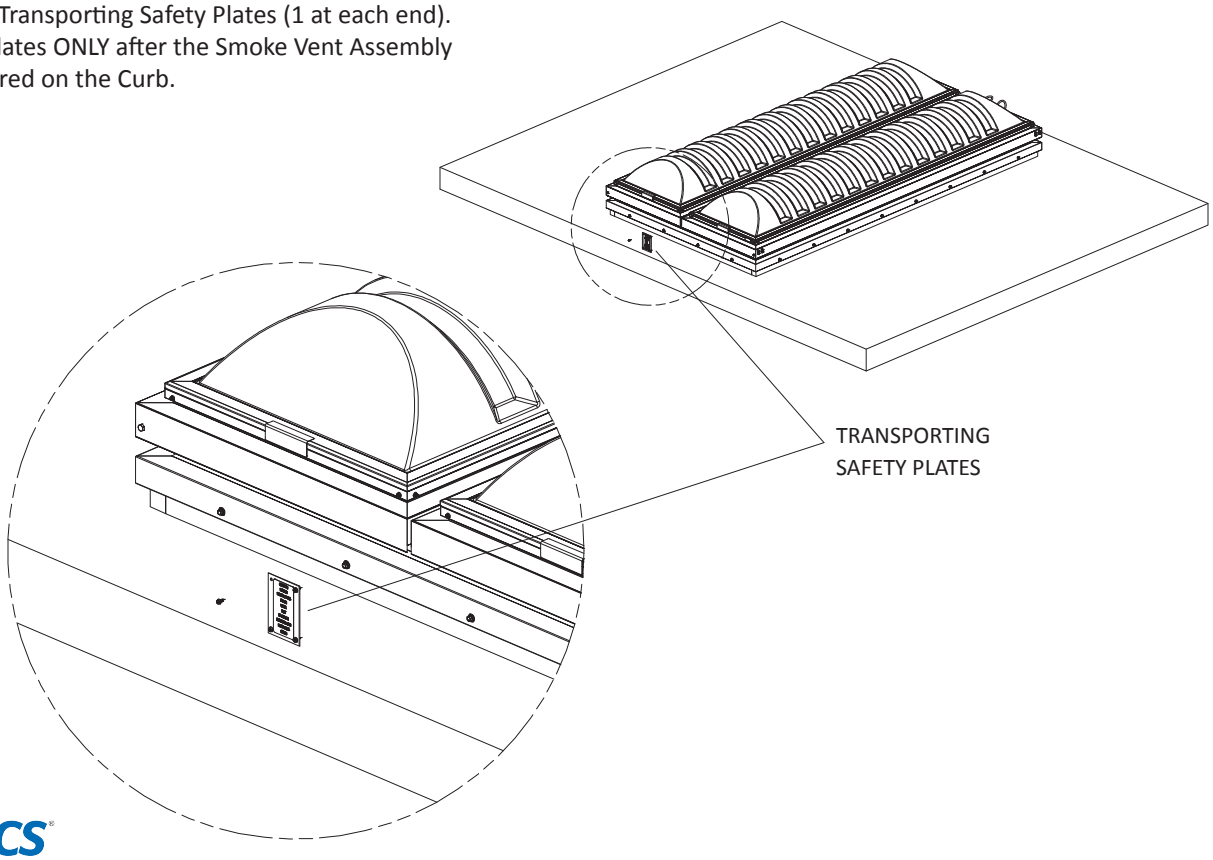


CORRECT MOUNTING



INCORRECT MOUNTING

4. Remove the 2 Transporting Safety Plates (1 at each end). Remove the plates ONLY after the Smoke Vent Assembly has been secured on the Curb.

