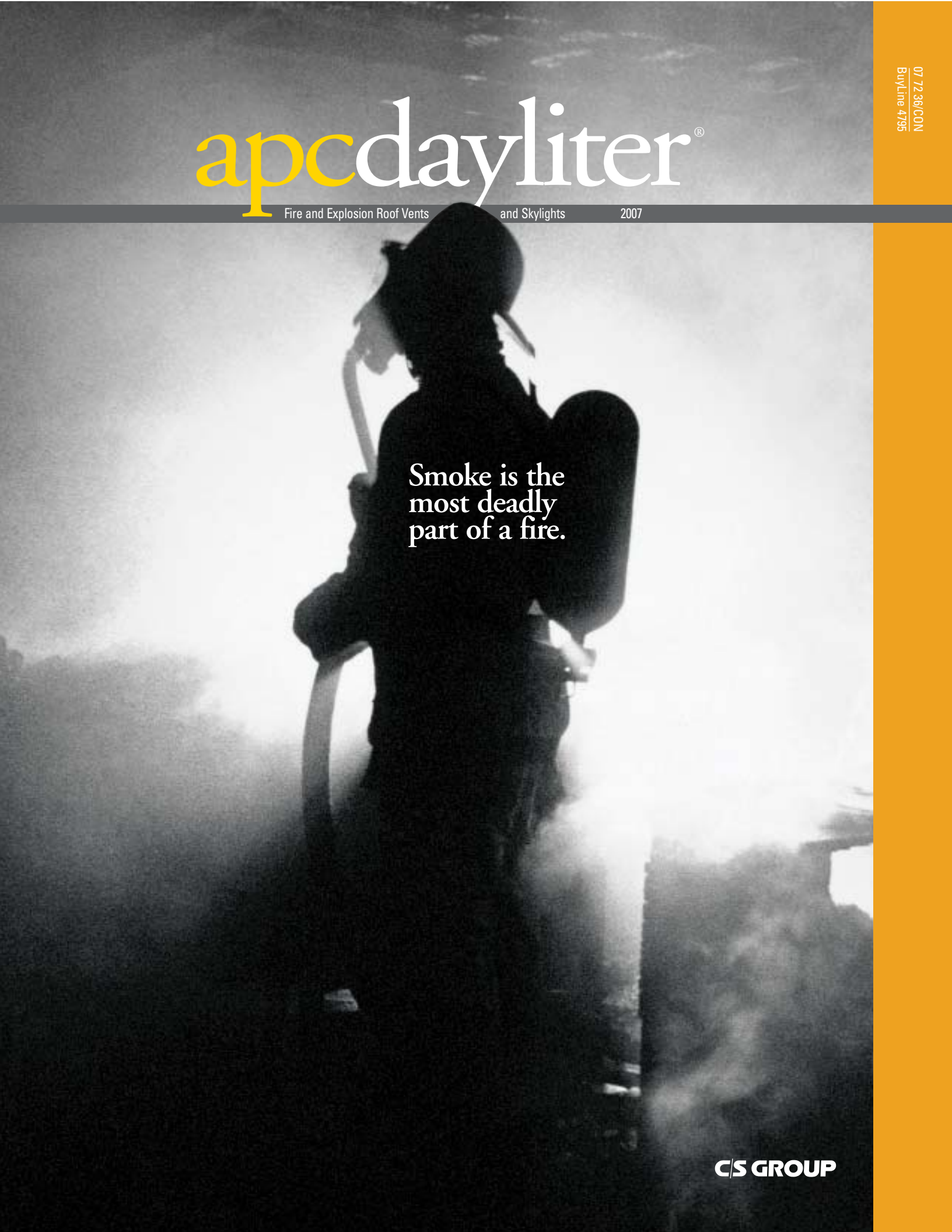


# apcdayliter®

Fire and Explosion Roof Vents

and Skylights

2007



Smoke is the  
most deadly  
part of a fire.

