



*City of Foster City*

ESTERO MUNICIPAL IMPROVEMENT DISTRICT  
FOSTER CITY  
RECEIVED  
810 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2220  
(415) 348-1200  
FAX: (415) 574-3483

APR 24 1995

PLANNING  
DIVISION  
CITY OF FOSTER CITY  
COMMUNITY DEVELOPMENT DIRECTOR ACTION  
NOTICE OF DECISION

*file*

ACTION DATE: August 5, 1994

CASE NO.: UP-71-005F

APPLICANT: Treasure Isle (The Birds) Homeowners Association

APPLICANT ADDRESS: c/o First Equity Property, 100 25th St., San Mateo, CA

APPLICATION FOR: Prototypical Skylight Design

LOCATION: Treasure Isle (The Birds)

ZONING: RT/PD

ACTION TAKEN: Approved with Conditions

On the date listed above, the Community Development Director of the City of Foster City, took the action described above on the subject Architectural Review application based on the following findings:

1. That the proposal is consistent with the Foster City General Plan and Title 17, Zoning, and Chapter 2.28, Planning, of the Foster City Municipal Code because the skylight(s) will enhance the interior of the houses by providing more natural light and will be consistent with the residential use of the subject property.
2. That the design of the proposal is appropriate to the City, the neighborhood and the lot in which it is proposed because the location, size, design, colors, materials and finish of the skylight(s) will reasonably blend with the roof of the existing houses and will be in keeping with similar improvements in the neighborhood.
3. That the design of the proposal is compatible with its environment with respect to use, forms, materials, colors, setbacks, location, height, design, or similar qualities as specified in Section 17.58.010, Intent and Purpose, of Chapter 17.58, Architectural Control and Supervision, of the Foster City Municipal Code because the skylight(s) will be flat or slightly curved with clear or smoke-colored glazing, will be compatible with the existing roof, and will meet the criteria for location, size, design, colors, materials and finish in the City's adopted Architectural and Solar Guidelines.

*Raymond B. Gallego*  
 Manager  
 Treasure Isle HOA  
 4/30/95



# City of Foster City

## ESTERO MUNICIPAL IMPROVEMENT DISTRICT

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### CITY OF FOSTER CITY COMMUNITY DEVELOPMENT DIRECTOR ACTION NOTICE OF DECISION

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4. That the proposal will not, under the circumstances of the particular case, be detrimental to the health, safety, morals, comfort and general welfare of the persons residing or working in the neighborhood of such proposed use, and will not be injurious or detrimental to property and improvements in the neighborhood or the general welfare of the City because the skylight(s) will be compatible with the design of the houses and other houses in the neighborhood, will meet the requirements of Section 17.58.010, Intent and Purpose, of Chapter 17.58, Architectural Control and Supervision, of the Foster City Municipal Code and will not have detrimental visual impacts on the neighborhood.

This action is subject to any conditions contained in Exhibit A, attached.

Expiration

Any Architectural Review approval shall, without further action, become null and void if not used within two (2) years from the date of approval thereof, or within any shorter or longer period of time if so approved by the Community Development Director.

Appeal

Pursuant to Section 17.06.150 of the Foster City Municipal Code, an action of the Community Development Director on an application may be appealed within ten (10) calendar days after the date of the Community Development Director's decision, in writing, to the Planning Commission. Appeals may be filed using the appeal form available in the Department of Planning and Development Services or by letter. There is a fee for filing an appeal. All appeals must be filed in accordance with Section 17.06.150.

Acknowledgement by Applicant

Pursuant to Section 17.58.040.E of the Foster City Municipal Code, any Architectural Review decision shall not be effective until the permittee acknowledges acceptance of any conditions of approval and any appeal period has lapsed, or if there is an appeal, until a final decision has been made on the appeal.

In order to demonstrate that you are aware of and understand the Architectural Review conditions of approval (attached hereto as Exhibit A), please sign the original of this letter and return it to the Planning Division. Please keep the duplicate for your records.

Sincerely,

  
Richard B. Marks  
Community Development Director

for \_\_\_\_\_  
(Applicant) (Please Print)

Planners Initials RC

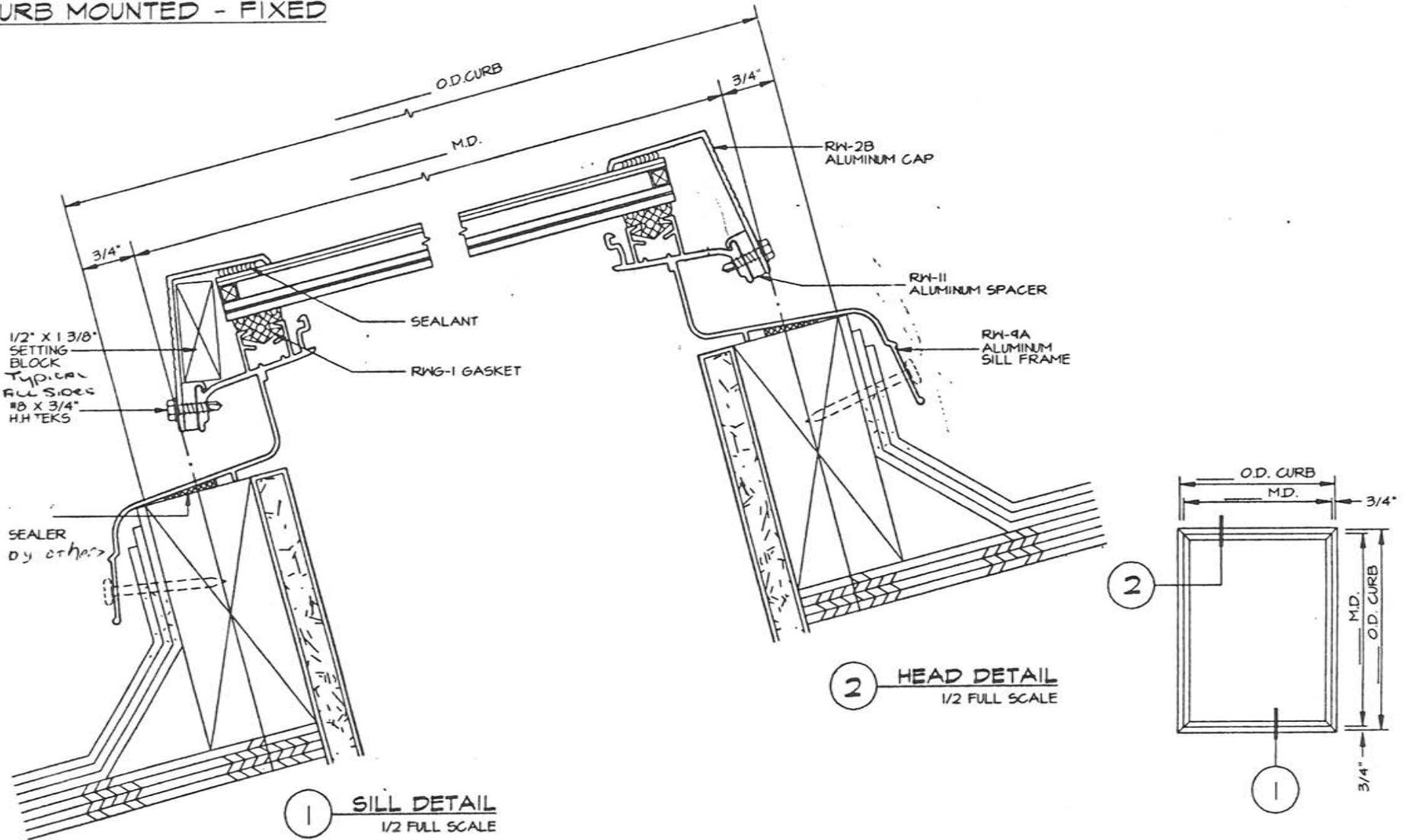
by \_\_\_\_\_  
(Contact Person)

EXHIBIT A

(Conditions attached to Architectural Review approval  
by the Community Development Director on August 5, 1994)