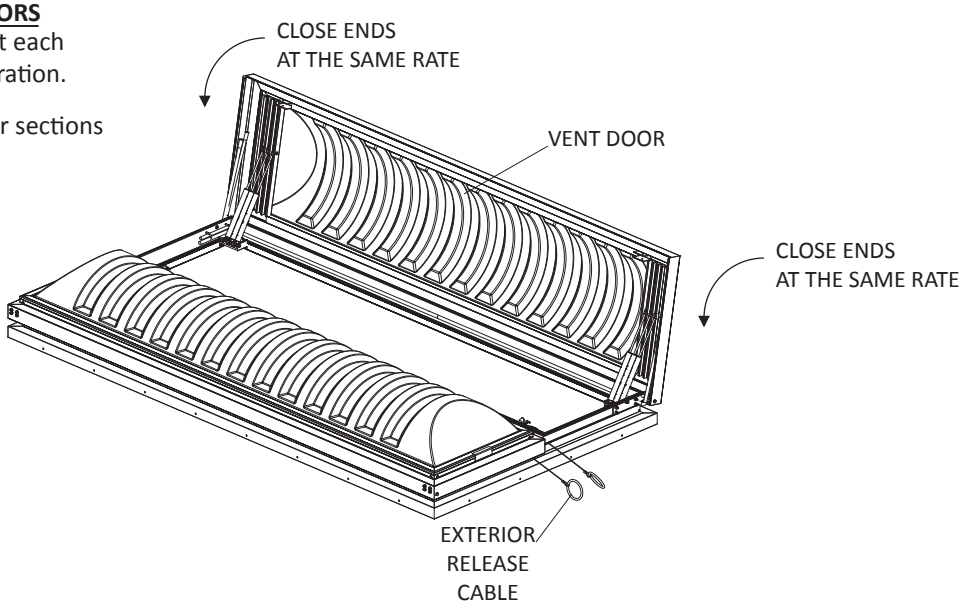


INSTALLATION INSTRUCTIONS

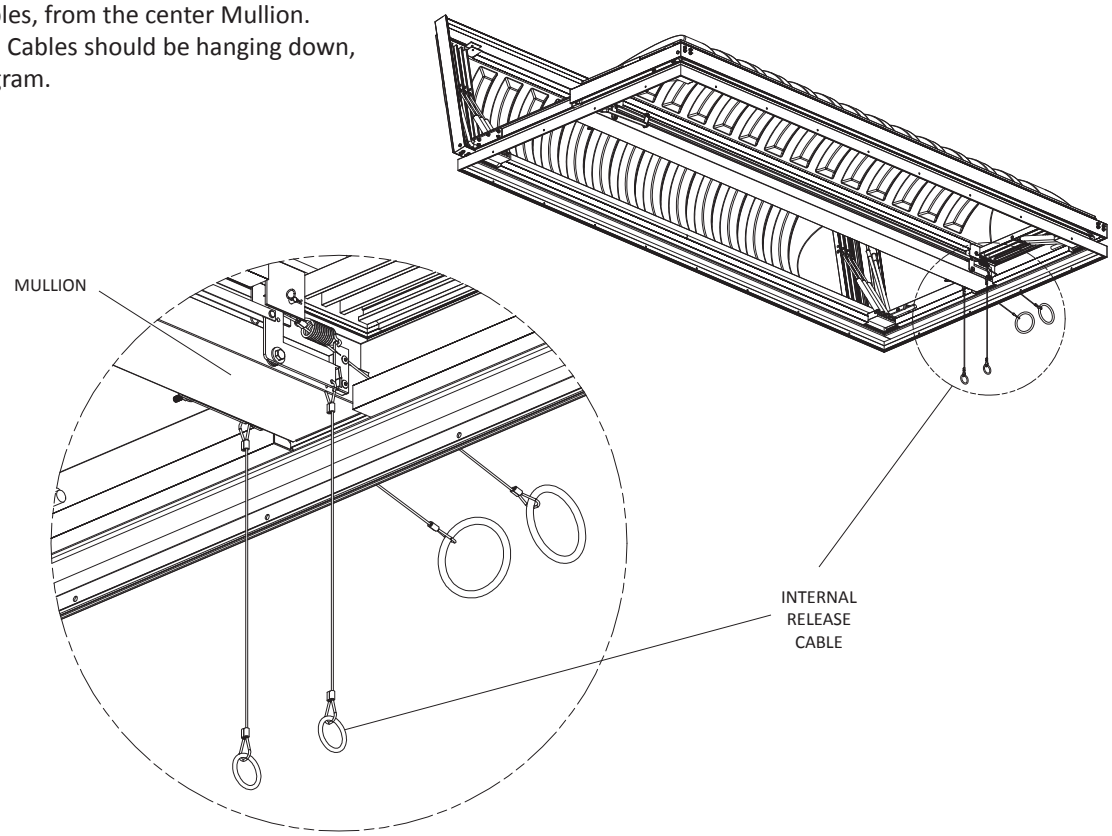
TESTING THE SMOKE VENT UNIT, VENT DOORS

1. Pull the Exterior Release Cable to test each Venting Door section for proper operation.

WARNING: Stand clear of the Vent Door sections when testing the unit.