**C/S GROUP**

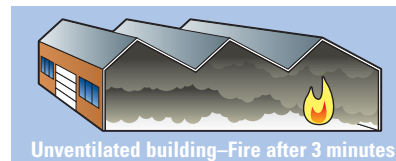
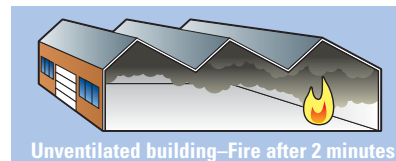
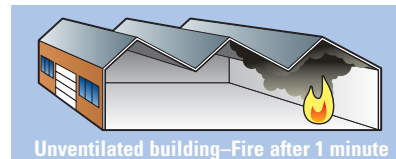
# APC Vents are the safest way to protect the building's occupants—and firefighters.

## The National Building Codes demand fire vents for most industrial buildings.

Fire officials know that smoke is the deadliest part of a fire. That's why Section 910 of the International Fire Code mandates the use of automatic smoke control systems in high-piled storage facilities and in most one-story buildings greater than 50,000 square feet.

## Smoke vents eliminate the need to cut holes in the roof.

One of the first things firefighters do when they arrive at a fire is cut holes in the roof. APC smoke vents automatically open to vent toxic smoke and gases, reduce flashback and lower the building's internal temperature. Firemen can get into buildings faster to attack the firebase directly.



**In one-story buildings fire and smoke spreads laterally and rapidly. In minutes smoke and toxic gases fill the entire structure.**

## Sprinklers alone can't always save lives and property.

Sprinklers clearly reduce fatalities and property loss, but their reliability can be questioned. The U.S. Consumer Product Safety Commission



(CPSC) statistics suggest that sprinkler systems may not work half the time, due to a variety of reasons. But when sprinklers are used in combination with rooftop vents, fire safety in industrial buildings can be dramatically improved.

## Rooftop vents improve fire fighting.

Fire vents also reduce lateral fire spread by preventing mushrooming heat from igniting other materials. APC vents improve visibility, saving precious time locating the fire seat and preventing collateral water damage.



# Six reasons why reliable, economical APC Fire Vents are the best choice

## 1 APC Daylitter vents work every time thanks to the laws of science.

APC Dropout vents rely on gravity and the special heat-sensing property of its dome material. When thermally activated by the rapid heat rise from fire, dome material softens and releases from its retaining frame venting smoke and gas.



## 2 Works With All Sprinkler Systems

Our AFL vent works with any sprinkler system, including ESFR sprinklers. Set to temperatures above sprinkler activation, the AFL will not release until the desired temperature is achieved.



## 3 Strong Yet Lightweight

A typical 4' x 8' APC unit weighs 110 lbs, yet dome material is one of the industry's strongest. APC Quadri-dome resists hail, industrial debris and errant birds.



## 4 Meets All Codes

Section 910.2 of the IBC demands that one-story undivided buildings over 50,000 sq. ft. have smoke vents on the roof. FM- and UL-approved APC vents meet IBC and all national codes.

## 5 No Moving Parts to Fail

APC's drop-out design prevents possible lid closures and is unaffected by snow loads. APC vents have no moving parts to corrode, and they do not require inspection or maintenance.

## 6 Half the Cost of Mechanical Systems and Exhaust Fans

APC vents are not only reliable but are extremely cost effective. Easy to install, even in large units, APC vents can offer building owners substantial savings over mechanical vents. APC is the clear choice in smoke and heat vents.



**At 180°F, the Dome begins to melt.**

From the onset of a fire, heat, smoke and gas rise to the roof structure, increasing the internal temperature.

At 180°F, the specially formulated APC Quadri-Dome begins to soften.

**At 220°F, the Dome releases allowing flames and smoke to vent.**

Once the interior temperature under the APC Fire Vent reaches 220°F, the Quadri-Dome releases from its framework dropping to the floor, creating a clear opening to exhaust smoke and heat.