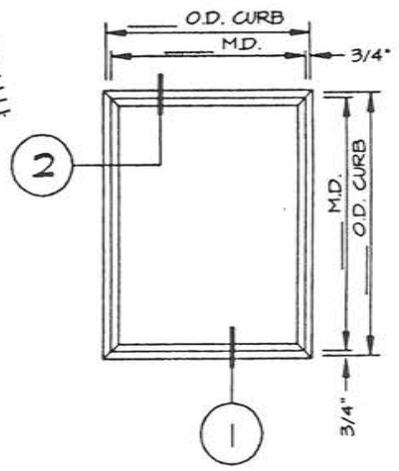
1. All construction shall be designed, constructed, installed and maintained in a professional manner and appearance.
2. All materials and colors shall be as approved. Once constructed or installed, all improvements shall be maintained in accordance with the approved plans. Any changes which affect the exterior character of the work shall be resubmitted for approval.
3. All vents, gutters, downspouts, flashings, electrical conduits, etc. shall be painted to match the color of the adjacent surfaces.
4. Standard residential security requirements as established by Chapter 15.28 of the Foster City Municipal Code shall be provided.
5. Prior to installation, an Architectural Review permit shall be obtained from the Planning Division for the skylights on each dwelling unit, accompanied by a letter indicating the action of the Homeowners' Association. The number, size, and placement of skylights shall be reviewed with the Architectural Review application to ensure that the skylights do not create a cluttered appearance on the roof.
6. Prior to installation, a building permit shall be obtained from the Building Division. Four (4) sets of final drawings shall be submitted with the building permit application.
7. Prior to any final building inspection approval, these conditions and all improvements shall be completed to the satisfaction of the City.
8. All architectural elements such as soffits, screens, etc., not shown or detailed on the plans shall be finished in a material and color in harmony with the exterior of the building.
9. The skylights shall be consistent with the specifications submitted by the applicant as contained in the letter dated July 29, 1994.

**CURB MOUNTED - FIXED**



1 SILL DETAIL  
1/2 FULL SCALE

2 HEAD DETAIL  
1/2 FULL SCALE



FINISH :		PROJECT :	REVISIONS	
GLAZING :				
<input type="checkbox"/> FIELD GLAZED	FIELD MEASUREMENTS AND INSTALLATION BY _____	CONTRACTOR:		
<input type="checkbox"/> SHOP GLAZED				
<b>O'KEEFFE'S, INC.</b>		75 WILLIAMS AVENUE SAN FRANCISCO, CA 94124 TEL: (415) 822-4222 FAX: (415) 822-3888		DRAWN :
				DATE :
		JOB NO.		
		SHEET :		1 OF 1

# HorizonLite™

G L A S S   S K Y L I G H T S



**S**uperior design and construction make the HorizonLite glass skylight a true value in daylighting. Simple installation, energy efficiency and beauty by design make the HorizonLite very popular with home owners and contractors.

O'Keeffe's Inc., manufacturers of quality building products since 1939, confidently gives a lifetime WaterTite™ warranty on all HorizonLite skylights.

*The low profile of the HorizonLite makes it as attractive from the outside of your home as it is from the inside.*

## The Glass

O'Keeffe's offers several glazing options to suit your preferences and requirements.

**Clear Tempered over Clear Laminated** allows maximum daylighting and clear viewing. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

**Bronze Tempered over Clear Laminated** filters out some of the sun's rays therefore reducing heat gain and glare. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

**Clear Tempered over Clear Laminated Low E Argon Gas Filled** adds insulation to keep summer heat out and winter warmth in while reducing UV ray penetration.

**Clear Tempered over White Laminated** allows daylighting with privacy. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

Sun screening shades reduce the amount of light as needed and increase the R value of the unit. Attractive functional pleated shades are available pre-installed.

## Fixed or Operable

The location of the skylight in your home along with the need for ventilation determines whether you select a fixed or operable (opening) model. Bathrooms, kitchens and enclosed patio rooms are areas that frequently require additional ventilation.

The choice of a manual or electrical operator depends on the height of the roof, personal preference and budget. Electric operators with a control switch make it possible to operate skylights in difficult to reach areas. Add to this a remote control and you can operate up to 20 skylights. Rain sensors added to electrically operable units remember to close open skylight for you.

**B**ring the beauty and comfort of natural light into your home with the energy efficient HorizonLite glass skylight. You will appreciate the ease of installation on new or existing construction for all roof types. HorizonLite glass skylights come in a wide variety of sizes with many options so you can create the perfect skylight system for you. On the back of this sheet you will find detail drawings, options, accessories and a size chart. Other sizes or special configurations are manufactured and shipped within 3-4 weeks. Should you require additional information to determine your specific needs please contact your local dealer or home improvement center.

## The Frame

HorizonLite skylights may be curb mount or self-flashing. Curb mount install onto a wood curb attached to the roof, self-flashing attach directly to the roof. HorizonLite's special sill design require a mere 1/4" per foot pitch and can be installed on a flat roof.

Three finishes are available: mill finish (aluminum with no coating), dark bronze polyester paint finish or choose from five powder coat frame colors.

## The Size

The size of the skylight depends on the amount of light required. A rule of thumb is one square foot of skylight area for each 20 square feet of floor.

**O'Keeffe's Inc.** 

HorizonLite and WaterTite are trademarks of O'Keeffe's Inc.

## HorizonLite Glass Skylight Standard Sizes

MODEL # SIZE	INSIDE CURB ROUGH OPENING	OUTSIDE CURB	DAYLIGHT AREA SQ.FT.	VENTING AREA SQ.FT.
24x24	22.5x22.5	25.5x25.5	3.06	1.63
24x32	22.5x30.5	25.5x33.5	4.22	1.94
24x36	22.5x34.5	25.5x37.5	4.72	2.15
24x48	22.5x46.5	25.5x49.5	6.39	2.67
24x54	22.5x52.5	25.5x55.5	7.22	2.94
24x64	22.5x62.5	25.5x65.5	8.89	3.21
24x72	22.5x70.5	25.5x73.5	9.72	3.72
24x96	22.5x94.5	25.5x97.5	13.56	4.04
32x32	30.5x30.5	33.5x33.5	5.83	2.33
32x36	30.5x34.5	33.5x37.5	6.61	2.50
32x48	30.5x46.5	33.5x49.5	8.94	3.02
32x54	30.5x52.5	33.5x55.5	10.11	3.28
32x64	30.5x62.5	33.5x65.5	12.28	3.65
32x72	30.5x70.5	33.5x73.5	13.61	4.06
32x96	30.5x94.5	33.5x97.5	18.73	4.41
36x36	34.5x34.5	37.5x37.5	7.56	2.67
36x48	34.5x46.5	37.5x49.5	10.22	3.30
36x60	34.5x58.5	37.5x61.5	12.94	3.85
36x72	34.5x70.5	37.5x73.5	15.56	4.24
48x48	46.5x46.5	49.5x49.5	14.06	4.11

**Note:** These sizes can be turned or hinged on long or short side.

### Glazing Assembly

	VALUES	U	R
Clear Tempered over Clear Laminated		.57	1.75
Bronze Tempered over Clear Laminated		.60	1.67
Clear Temp. over Clear Lami. w/Argon Fill Low-E		.30	3.33
Clear Tempered over White Laminated		.45	2.22
Shade "Alpaca" Semi-Opaque (add glass value)		.52	1.92

**NOTE:** Laminated glass reduces UV rays up to 99.9%

Other Glazings are available.

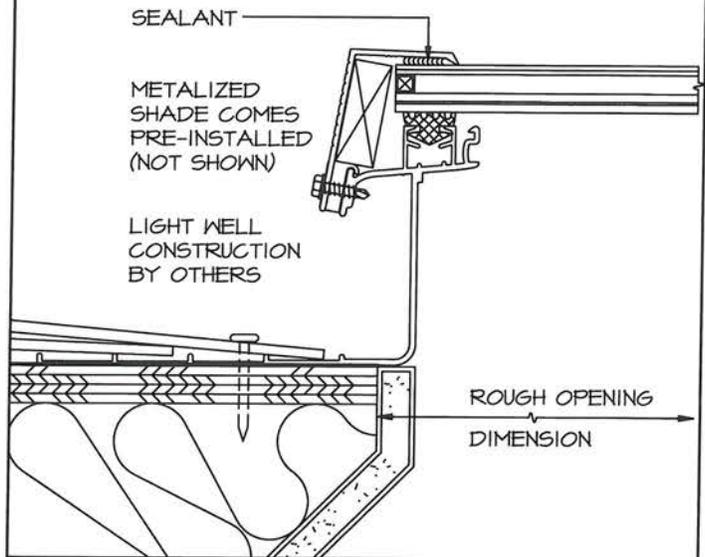
### Accessories

- Electric Operator with Control Switch
- Electric Operator with Rain Sensor and Control Switch
- Wireless Remote Control (optional add to Rain Sensor package)  
(a single Remote Control can operate up to 20 skylights)
- Motorized Shade w/ Control Switch
- Poles and Extensions
- Motorized Pole Handle Crank