2. While the Vent Doors are open, unwind the Internal Release Cables, from the center Mullion. The Internal Release Cables should be hanging down, as shown in the diagram.



3. After testing the Vent Doors, return each Vent Door section to the closed position.
NOTE: It will require 2 persons to close the Vent Doors, with 1 person on each end of the door. When closing the Vent Doors, make sure each end of the door is moving to the closed position at the same even rate.

SMOKE VENT MAINTENANCE SHEET

SUNOPTICS SMOKE VENTS generally require very little maintenance to properly perform for many years. However, as with all products, a scheduled preventative maintenance program should be followed.

CLEANING ACRYLIC LENSES

1. When cleaning lenses, use only water or water with a mild soap. Use a soft rag to minimize scratching.

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

INSTALLATION NOTES

STATEMENT OF LIMITED WARRANTY
FOR SUNOPTICS, INC
06/01/2023

Subject to the exclusions set forth below, Sunoptics, Inc warrants its products ("Product(s)") as set forth in the applicable table below, from the date of shipment from Sunoptics, Inc.'s facilities.

PRODUCT	LIMITED WARRANTY OFFERING	TERM
Polycarbonate Prismatic Skylight Models: SMD, SSC	Leak Free* *No water leak to occur in properly installed Product(s)	15 Years from date of shipment
Polycarbonate Prismatic Skylight Models: SMD	Hail Damage Class 4 Resistant* *No cracking or breaking to occur due to hail up to 2" in diameter (the occurrence of hail within such limits at the original installed location must be verifiable through National Weather Service records)	15 Years from date of shipment
Polycarbonate Prismatic Smoke Vent Models: SVT2	Leak Free* *No water leak to occur in a properly installed Product(s). Free from malfunctioning mechanism that could cause a false opening.	10 Years from date of shipment
Polycarbonate Prismatic Smoke Vent Models: SVT2	Hail Damage Class 4 Resistant* *No cracking or breaking to occur due to hail up to 2" in diameter (the occurrence of hail within such limits at the original installed location must be verifiable through National Weather Service records)	10 Years from date of shipment
Polycarbonate Prismatic Skylights and Smoke Vents: All Models	The warranty against excessive yellowing applies only to clear prismatic polycarbonate products. The Yellowness Index (YI) increase of the Product shall be determined according to ASTM D 1925. The warranty applies when product exhibits a YI increase (from initial manufactured value) of more than 5 during a five-year period from the date of sale, or of more than 10 during a ten-year period from the date of sale as measured in each case with a certified colorimeter in accordance with ASTM D 1925 standards.	5 Years from date of shipment (YI≤5.0) 10 Years from date of shipment (YI≤10.0)
All products listed above, Steel Curbs, and Multi-Light Skylights	Free from defect in material and workmanship	5 Years from date of shipment
All other Products not listed above	Free from defect in material and workmanship	90 Days from date of shipment

Finish of materials are not warranted against fading or chalking, as Product(s) may naturally fade or chalk over time due to normal aging. Minor imperfections and/or variances within plastic material incorporated into the Product(s) that do not affect the performance of the Product(s) are not warranted hereunder. Condensation associated with the Product(s) (and any related water damage), which may occur as a natural result of high humidity or a variation between indoor and outdoor temperatures, is not a defect and is not covered under this Limited Warranty. This Limited Warranty only covers Product function and does not cover existing building systems and/or performance of any Product(s) or field adjustments of any Product(s) done by anyone that has not been authorized or certified in writing by Sunoptics, Inc.

Except as otherwise set forth herein, Sunoptics, Inc. does not warrant third party components, third party installation/maintenance/repair services, or other professional services. Applicable third-party manufacturers or third-party service providers shall be solely responsible for the cost related to any claims associated with any such third-party device or third-party services. Assistance with warranty claims for any such third-party component(s), and/or copies of each applicable manufacturer's warranty, may be obtained from an authorized Sunoptics, Inc. representative, if available. This Limited Warranty only applies to the Product(s) when sold for commercial / industrial purposes.