**The facts don't lie! Judge for yourself.** Below is a comparison of APC Daylitter and mechanical vents.

### Mechanical Vents

|                                    |                        |
|------------------------------------|------------------------|
| Meets international Building Codes | Yes                    |
| Operation                          | Pop-Up<br>Fusible Link |
| Vent, Heat, Smoke & Gas            | Yes                    |
| Works with Sprinklers              | Yes                    |
| Moving Parts That Can Fail         | Yes                    |
| <b>Standard Fall Protection</b>    | <b>No</b>              |
| Unit Weight (4' x 8')              | 500-700 lbs.           |

### APC Drop-Out Vents

|                                    |                          |
|------------------------------------|--------------------------|
| Meets international Building Codes | Yes                      |
| Operation                          | Drop Out<br>Fusible Dome |
| Vent, Heat, Smoke & Gas            | Yes                      |
| Works with Sprinklers              | Yes                      |
| Moving Parts That Can Fail         | No                       |
| <b>Standard Fall Protection</b>    | <b>Yes</b>               |
| Unit Weight (4' x 8')              | 110 lbs.                 |

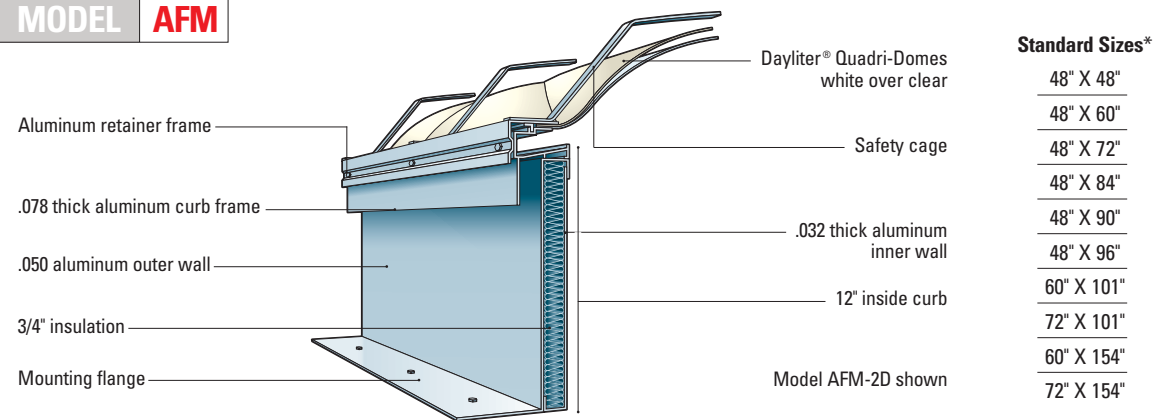
# FM Approved Fire Vents

The rapid heat rise from fire causes the AFM's heat sensitive Quadri-Dome glazing to shrink and drop out of the vent opening, automatically creating an unobstructed vent for heat, smoke, and gas. The AFM Dome will reach full open position within five minutes after initial exposure to 500° F.



- Meets FM test standard 4430 for smoke and heat vents.
- APC's Quadri-Dome provides interior with 45% diffused light
- AFM Quadri-Dome has been tested to withstand 40 lb/ft<sup>2</sup> snow loading
- Safety cage designed to withstand 250 lb. impact load
- Four curb styles, including FM-approved curb mounted units for use with any existing curb
- Standard sizes from 48" x 48" to 72" x 154"

**MODEL AFM**



**PRODUCT SELECTOR**

|                  | Curb Construction   |                       | Dome Style  |             | Roof Type     |            |
|------------------|---------------------|-----------------------|-------------|-------------|---------------|------------|
|                  | Single Wall         | Double Wall/Insulated | Single Dome | Double Dome | Standard Roof | Metal Roof |
| <b>AFM</b>       | •                   |                       | •           |             | •             |            |
| <b>AFM-2</b>     |                     | •                     | •           |             | •             |            |
| <b>AFM-D</b>     | •                   |                       |             | •           | •             |            |
| <b>AFM-2D</b>    |                     | •                     |             | •           | •             |            |
| <b>AFM-MB</b>    | •                   |                       | •           |             |               | •          |
| <b>AFM-MB-2</b>  |                     | •                     | •           |             |               | •          |
| <b>AFM-MB-D</b>  | •                   |                       |             | •           |               | •          |
| <b>AFM-MB-2D</b> |                     | •                     |             | •           |               | •          |
| <b>JSFV</b>      | <b>Curb Mounted</b> | <b>Curb Mounted</b>   | •           |             |               |            |
| <b>JSFV-D</b>    | <b>Curb Mounted</b> | <b>Curb Mounted</b>   |             | •           |               |            |

Add QR for Quick Release Rods or SN for Single Nailers. See page 9 for option information. \*Inside curb dimension. Complies with all National Fire Codes including: ICBO 15-7; BOCA; SBCCI; IBC and IFC Section 910.