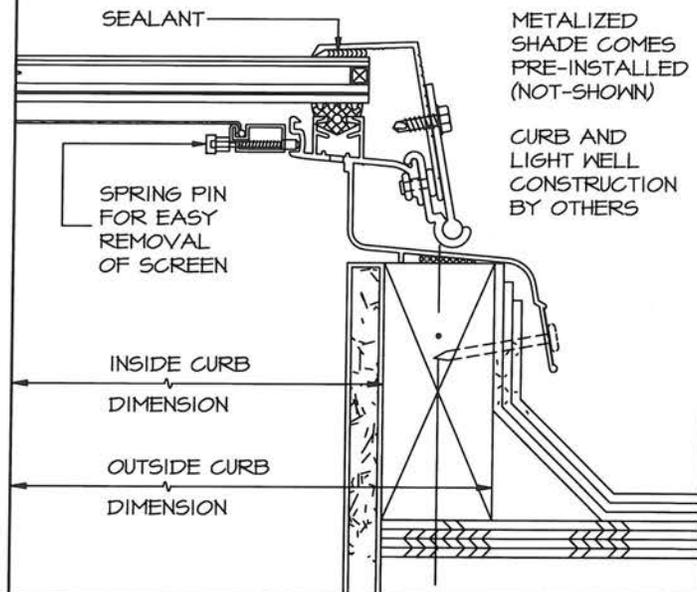
### Powder Coat Frame Colors

- Jet Black
- Brick Red
- Chocolate Brown
- Slate Green
- Oxford White

### Fixed Self-Flashing Cross Section Detail



### Operable Curb Mount Cross Section Detail



**Distributed By:**

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FOSTER CITY  
RECEIVED

AUG 01 1994

PLANNING  
DIVISION

July 29, 1994

Leslie Carmichael  
City of Foster City  
610 Foster City Blvd.  
Foster City, Ca 94404-2299

re: Skylights for Treasure Isle HOA (Birds).

Dear Leslie:

Thank you for your assistance on this project.

The Association has approved the following guidelines for new skylights in the roofs of these buildings:

Sizes: 16" x 48" 16" x 60" 24" x 48" Between rafters  
vaulted ceilings

Sizes: 24" x 48" 48" x 48" Reframe & Cut Rafters/Vaulted  
Ceilings

UP-71-005 F  
CITY OF FOSTER CITY  
PLANNING DEPARTMENT

AUG 05 1994

*L. Carmichael*  
ADMINISTRATIVE APPROVAL  
WITH CONDITIONS





Skylights to be manufactured by O'Keefe (or equivalent) tempered glass over laminate with Bronze Frames.

The above are the guidelines acceptable to the Association.

I have filled out the Property Improvement/Development Application that you have sent me. This is enclosed. Please review and let me know what you may need further.

Our roof permit application is set for approval on August 18, 1994.

Again thank you for your assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Raymond V. Laherrere'.

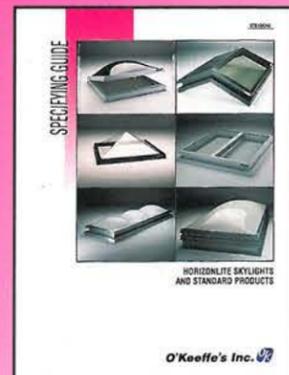
**Raymond V. Laherrere**  
**Manager - Treasure Isle HOA**

UP-71-005 F  
CITY OF FOSTER CITY  
PLANNING DEPARTMENT

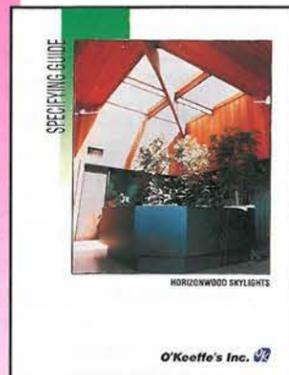
AUG 05 1994  
*J. Carroll*  
ADMINISTRATIVE APPROVAL  
WITH CONDITIONS