This Limited Warranty applies only when the Product(s) are installed in applications in which ambient temperatures are within the range of specified operating temperatures between -20^0C to 140^0C. Sunoptics, Inc. will not be responsible under this Limited Warranty for any failure of the Product(s) that results from external causes such as: acts of nature, including but not limited to excessive or harmonic winds, ice, or other related storm activity; physical damage; exposure to adverse or hazardous chemical or other substances; use of reactive cleaning agents and/or harsh chemicals to clean the Product(s); external site conditions, including but not limited to: accumulation of debris (natural or otherwise), heavy tree cover, environmental conditions, including but not limited to: exposure to harsh, corrosive, marine or high-humidity conditions; vandalism; terroristic acts; fire; induced vibration; harmonic oscillation, or resonance associated with movement of air currents around Product(s); animal or insect activity; fault or negligence of purchaser, any end-user of the Product(s) and/or any third party not engaged by Sunoptics, Inc.; improper or unauthorized access or use, installation, handling, storage, alteration, maintenance or service; failure to abide by any product classifications or certifications; failure to comply with any applicable standards, codes, recommendations, product specification sheets, or instructions of Sunoptics, Inc; failure of the end-user to provide full and complete requested data; use of the Product(s) with products, processes or materials supplied by any end-user or third party; or any other occurrences beyond Sunoptics, Inc.'s reasonable control. Sunoptics, Inc. also will not be responsible under this Limited Warranty for any substantial deterioration in the Product finish that is caused by failure to clean, inspect, or maintain the finish of the Product(s). If the Product(s) are used on existing foundations, roofs, buildings, anchorages or structures, the end-user is solely responsible for the structural integrity of such existing foundations, roofs, buildings, anchorages or structures and all consequences arising from their use. Adequate records of operating history, maintenance, and/or testing (as applicable) must be kept by the end-user and provided to Sunoptics, Inc. upon request to substantiate that the Product(s) have failed to comply with the terms of this Limited Warranty. Except as may be expressly provided in this Limited Warranty, neither polycarbonate nor acrylic material used in the Products is warranted against yellowing, crazing, or cracking, as yellowing, crazing and/or cracking may naturally occur over time due to normal aging. The Product(s) are not warranted against: cosmetic problems or defects that result in normal wear and tear, including surface crazing, superficial cracking or minor cosmetic imperfections that do not pose an internal building leak issue, that could also incur under ordinary use and that do not affect the performance or use of the Product(s); nor are the Products warranted against costs that may be incurred in connection with changes or modifications to the Product(s) required to accommodate site conditions and/or faulty building construction or design; or failures of Sunoptics, Inc. Product(s) resulting from installation or use of aftermarket third party supplied products, components, or materials.

The determination of whether any Product(s) fail to comply with the terms of this Limited Warranty shall be made by Sunoptics, Inc. in its sole discretion, with consideration given to the overall performance of the Product(s) as compared to the expected performance per the applicable spec sheet. If the Product(s) are within the warranty period, and Sunoptics, Inc. has received payment in full for the Product(s), and Sunoptics, Inc. determines to its satisfaction that the Product(s) fail to comply with the terms of this Limited Warranty, Sunoptics Inc., at its option, will service, repair or replace the Product(s) with the same or a functionally equivalent Product(s) or component part(s), which may not be identical to the original. Sunoptics, Inc. reserves the right to utilize new, reconditioned, refurbished, repaired, or remanufactured Product(s) or parts in the warranty repair or replacement process. For purposes of clarity, this Limited Warranty does not include any removal or reinstallation costs or expenses, including without limitation any labor costs, equipment or other expenses required to remove and/or reinstall original or replacement Product(s) and/or parts. This Limited Warranty extends only to the Product(s) as delivered to, and is for the sole and exclusive benefit of, the original end-user of the Product(s) at the original location. This Limited Warranty may not be transferred or assigned by the original end-user.