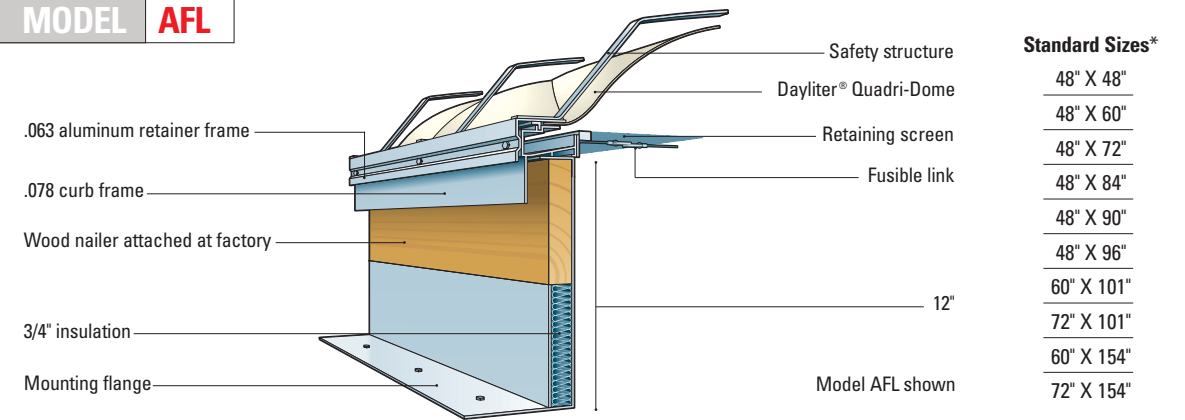
# ESFR Approved Fire Vents

The AFL features a hinged retaining screen located under the heat-sensitive Quadri-Dome fitted with a fusible link (rated at a temperature of 200° higher than the sprinkler activation). The retaining screen resists the release of the Quadri-Dome until the specified fusible link temperature is achieved. Once temperature is achieved the dome drops out.



- AFL is listed as the only approved drop out smoke vent for use with ESFR sprinklers in FM's Loss Prevention Data Sheet 2-2.
- Units available with 360° F or higher FM-rated fusible link
- Meets FM standard #4430
- Works with all sprinkler systems
- Single or double domes available in 3 curb styles
- Standard sizes from 48" x 48" to 72" x 154"

**MODEL AFL**



**PRODUCT SELECTOR**

|                  | Curb Construction |                       | Dome Style  |             | Roof Type     |            |
|------------------|-------------------|-----------------------|-------------|-------------|---------------|------------|
|                  | Single Wall       | Double Wall/Insulated | Single Dome | Double Dome | Standard Roof | Metal Roof |
| <b>AFL</b>       | •                 |                       | •           |             | •             |            |
| <b>AFL-2</b>     |                   | •                     | •           |             | •             |            |
| <b>AFL-D</b>     | •                 |                       |             | •           | •             |            |
| <b>AFL-2D</b>    |                   | •                     |             | •           | •             |            |
| <b>AFL-MB</b>    | •                 |                       | •           |             |               | •          |
| <b>AFL-MB-2</b>  |                   | •                     | •           |             |               | •          |
| <b>AFL-MB-D</b>  | •                 |                       |             | •           |               | •          |
| <b>AFL-MB-2D</b> |                   | •                     |             | •           |               | •          |

QR - Quick Release Rods • Please specify fusible link temperature. See page 9 for option information. \*Inside curb dimension. Complies with all National Fire Codes including: ICBO 15-7; BOCA; SBCCI; IBC and IFC Section 910.