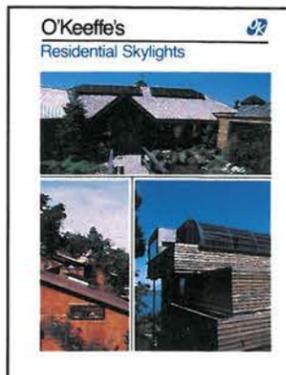
LITERATURE



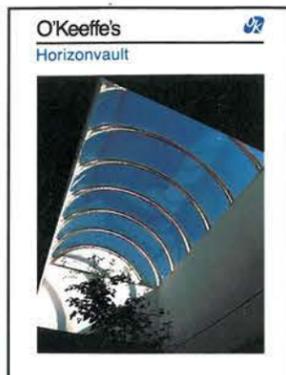
Horizon Lite & Standard Products



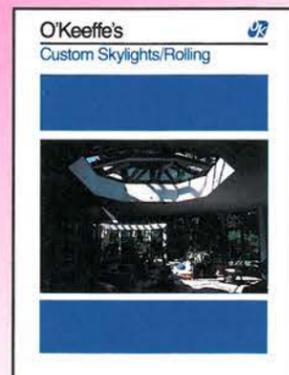
HorizonWood Skylights



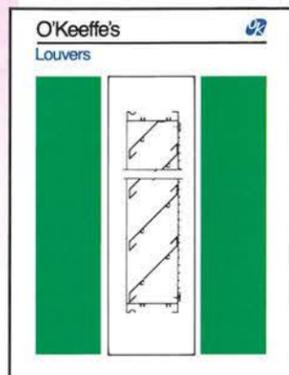
Custom Residential Skylights



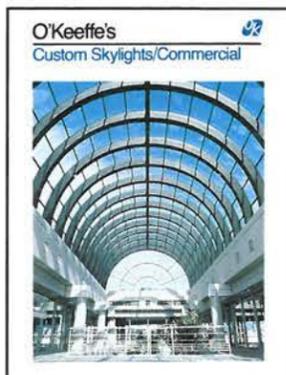
HorizonVault



Rolling Skylights



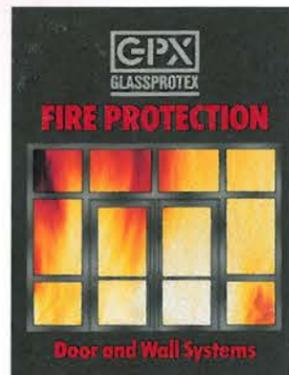
Louvers



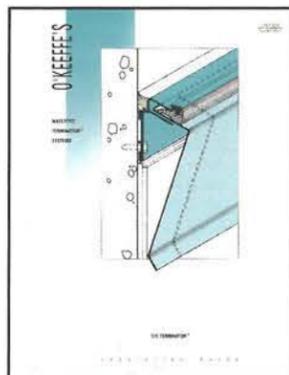
Custom Commercial Skylights



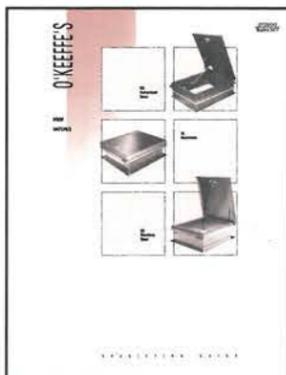
Art in Architecture



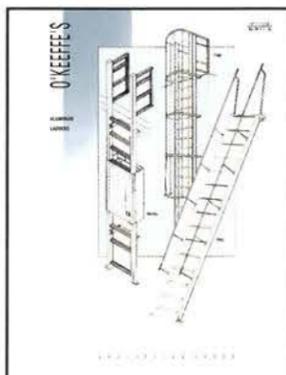
GPX Glassprotex



Watertite Termination Systems

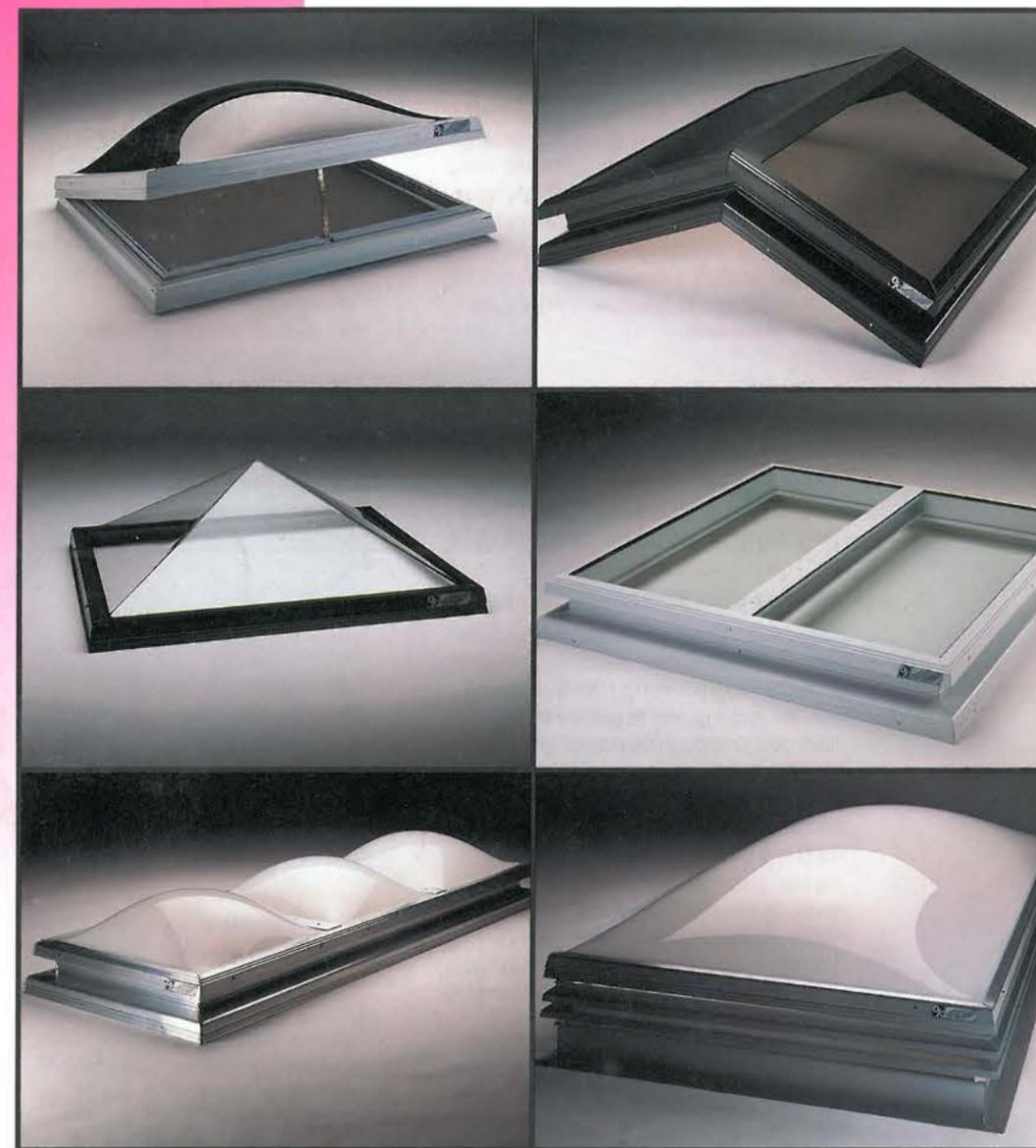


Roof Hatches



Aluminum Ladders

SPECIFYING GUIDE



HORIZONLITE SKYLIGHTS AND STANDARD PRODUCTS

Distributed By



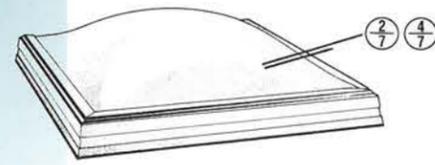
O'Keeffe's Inc. ALUMINUM BUILDING PRODUCTS 75 Williams Avenue San Francisco, CA 94124-2693

Phone 415 822-4222 FAX 415 822-5222 Toll Free 800 227-3305

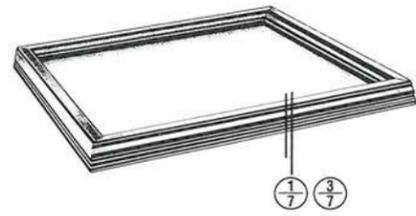
O'Keeffe's Inc. logo



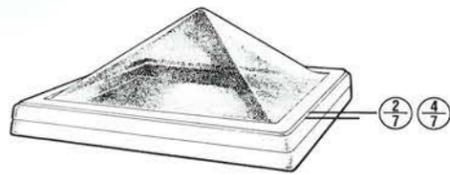
EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**



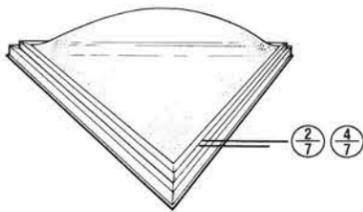
**SD, Standard Dome**



**FG, Flat Glass**



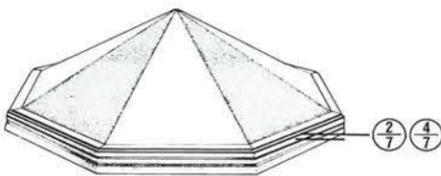
**PY, Pyramid Type\***



**TR, Triangular Frame**

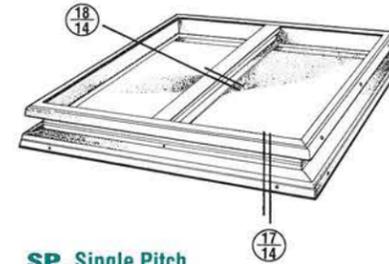
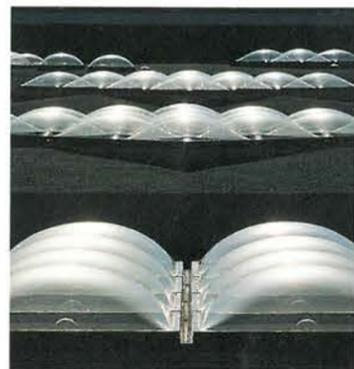


**DH, Double-Hip\***

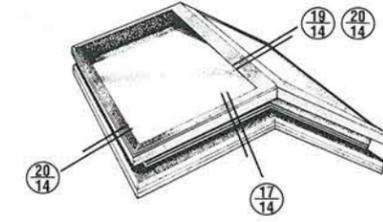


**MF, Multi-Faceted\***

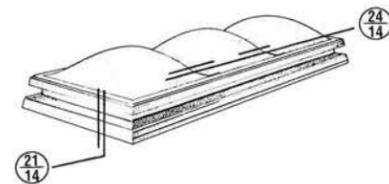
\*Shown in acrylic, glass models also available.



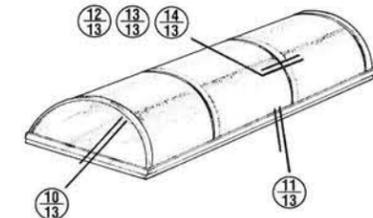
**SP, Single Pitch**



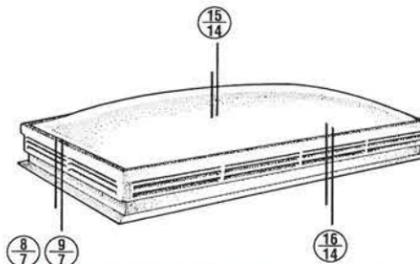
**CR, Continuous Ridge**



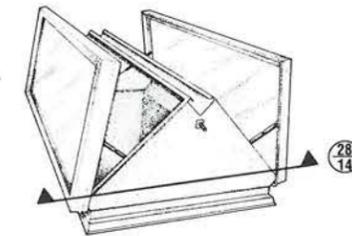
**MD, Multiple Domes in a Common Frame**