The repair or replacement of any Product(s) or component part within the Product(s) is the sole and exclusive remedy for failure of the Product(s) to comply with the terms of this Limited Warranty and does not extend the warranty period. Warranty claims regarding the Product(s) must be submitted in writing within thirty (30) days of discovery of the defect or failure to an authorized Sunoptics, Inc. post-sales or customer service representative. Product(s) or component part(s) may be required to be returned for inspection and verification of non-conformance by Sunoptics, Inc., but no Product(s) or component part(s) will be accepted for inspection, verification or return unless accompanied by a "return authorization number" which can be obtained only from an authorized Sunoptics, Inc. post-sales or customer service representative. Sunoptics, Inc. is not responsible for any costs, expenses, or damages that may occur in connection with

shipment of Product(s) to Sunoptics, Inc., but Sunoptics, Inc. shall bear all cost and expense incurred in connection with shipment of replacement Product(s) to the end-user so long as Sunoptics, Inc. has sole control over all aspects of shipment, including but not limited to Sunoptics, Inc. shipping directly to the end-user. In no event will Sunoptics,Inc. accept any other charges related to shipment by any other party. Replacement Product(s) and/or parts provided under the terms of this Limited Warranty are warranted for the remainder of the warranty period as if such Product(s) and/or parts were the original components.

THE FOREGOING WARRANTY TERMS ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, AND SUNOPTICS, INC. EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, RELATING DIRECTLY OR INDIRECTLY TO THE PRODUCT(S), WHETHER ORAL, WRITTEN, OR ARISING BY COURSE OF DEALING OR USAGE OF TRADE, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO AGENT, DISTRIBUTOR OR OTHER SUPPLIER OF SUNOPTICS, INC. PRODUCTS HAS THE AUTHORITY TO MODIFY OR AMEND THIS WARRANTY WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM SUNOPTICS, INC.

The total liability of Sunoptics, Inc. on any and all claims of any kind, whether in contract, warranty, tort (including negligence), strict liability or otherwise, arising out of or in connection with, or resulting from, Sunoptics, Inc.'s performance or breach of this Limited Warranty, or from Sunoptics, Inc.'s sale, delivery, resale, repair, or replacement of any Product(s) or the furnishing of any services, shall in no event exceed the purchase price allocable to the Product(s) that give rise to the claim, and any and all such liability shall terminate upon the expiration of the warranty period specified above. Sunoptics, Inc. shall not be liable for damages caused by any delays involving warranty services.

IN NO EVENT SHALL SUNOPTICS, INC. BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE DAMAGES, EVEN IF INFORMED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER AS THE RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER THEORY, INCLUDING WITHOUT LIMITATION LABOR OR EQUIPMENT REQUIRED TO REMOVE AND/OR REINSTALL ORIGINAL OR REPLACEMENT PARTS, LOSS OF TIME, PROFITS OR REVENUES, LACK OR LOSS OF PRODUCTIVITY, INTEREST CHARGES OR COST OF CAPITAL, COST OF SUBSTITUTE EQUIPMENT, SYSTEMS, SERVICES OR DOWNTIME COSTS, DAMAGE TO OR LOSS OF USE OF PROPERTY OR EQUIPMENT OR ANY INCONVENIENCE ARISING OUT OF ANY BREACH OF THE FOREGOING WARRANTY OR OBLIGATIONS UNDER SUCH WARRANTY.

Some states do not allow limitation or exclusion of damages or implied warranties, so the above exclusions may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sunoptics, Inc. reserves the right to modify or discontinue this Limited Warranty without notice, provided that any such modification or discontinuance will only be effective with respect to any Product(s) purchased after such modification or discontinuance. If there is any conflict or inconsistency between the English language version of this Limited Warranty and any version translated into any other language, the English language version shall prevail. Trademarks referenced are trademarks of Sunoptics, Inc. and if marked with the ® symbol are registered in the U.S. and may be registered in other countries.

The document, including the Limited Warranty shall be construed and enforced in the accordance with the laws of the State of Alabama and the applicable laws of the United States.

NOTE: The Product(s) must be returned within ten (10) days after receiving the return authorization number and the shipping box must be clearly marked with the return authorization number. Failure to follow this procedure will delay any potential warranty resolution. Product(s) returned without a valid return authorization number will either be refused or returned to sender at sender's expense. NO PRODUCT RETURNS WILL BE ACCEPTED BY SUNOPTICS, INC. IF NOT ACCOMPANIED BY A VALID RETURN AUTHORIZATION NUMBER.