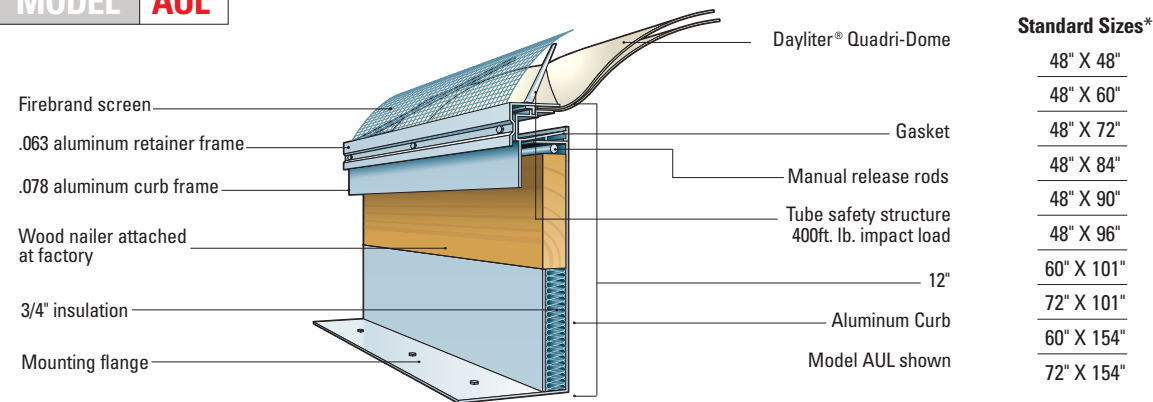
# UL Approved Fire Vents

APC's UL Approved AUL vent can be used in any facility where UL Labeled smoke vents and/or manual release operation is required (meets UL Standard 793). The AUL can be used in sprinklered and non-sprinklered buildings. The AUL features quick release rods and a firebrand screen that limits escape of burning embers.



- Only UL-listed drop-out gravity vent available.
- Meets UL standard 793 for Automatically Operated Smoke and Heat Vents.
- Quick release rods, standard for manual release.
- Firebrand screen limits escape of burning embers during fire.
- Double dome unit (full dome insulating overlay) required by UL.

MODEL **AUL**



**Standard Sizes\***

- 48" X 48"
- 48" X 60"
- 48" X 72"
- 48" X 84"
- 48" X 90"
- 48" X 96"
- 60" X 101"
- 72" X 101"
- 60" X 154"
- 72" X 154"

PRODUCT **SELECTOR**

|                | Curb Construction |                       | Dome Style  |             | Roof Type     |            |
|----------------|-------------------|-----------------------|-------------|-------------|---------------|------------|
|                | Single Wall       | Double Wall/Insulated | Single Dome | Double Dome | Standard Roof | Metal Roof |
| <b>AUL</b>     | •                 |                       |             | •           | •             |            |
| <b>AUL-2</b>   |                   | •                     |             | •           | •             |            |
| <b>AUL-MB</b>  | •                 |                       |             | •           |               | •          |
| <b>AUL-MB2</b> |                   | •                     |             | •           |               | •          |

Add QR for Quick Release Rods or SN for Single Nailer. See page 9 for option information. \*Inside curb dimension. Complies with all National Fire Codes including: ICBO 15-7; BOCA; SBCCI; IBC and IFC Section 910.

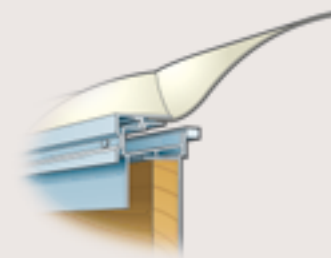
# APC Fire Vent Product Options

APC Dayliter offers a variety of illumination, insulation, and installation options to meet specific project requirements.

**DOMES**

**Single Dome**

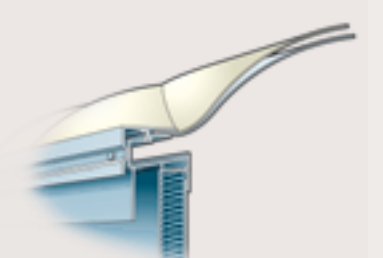
Economical units available with white or clear domes. White dome offers 50% light transmission/diffusion. Clear dome offers 0% diffusion.



White or Clear Available

**Double Dome**

Double dome construction creates a condensation barrier and offers higher insulation values than single domes. Double dome has an R value of 0.9.