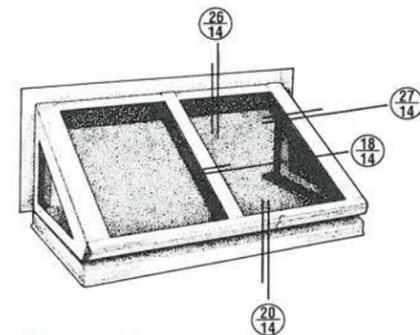
**HV, HorizonVault**



**SH, Smoke Hatch Dome (Louvered Shown)**



**FV, Fire Vent**



**LT, Lean-To**



**CD, Circular Frame**

EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

**SD, FG, PY, DH  
Standard Skylights**

Example: **1 6 4 8**

Size No.	Modular Dimension	Curb Mount <sup>1</sup>		Self-Flashing <sup>1</sup>
		Inside Curb Dimension	Outside Curb Dimension	Inside Curb Dimension
1648	16 x 48	14.5 x 46.5	17.5 x 49.5	16 x 46.5
2424	24 x 24	22.5 x 22.5	25.5 x 25.5	24 x 22.5
2432	24 x 32	22.5 x 30.5	25.5 x 33.5	24 x 30.5
2436	24 x 36	22.5 x 34.5	25.5 x 37.5	24 x 34.5
2448	24 x 48	22.5 x 46.5	25.5 x 49.5	24 x 46.5
2464	24 x 64	22.5 x 62.5	25.5 x 65.5	24 x 62.5
2472	24 x 72	22.5 x 70.5	25.5 x 73.5	24 x 70.5
2496	24 x 96	22.5 x 94.5	25.5 x 97.5	24 x 94.5
3232	32 x 32	30.5 x 30.5	33.5 x 33.5	32 x 30.5
3248	32 x 48	30.5 x 46.5	33.5 x 49.5	32 x 46.5
3264	32 x 64	30.5 x 62.5	33.5 x 65.5	32 x 62.5
3272	32 x 72	30.5 x 70.5	33.5 x 73.5	32 x 70.5
3296	32 x 96	30.5 x 94.5	33.5 x 97.5	32 x 94.5
3636	36 x 36	34.5 x 34.5	37.5 x 37.5	36 x 34.5
3648	36 x 48	34.5 x 46.5	37.5 x 49.5	36 x 46.5
3672	36 x 72	34.5 x 70.5	37.5 x 73.5	36 x 70.5
3696*	36 x 96	34.5 x 94.5	37.5 x 97.5	36 x 94.5
4848	48 x 48	46.5 x 46.5	49.5 x 49.5	48 x 46.5
4864*	48 x 64	46.5 x 62.5	49.5 x 65.5	48 x 62.5
4872*	48 x 72	46.5 x 70.5	49.5 x 73.5	48 x 70.5
4896*	48 x 96	46.5 x 94.5	49.5 x 97.5	48 x 94.5
6464*	64 x 64	62.5 x 62.5	65.5 x 65.5	64 x 62.5
6472*	64 x 72	62.5 x 70.5	65.5 x 73.5	64 x 70.5
6496*	64 x 96	62.5 x 94.5	65.5 x 97.5	64 x 94.5
7272*	72 x 72	70.5 x 70.5	73.5 x 73.5	72 x 70.5
7296*	72 x 96	70.5 x 94.5	73.5 x 97.5	72 x 94.5
9696*	96 x 96	94.5 x 94.5	97.5 x 97.5	96 x 94.5

\*Not available in glass, see MD, SP chart for sizes.

**CR, Continuous Ridge**

Rafter spacing 2'0" - 6'0" on center and mounted on plumb and beveled curbs.<sup>2</sup>

Example: **R 4 0 4**

On Slope Dim.		Width					
		4'0"	6'0"	8'0"	10'0"	12'0"	14'0"
	2'0"	R204	R206	R208	R210	R212	R214
	3'0"	R304	R306	R308	R310	R312	R314
	4'0"	R404	R406	R408	R410	R412	R414
	5'0"	R504	R506	R508	R510	R512	R514
	6'0"	R604	R606	R608	R610	R612	R614

**LT, Lean-To's**

Rafter spacing 2'0" - 6'0" on center.<sup>2</sup>

Example: **L 4 0 4**

On Slope Dim.		Width					
		4'0"	6'0"	8'0"	10'0"	12'0"	14'0"
	4'0"	L404	L406	L408	L410	L412	L414
	5'0"	L504	L506	L508	L510	L512	L514
	6'0"	L604	L606	L608	L610	L612	L614
	7'0"	L704	L706	L708	L710	L712	L714
	8'0"	L804	L806	L808	L810	L812	L814

<sup>1</sup>Refer to page 7 for details.

<sup>2</sup>Rafter spacing is to be optimized, based upon span and glazing material specified.

Larger spans available, contact factory for further information.

**HV, HorizonVault**

Rafter spacing 3'0" - 4'0" on center.<sup>2</sup>

Example: **V F 0 4**

Span		Low Profile	Full Profile	Outside Curb Dimension
		20% Rise	50% Rise	
4'0"	VL04	VF04	48"	
5'0"	VL05	VF05	60"	
6'0"	VL06	VF06	72"	
7'0"	VL07	VF07	84"	
8'0"	VL08	VF08	96"	
9'0"	VL09	VF09	108"	
10'0"	VL10	VF10	120"	
11'0"	VL11	VF11	132"	
12'0"	VL12	VF12	144"	

Span is curb to curb.

**SP, MD - Curb Mounted  
Multiple Single Pitch Glass  
or Dome Units**

Example: **2 4 4 8**

Length		Width				
		4'0"	6'0"	8'0"	10'0"	12'0"
2'0"	2448	2472	2496	2010	2012	
3'0"	3648	3672	3696	3010	3012	
4'0"	4848	4872	4896	4010	4012	
5'0"	5004	5006	5008	5010	5012	
6'0"	4872	6006	6008	6010	6012	
7'0"	7004	7006	7008	7010	7012	
8'0"	4896	8006	8008	8010	8012	

**FV, SH**

**Fire Vents & Smoke Hatches**

Example: **4 8 4 8**

Size No.	Clear Opening Dimension, FV	Outside Curb Dimension, SH
4848	48" x 48"	49.5" x 49.5"
4872	48" x 72"	49.5" x 73.5"
4896	48" x 96"	49.5" x 97.5"
6072	60" x 72"	61.5" x 73.5"
6096	60" x 96"	61.5" x 97.5"
66144	66" x 144"	67.5" x 145.5"

**CD, Circular HorizonLite**

Example: **C - 3 0**

Size No.	Self-Flashing Inside Curb Dimension
C-30	30"
C-36	36"
C-48	48"
C-60	60"
C-72	72"
C-96	96"

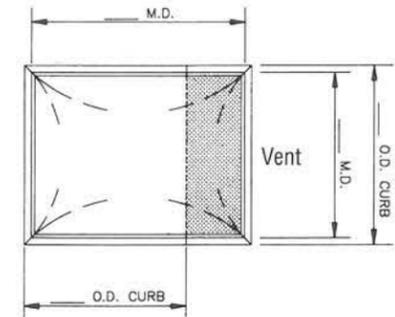
**TR, MF**

Factory to provide shop drawings.

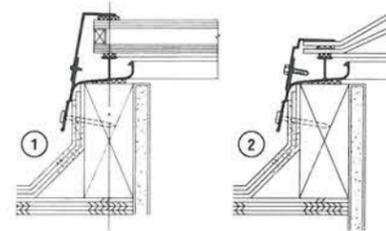
EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

**Skylight Curb Selection**

- Fully welded corners keep air, dirt and water out.
- Easy adaptability for all roof types.
- Elastomeric seal between curb and dome keeps moisture out.
- Available in mill finish, dark bronze or 10 select colors.

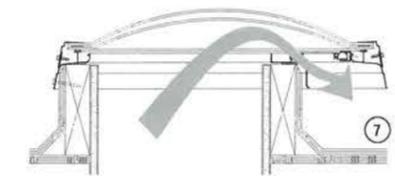


Plan: CV, SV



Glass

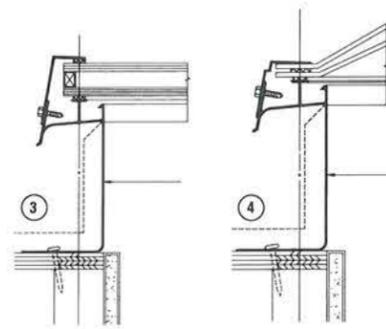
Plastic



**CM, Curb Mounted**

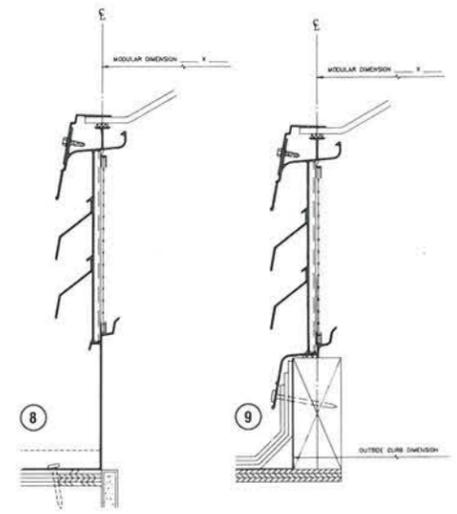
**CV, Vented, Curb Mounted**

**SV, Vented, Self-Flashing (Not Shown)**



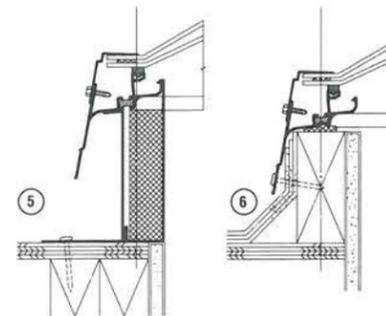
Glass

Plastic



**CL, Louvered, Curb Mounted**

**SL, Louvered, Self-Flashing**



**ST, Thermal Break, Self-Flashing**

**CT, Thermal Break, Curb Mounted**



EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

### Frame Finish

The HorizonLite frame is available in three standard finishes: mill finish (aluminum with no protective coating applied), dark bronze (baked enamel) or choice of 10 powder coat paint finish. Powder coat paint color samples available upon request.

Custom finishes such as anodized or "Kynar 500" fluoropolymer resin-based finishes are also available.

**10, Mill Finish**      **11, Dark Bronze**

### Standard Powder Coat Paint Colors

- 15, Oxford White**
- 19, Brick Red**
- 22, Jet Black**
- 23, Chocolate Brown**
- 24, Slate Green**

### Additional Support Materials

O'Keeffe's offers additional assistance and support materials to architects and engineers upon request.

Architectural binders include:

- geometric and structural guidelines
- glass and glazing considerations
- design charts
- guide specifications
- basic detail drawings



**For assistance, information or materials, please call 800-227-3305.**



Standard HorizonLite Skylights are made to the same high standards as O'Keeffe's custom skylights and can easily be used to create a custom effect.

EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

The following series of steps will aid in the proper selection of skylight glazing material.

### A. Selecting a Glazing Material

Example: **A 2 W T D M 2 0**

**Glass:** Glass is a popular choice for skylights. It is strong, maintenance-free, and can be produced to achieve a variety of aesthetic effects and performance characteristics.

**T, Tempered Glass:** Tempered monolithic glass is a common glazing material used for outer lites of insulating glass make-ups; or, as the inner lite (monolithically) in residential applications where permitted by code. Tempered glass is about four times stronger than annealed glass and thus is more resistant to thermal stress, windloading, and impact. Check with local building codes for limitations regarding the use of tempered glass.

**L, Laminated Glass:** Used monolithically or as an inboard lite of an insulating glass unit, laminated glass consists of two lites of float glass bonded to a P.V.B. interlayer. Laminated glass is a 99.9% effective filter of U.V. radiation; and, when fractured, the particles adhere to the interlayer, affording protection against falling glass.

Laminated glass is typically furnished in the annealed condition, but may be furnished in various thicknesses, or heat-strengthened to meet windloads and thermal stress requirements.

**H, Heat-Strengthened Glass:** About two times stronger than annealed glass, heat-strengthened glass is commonly used as the exterior lite of an insulating glass unit. Similar to tempered glass, heat-strengthened glass offers improved resistance to windloading, impact and thermal stress. It also offers less distortion and breakage induced by thermal stress when compared to tempered glass.

**Plastics:** Acrylic and polycarbonate sheet offer economical and flexible alternatives to glass; however, plastic is somewhat more susceptible to abrasion, aging, optical distortion and condensation because it cannot be hermetically sealed.

**A, Acrylic Sheet:** Acrylic plastic sheet is a popular glazing material due to its light weight, impact resistance, weather resistance, formability and relatively low cost. Acrylic is produced in a variety of standard transparent and translucent colors (refer to the charts on page 10).

Acrylics are a class CC-2 material; local building codes should be consulted to determine the limitations of its use. Thermoforming into dome and pyramidal shapes are recommended for increased strength.

**P, Polycarbonate Sheet:** Polycarbonate plastic sheet is frequently used where superior impact resistance is required. For skylight applications, polycarbonate sheet is recommended to have a U.V. protective coating against yellowing. Its impact strength is up to 250 times stronger than annealed glass and 30 times stronger than acrylic.

Polycarbonates are a class CC-1 material; local building codes should be consulted to determine the limitations of its use. Thermoforming into dome and pyramidal shapes are recommended for increased strength.

**S, Structured Sheet:** Structured sheet is a rigid, double-walled, impact-resistant, extruded polycarbonate or acrylic sheet. Its properties include good insulating values and an ultraviolet resistance. The translucent light diffusion properties discourage unauthorized viewing. Structured sheet is furnished flat and normally does not require thermoforming.

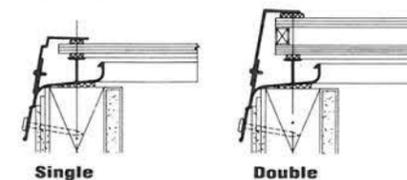
### B. Selecting Single Glazed or Double Glazed

Example: **A 2 W T D M 2 0**

- 1** Single/Monolithic
- 2** Double/Insulated

On all glass units; clear laminated glass will be provided as the interior lite in tempered or heat strengthened make up as structurally required. The inner lite on all plastic units will be of a clear material of the same type as selected.

In most residential instances, double glazing or insulated glazing is used in skylights. Refer to the chart for a guideline as to the relative heat loss/gain (U-Value) of single vs. double glazing. Single glazing is initially more economical where heat loss/gain is not a primary concern.



EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

### C. Selecting the Glazing Color

Example: **A 2 W T D M 2 0**

Glass	Plastic
<b>CL</b> Clear	<b>CL</b> Clear/Colorless
<b>BZ</b> Bronze	<b>BZ</b> #2412 Bronze
<b>GY</b> Gray	<b>GY</b> #2094 Gray
<b>GN</b> Green	<b>WT</b> #2447 White
<b>WT</b> White	<b>HW</b> #2067 High White
	<b>RP</b> Reflective Polycarbonate Polyform®

Unless otherwise specified, the color refers to the outer lite in an insulated or laminated skylight; the *inner lite typically will be clear*. To order a special make-up, call O'Keeffe's for further information and availability. Refer to the glazing performance charts for approximate daylight transmission properties. White colors will be translucent and act to diffuse light. Tints will be transparent, and will reduce heat transmittance and glare with only a subtle color shift. Color variations will exist between glass and plastic glazing materials of the same tint.

**CL, Clear:** Offers maximum light transmission, with no color shift.

**BZ, Bronze Tint:** Bronze tint has a subtle brown color shift. Unlike gray, bronze does not transmit light as evenly through the color spectrum, thus giving colored objects viewed more warmth, due to the light transmittance being more in the red band of the spectrum.

**GY, Gray Tint:** Gray provides uniformity through the color spectrum, giving objects viewed a natural appearance.

**GN, Green Tint<sup>1</sup>:** Subdues brightness while providing high visible light transmission.

**WT, White Translucent:** Uniform light transmittance with low heat gain and good ultraviolet protection.

**HW, High White<sup>2</sup>:** Highest available light transmittance in the industry, with diffusion, low ultraviolet and infrared transmittance.

<sup>1</sup> Applies only to glass.  
<sup>2</sup> Applies only to acrylic.

### D. Glazing Performance

If you have selected a glass glazing material, refer to the glass options below. If you have selected a plastic glazing material, refer to the plastic options. Select the appropriate glazing material based on the performance required. Refer to the performance charts for comparison.

### Glass Options

Example: **T 2 B Z L O W E**

<b>TINT</b>	Standard Tint or Clear
<b>LOWE</b>	Low Emissivity
<b>EARG</b>	Low E - Argon Filled
<b>HM44</b>	Heat Mirror 44
<b>HM55</b>	Heat Mirror 55
<b>HM66</b>	Heat Mirror 66
<b>HM77</b>	Heat Mirror 77
<b>REFL</b>	Reflective Pyrolytic

**LOWE, Low Emissivity:** The performance chart lists pyrolytic Low E coatings. These thin coatings reflect much of the infrared portion of the color spectrum. These coatings have high visible light transmission and low U-Values.

**EARG, Argon Filled Low E:** Offers improved U-Values to conventional insulated units.

**HM44, HM55, HM66, HM77, Heat Mirror™:** Heat mirrors solar control can be combined with any glass tint to provide a range of insulating values and aesthetic effects. Low E type heat mirror offers improved U-Values over conventional insulating glass due to its two air spaces, separated by the suspended film.