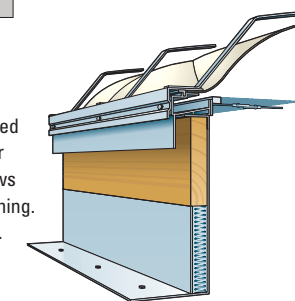


White or Clear Available

**CURB STYLES**

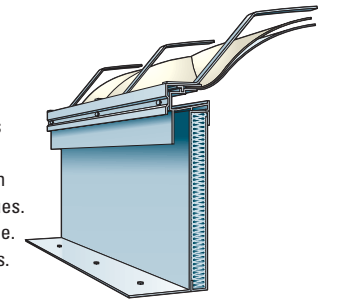
**Single Wall**

APC's economical prefabricated curb consists of a wood nailer and banded insulation. It allows for easy fastening of roof flashing. Curb for metal roofs available. Call (800) 222-0201 for details.



**Double Wall Insulated**

Double wall aluminum curbs are welded at corners and come with Class A insulation for increased insulating values. Curb for metal roofs available. Call (800) 222-0201 for details.



**Curb Mounted Units**

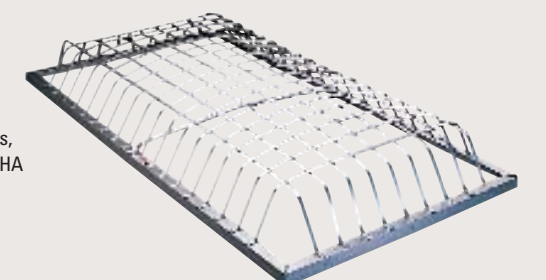
All APC Dayliter Fire Vents, Explosion Vents and Sky-View Skylights can be designed to mount on curbs by others. An FM approved curb mounted fire vent is available. To ensure that the units fit, please contact the APC factory for dimensions.



**SAFETY CAGES**

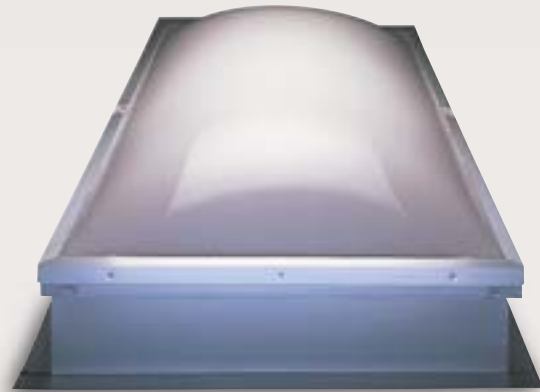
**Curb Mounted Units**

APC Safety Cages are available for fire vents, skylights or explosion vents, including other manufacturers. APC offers standard cages as well as OSHA compliant safety cages with 4" x 4" spacing.



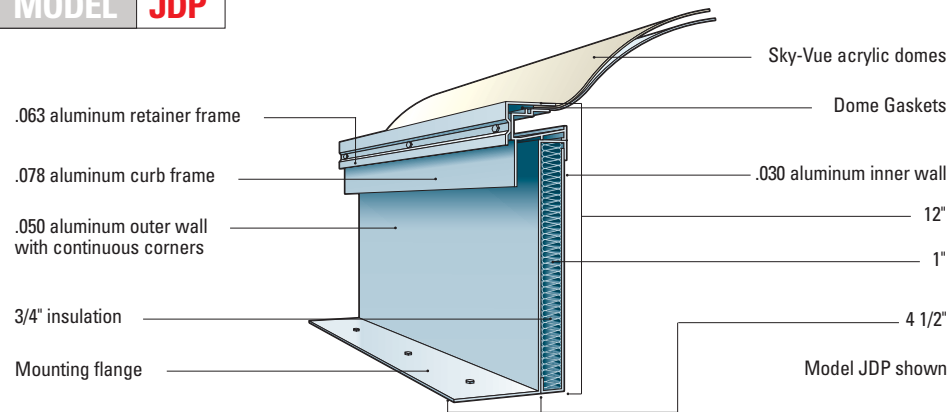
# Sky-View Skylights

APC's Sky-View Skylights are economically priced and available for quick turnaround in standard 4' x 4' and 4' x 8' sizes (custom sizes available). Sky-View Skylights lightweight, modular construction features double-wall insulated curbs. Single and double dome options in white or clear acrylic available. Curb-mounted models and optional safety fall guards available.



- Economically priced standard sizes for quick turnaround.
- Lightweight, modular construction features double wall insulated curb.
- White and clear acrylic domes available (specify single and double dome option).
- Optional safety cage fall guards (see page 9).