**REFL, Reflective Pyrolytic:** Metallic oxide-coated glass applied by the pyrolytic deposition process. Moderately reflective in appearance, this type of glass offers reduced light transmission and low shading coefficients.

### Plastic Options

Example: **A 2 W T D M 2 0**

<b>DM20</b>	20° Rise Dome
<b>DM10</b>	Low Profile Dome
<b>PY30</b>	30° Pyramid
<b>PY45</b>	45° Pyramid
<b>DH30</b>	30° Double-Hip
<b>FLAT</b>	Unformed

**DM20, 20° Rise Dome:** Standard, Thermoformed Dome.

**DM10, Low Profile Dome:** With 10% minimum rise.

**PY30, 30° Pyramid:** Standard, Thermoformed Pyramid.

**PY45, 45° Pyramid:** Optional, Thermoformed Pyramid.

**DH30, 30° Double-Hip:** Standard for rectangular shaped units.

**Flat, Unformed:** Not recommended. Must have minimum 4 in 12 roof pitch to be used.

### Glass Glazing Performance

The range of shading coefficients, U-Values and light transmittance below are provided as a guide to the designer. Non-standard items are available, consult O'Keeffe's for details.

#### Tinted-Float Glass (uncoated)

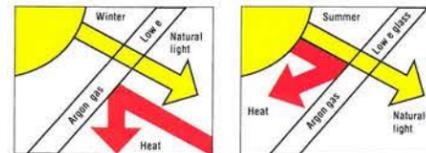
Color	Light Trans.	Single Glazed		Dual Glazed	
		S.C.	U-Value	S.C.	U-Value
Clear	88%	.93	1.1-1.13	.80	.49-.56
Bronze	52%	.71	1.1-1.13	.55	.49-.57
Gray	43%	.69	1.1-1.13	.57	.49-.57
Green	75%	.69	1.1-1.13	.55	.49-.57
White	65%	.89	1.0-1.05	.76	.45-.50

#### Low E

Color	Light Trans.	Air Filled		Argon Filled	
		S.C.	U-Value	S.C.	U-Value
Clear	72%	.67	.39-.44	.67	.36-.40
Bronze	47%	.43	.39-.45	.43	.36-.40
Gray	41%	.43	.39-.45	.43	.36-.40
Green	63%	.43	.39-.45	.43	.36-.40

#### Heat Mirror

Glass Type/Color	Trans. Vis.	U-Value	Shading Coeff.
HM 77/Clear	61%	.36	.49
HM 66/Clear	53%	.35	.41
HM 55/Clear	45%	.35	.35
HM 44/Clear	36%	.35	.30
HM 77/Bronze	35%	.36	.34
HM 66/Bronze	30%	.36	.29
HM 55/Bronze	26%	.35	.26
HM 44/Bronze	21%	.35	.23
HM 77/Gray	29%	.36	.33
HM 66/Gray	25%	.36	.28
HM 55/Gray	21%	.35	.25
HM 44/Gray	17%	.35	.22



#### Reflective-Pyrolytic Deposition

Color	Light Trans.	1/4" Monolithic		1" Insulating	
		S.C.	U-Value	S.C.	U-Value
Bronze	21%	.45	1.1-1.13	.34	.49-.57
Gray	17%	.87	1.1-1.13	.33	.49-.57
Green	30%	.40	1.1-1.13	.30	.49-.57

### Plastic Glazing Performance

Listed below are standard thermoformed acrylic, thermoformed polycarbonate, and flat glazed structured sheet products. Relative performance is illustrated as a guide to the designer. Non-standard or custom glazing options are available, contact O'Keeffe's for details.

#### Single Glazed

Glazing Type: Plastics	Visible Light	Shading Coeff.	U-Value
<b>A, Acrylic Sheet, CC-2</b>			
Clear	92%	—	.89
Bronze #2412	27%	.58	.93
White #2447	42%	.69	.93
High White #2067	82%	.76	.93
Gray #2094	33%	.63	.93

#### P, Polycarbonate Solar-Grade Sheet, CC-1

Clear	82%	1.02	.90
Bronze/Gray	50%	.79	.90

#### T, G. E. LEXAN® Thermoclear Sheet, CC-1

Clear (10 mm)	80%	.89	.53
Bronze (10mm)	50%	.70	.53
White (10mm)	40%	.66	.53
Clear (16mm)	74%	.87	.48
Bronze (16mm)	50%	.70	.48
White (16mm)	40%	.66	.48

#### Double Glazed

Glazing Type: Plastics	Visible Light	Shading Coeff.	U-Value
<b>A, Acrylic Sheet, CC-2</b>			
Clear	85%	—	.48
Bronze #2412	25%	.43	.48
White #2447	39%	.64	.48
High White #2067	75%	.72	.48
Gray #2094	30%	.49	.48

#### P, Polycarbonate Solar-Grade Sheet, CC-1

Clear	67%	.82	.45
Bronze/Gray	41%	.67	.45
Clear Polyform	18%	.20	.18

#### T, G. E. LEXAN Thermoclear Sheet, CC-1

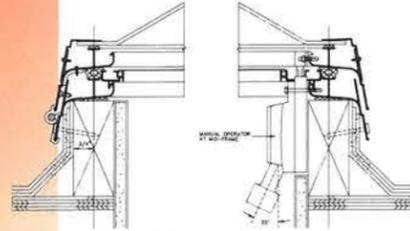
Clear (10 mm)	64%	.72	.25
Bronze (10mm)	25%	.49	.25
White (10mm)	19%	.47	.25
Clear (16mm)	55%	.69	.22
Bronze (16mm)	25%	.49	.22
White (16mm)	19%	.47	.22

(Other thickness available)

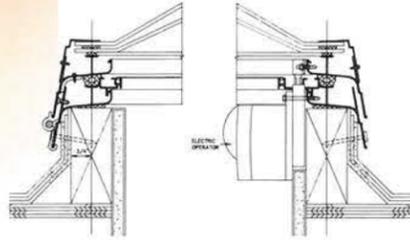
For more complete or specific performance criteria associated with any of the glazing materials listed above, refer to the manufacturers published information. Performance may vary from the above.

EXAMPLE: **S D 4 8 9 6 C M 1 1 A 2 W T D M 2 0 B 2**

### Operable Venting



### MO, Manually Operable



### EO, Electrically Operable

### Electric Operators

O'Keeffe's offers Truth's® Sky Sentry Skylight motors which can be activated by a remote control. Thoroughly tested, this motor is streamlined, quiet and reliable.

### RC, Remote Control

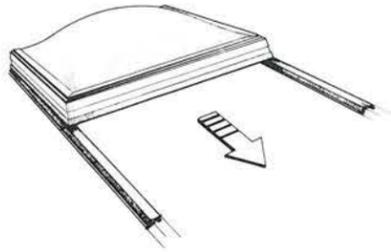
### Steel Security Grilles



### Burglar Bars/Security Grille

- B1**, With 1 center bar.
- B2**, With 2 center bars.
- B3**, With 3 center bars, as shown.

### Rolling Skylights



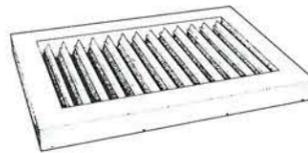
### MR, Manual Rolling Skylight

### ER, Electric Rolling Skylight

### Shading Devices



### PS, Pleated Shade



### LV, Louvered Shade



### Rafter Load-Span Tables

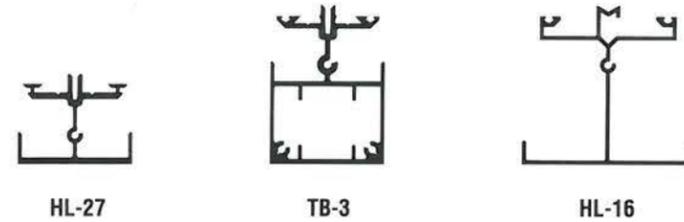
For Insulating Glass (Deflection Limit = L/175)

Live Load (PSF)	Rafter Spacing 2' O.C.			Rafter Spacing 3' O.C.			Rafter Spacing 4' O.C.		
	20	30	40	20	30	40	20	30	40
Shape									
TB-3	8.62'	7.83'	7.27'	7.53'	6.84'	6.35'	6.84'	6.22'	5.77'
HL-16	8.62'	7.83'	7.27'	7.53'	6.84'	6.35'	6.84'	6.21'	5.77'
HL-27	5.30'	4.81'	4.47'	4.63'	4.20'	3.90'	4.20'	3.82'	3.54'

For Single Glass (Deflection Limit = L/175) (Similar for Single- or Double-Glazed Acrylic)

Shape	Rafter Spacing 2' O.C.			Rafter Spacing 3' O.C.			Rafter Spacing 4' O.C.		
	20	30	40	20	30	40	20	30	40
Shape									
TB-3	9.35'	8.32'	7.62'	8.17'	7.26'	6.65'	7.42'	6.59'	6.04'
HL-16	9.35'	8.32'	7.61'	8.17'	7.26'	6.65'	7.42'	6.59'	6.04'
HL-27	5.74'	5.11'	4.68'	5.02'	4.46'	4.09'	4.56'	4.05'	3.71'

### Standard Rafters

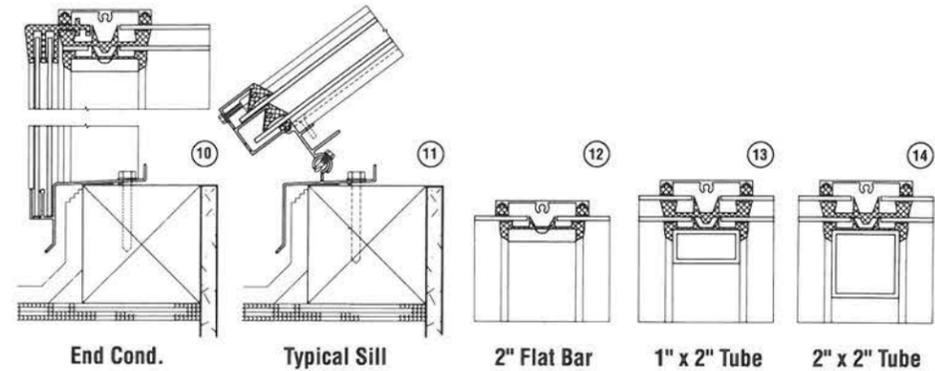


### HorizonVault Spans

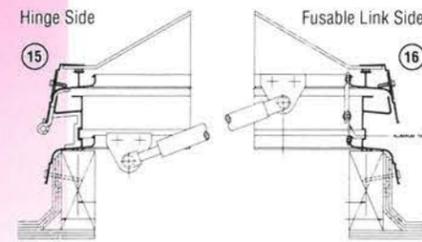
Span measured in feet. Rafter spacing not to exceed 4 foot on center. Live load - Lbs./Sq. Ft.

H/D	Section	20 lbs.	30 lbs.	40 lbs.	H/D	Section	20 lbs.	30 lbs.	40 lbs.
Span	FLAT BAR	6'	5'	4'	Span	1 x 2 x 1/8	4'	4'	4'
at 20%	1 x 2 x 1/8	10'	8'	6'	at 50%	2 x 2 x 1/8	8'	6'	6'
Rise	2 x 2 x 1/8	16'	12'	10'	Rise	3 x 2 x 1/8	12'	10'	8'

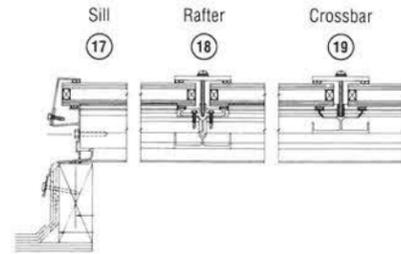
### HorizonVault Details



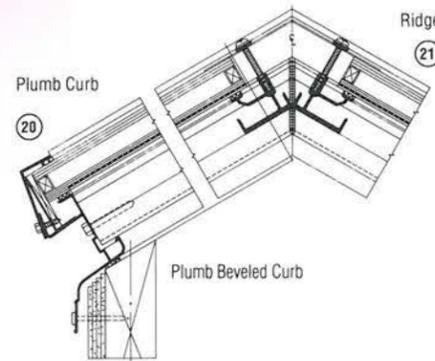
Scale: 3/16" = 1"



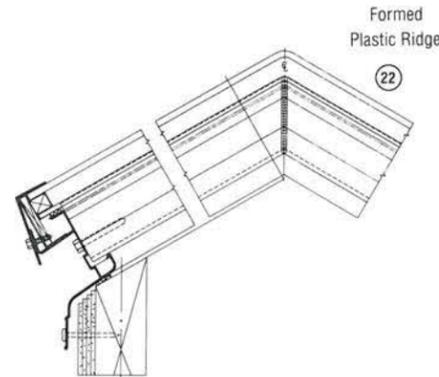
Scale: 1/8" = 1"



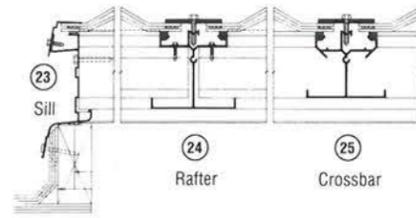
Scale: 1/8" = 1"



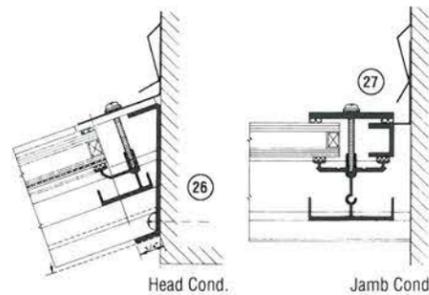
Scale: 3/16" = 1"



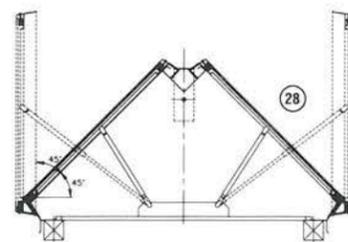
Scale: 3/16" = 1"



Scale: 1/8" = 1"



Scale: 3/16" = 1"



Section

**Section: Fire Vent**

- Translucent plastic or sheet metal lid capable of opening against a live load of 10 pounds per square foot.
- Specify if UL/FM approvals are required.

Full size details are available, call 800-227-3305.

**Standard Skylight  
Short Form Specifications**

Furnish and install O'Keeffe's product

as manufactured by O'Keeffe's Inc., 75 Williams Avenue, San Francisco, California 94124, (415) 822-4222, and at locations shown on the drawings. Refer to specifying guide for model code; size, curb type, finish, glazing and options. Prior approval by architect required for substitution.

**Glazing Materials:** Acrylic, Polycarbonate or Glass shall meet the thickness specifications as defined by current I.C.B.O. acceptance criteria, or AAMA and manufacturer's recommendations to withstand a \_\_\_\_\_ uniform live load and \_\_\_\_\_ negative load with appropriate safety factors.

**Frames:** Perimeter frames and glazing caps shall be extruded in aluminum alloy 6063-T5. Frame corners shall be mitered and full penetration heliarc welded.

**Finish:** Frame finish shall be as specified.

**Installation:** Perimeter frames shall be installed plumb, square and level on a bed of non-hardening butyl or silicone sealant. Frames shall be secured to curbs with fasteners as structurally required.

**Quality Assurance:** HorizonLite skylights are to be free from defects in material and workmanship for a period of ten years with a Lifetime WaterTite® Warranty from the date of purchase.

**Experience Qualification:** Manufacturer shall have been regularly engaged in the fabrication of such skylights for a minimum of ten years.

**Fire Vent, Smoke Hatch  
Short Form Specifications**

Furnish and install O'Keeffe's Fire Vent/Smoke Hatch, model number \_\_\_\_\_ as manufactured by O'Keeffe's Inc., 75 Williams Avenue, San Francisco, California 94124, (415) 822-4222, as indicated on the drawings.

Fire Vent/Smoke Hatch lids shall be constructed of translucent plastic or sheet metal. Unit shall be automatically heat activated by means of a U.L. listed fusible link when the temperature exceeds 30°F above the maximum ambient temperature at the intended location. Unit shall also be designed for manual release and can be reset from the roof top for inspection and maintenance. Unit shall be capable of opening against a live load of 10 psf, locking in an open position. Unit lids shall not open when subjected to 30 psf up-lift pressure. Smoke Hatches also available in louvered curb type. Fire Vent shall be constructed of electro-galvanized steel, factory assembled and ready for installation on the roof deck according to manufacturer's recommendations. Specify if UL/FM approval required.

Double wall LEXAN Thermoclear is a Registered Trademark of General Electric.  
Heat Mirror is a Trademark of Southwall Technologies.  
Polyform is a Registered Trademark of Crystalite, Inc.  
Truth's is a Registered Trademark of SPX Corporation.