MODEL **JDP**



Standard Sizes\*  
 48" X 48"  
 48" X 96"  
 Other sizes available

PRODUCT **SELECTOR**

|        | Curb Construction |                       | Dome Style  |             | Roof Type     |              |
|--------|-------------------|-----------------------|-------------|-------------|---------------|--------------|
|        | Single Wall       | Double Wall/Insulated | Single Dome | Double Dome | Standard Roof | Metal Roof   |
| JSP    |                   | •                     | •           |             | •             |              |
| JDP    |                   | •                     |             | •           | •             |              |
| JSP-MB |                   | •                     | •           |             |               | •            |
| JDP-MB |                   | •                     |             | •           |               | •            |
| JSC    | Curb Mounted      | Curb Mounted          | •           |             | Curb Mounted  | Curb Mounted |
| JDC    | Curb Mounted      | Curb Mounted          |             | •           | Curb Mounted  | Curb Mounted |

See page 9 for option information. \*Inside curb dimension.

# APC Specifications

## I. General

### 1.01 Summary

A. Furnish all fire vents/explosion & pressure relief vents/skylights, frames, curbs and attachments necessary to complete the work as indicated on the drawings and specified herein.

### 1.02 Related Sections

A. The following sections contain requirements that relate to this section:  
 1. Division 6 Section "Rough Carpentry" for wood curbs and nailers.  
 2. Division 7 Section "Roof Accessories" for curbs, roof hatches and smoke vents.  
 3. Division 7 Section "Flashing and Sheet Metal" for metal flashing for fire vents/explosion & pressure relief vents/skylights.  
 B. Refer to roofing system sections for roofing accessories to be built into this roofing system to accommodate work of this section.

### 1.03 References

A. American Society for Testing and Materials (ASTM)  
 B. The Aluminum Association (AA)  
 C. American Architectural Manufacturers Association (AAMA)  
 D. National Fire Protection Association (NFPA)  
 E. Factory Mutual (FM)  
 F. Underwriters Laboratory (UL)

### 1.04 Submittals

A. General: Submit the following according to the Conditions of Contract and Division 1 Specification Sections.  
 B. Product data for each type of fire vent/explosion & pressure relief vent/skylight specified, including details of construction relative to materials, dimensions of individual components, profiles, finishes, and light transmission values.  
 C. Shop drawings showing fabrication and installation of fire vents/explosion & pressure relief vents/skylights, including plans, elevations, sections, and details of components.

### 1.05 Quality Assurance

A. Materials and work shall conform to the latest edition of reference specifications specified herein and to all applicable codes and requirements of local authorities having jurisdiction.  
 B. Fire Vents:  
 1. Units shall meet requirements of FM test standard 4430 for heat and smoke vents.  
 2. Units shall meet UL Test Standard 793 for Automatically Operated Roof Vents for Smoke and Heat.  
 3. Be in accordance with AAMA requirements for Smoke and Heat Vents.  
 4. Meet NFPA 204M Standard for Smoke and Heat Venting.  
 C. Explosion Relief Vents  
 1. Use FM approved release devices.  
 2. Meet NFPA 68 Design Guidelines for Deflagration Vents and Vent Closures.

### D. Skylights

1. In accordance with AAMA Voluntary Specification for Skylights/Roof Windows.  
 E. Single Source Responsibility: Obtain fire vents/explosion & pressure relief vents/skylights from one source of a single manufacturer.

### 1.06 Delivery and Storage

A. All fire vents/explosion & pressure relief vents/skylights, frames, and curbs shall be factory assembled in units and shipped to the job site.  
 B. Deliver to site in original, unopened containers and/or pallets bearing manufacturer's name and label.

### 1.07 Warranty

A. Manufacturer shall warrant that the units provided will be free of defects in materials and workmanship for a period of five (5) years from date of substantial completion.

## II. Products

### 2.01 Manufacturers

A. APC Dayliter products specified herein and indicated on drawings shall be manufactured by Construction Specialties, Inc., 49 Meeker Ave., Cranford, NJ 908-272-5200, or other manufacturers with prior written approval.

### 2.02 Materials

A. Frames shall be constructed of ASTM B 221 alloy 6063-T5 aluminum, mitered with sufficient seepage ports. Mill finished.  
 B. Fasteners to be corrosion resistant.  
 C. Domes shall be single dome or double dome, as required.  
 D. Dome color shall be white or clear, as required.  
 E. Curbs shall be constructed with a prefabricated aluminum curb, 3003-H14 alloy sheet. Curbs to be 12" high with mounting flange and shall include manufacturer's standard insulation and wood nailer or double wall aluminum with insulation. Mill finished.

### 2.03 (Please Specify Type)

1. Model AFM: Factory Mutual Approved Fire Vent. Provide APC Dayliter AFM-2D (as shown on page 6) drop out gravity fire vents. Vent shall comply with current Factory Mutual standard for automatic fire vents and shall carry the authorized FM label. Domes shall be of patented Quadri-Dome design. Domes to be white over clear with light transmission to be 45 percent diffusing. Integral curb to be double wall with Class A insulation. Safety structure shall withstand impact loading in excess of 250 ft.lb. Installation, cant, flashing, and roofing materials are not included.

2. Model AFL: Factory Mutual Approved Fusible Link Fire Vent. Provide APC Dayliter AFL (as shown on page 7) drop out gravity fire vents. Vents shall comply with current Factory Mutual standard for automatic fire vents and be listed in FM Property Loss Prevention Data Sheet 2-2 for approval with ESFR sprinklers. Vents shall carry the authorized FM label. Vent to operate with the use of a 360°F, or higher, rated fusible link. Dome shall be of patented Quadri-Dome design. Dome to be white; light transmission to be 50 percent diffusing. Integral curb to consist of wood nailer and banded insulation. Safety structure shall withstand impact loading in excess of 250 ft.lb. Installation, cant, flashing, and roofing materials are not included.

3. Model AUL: Underwriter Laboratories Listed Fire Vent. Provide APC Dayliter AUL (as shown on page 8) drop out gravity fire vents. Vent shall comply with current Underwriter Laboratory standard for automatic fire vents and shall carry the authorized UL label. Dome shall be of patented Quadri-Dome design. Domes to be white over white; light transmission to be 25 percent diffusing. Wood nailer and rigid insulation shall be secured to curb. Manually-operable quick release rods shall permit removal of domes and frames from curb. Safety structure shall withstand impact loading in excess of 400 ft.lb. Firebrand screen included limiting escape of burning embers during a fire. Installation, cant, flashing, and roofing materials are not included.

4. Model JSFV: Curb Mounted Fire Vents. Provide APC Dayliter FM approved JSFV drop out gravity fire vents. Vent shall comply with current national fire test standards for automatic fire vents. Dome shall be of patented Quadri-Dome design. Safety structure shall withstand impact loading in excess of 250 ft.lb.. Curbs by others.

5. Sky-View Domed Skylights. Provide APC Sky-View Skylights. Skylights to be single or double dome construction. Domes to be white or clear acrylic. Integral curb to be double wall with insulation. Sky-View Skylights are also available without curb for curb mounting. Optional safety structure withstands impact loading in excess of 250 ft.lb.

## III. Installation

### 3.01 Installation

A. Preparatory work: Standard trade practices are recommended for preparation of structural arrangements for installation of APC vent or skylights.  
 B. Method: Individual APC units are furnished completely assembled, ready for installation on the roof deck and for flashing into the roof system. Tandem arrays are delivered in accordance with drawings and instructions provided.

*Note: the products shown in this catalog may be covered by one or more of the following patents: 6,161,348*

accessing apc technical data  
photos and specifications has never been easier.  
just visit: [www.apcdayliter.com](http://www.apcdayliter.com).



APC Product Information Is Also Available In:



*Tech Manual*



*Explovent*

## **C/S GROUP**

### **THE C/S GROUP OF COMPANIES:**

**CONSTRUCTION SPECIALTIES, INC. • C/S CONSTRUCTION SPECIALTIES COMPANY MANUFACTURING/SALES LOCATIONS**

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**Canada** C/S Construction Specialties Company, Mississauga, ON. /Tel:(905)274-3611/Fax:(905)274-6241/canada@c-sgroup.com

*For assistance with overseas requirements, fax C/S International (908)236-2903.*

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