



# MAC Skylights

[www.macs skylights.ca](http://www.macs skylights.ca)





# MAC Skylights

## WHY SKYLIGHTS

To provide maximum natural lighting a skylight is the answer. Unlike conventional wall windows, skylights are never totally in the shade. The amount of daylight reaching the interior of a structure through a skylight is up to five times greater than the amount of light from a wall window of equal size. Skylights also provide a more even distribution of natural light.

Studies have shown that natural light is crucial to our well being and healthier for our eyes than artificial light. Artificial lighting is depressing and has an adverse effect on our minds and bodies.

Skylights not only improve visual conditions in a building; they also create an atmosphere more stimulating to its occupants. In homes and buildings with skylights, plants grow abundantly no matter where they are placed within a room. Interior furnishings and finishes are seen in their true colors only under natural light.







Not only are skylights an asset to any room because of the natural light they transmit, they also offer savings in electric power costs.

In industrial and commercial buildings skylights improve working conditions and offer unrestricted use of floor and wall space. The likelihood of vandalism and break-ins is reduced. Operable skylights provide ventilation and roof access. Skylights can be beneficial in building entrances, lobbies or foyers to spotlight pleasing features such as planters, fountains or works of art.

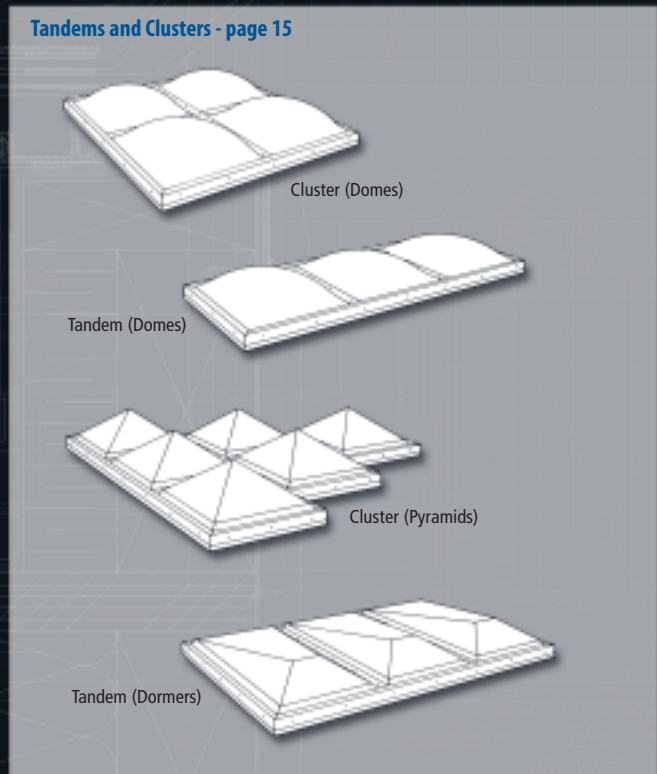
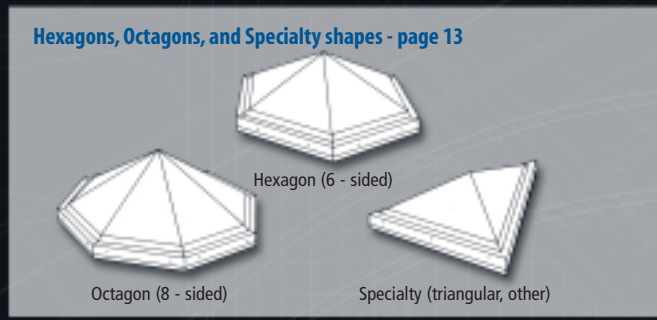
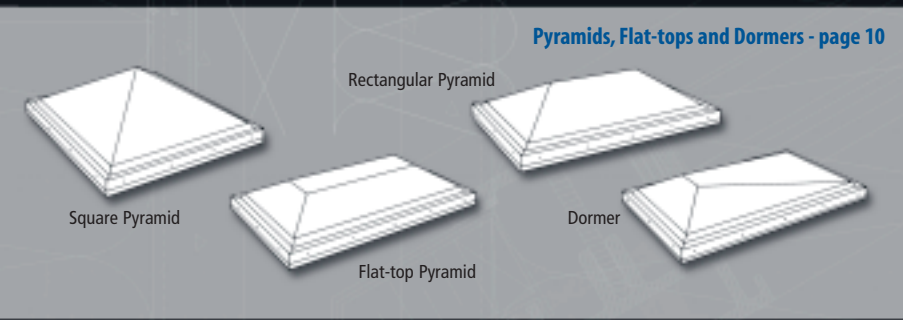
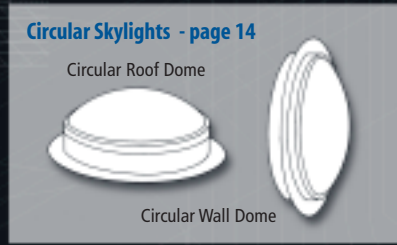
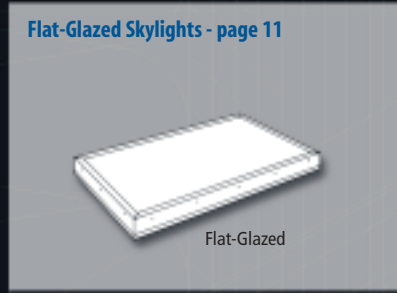
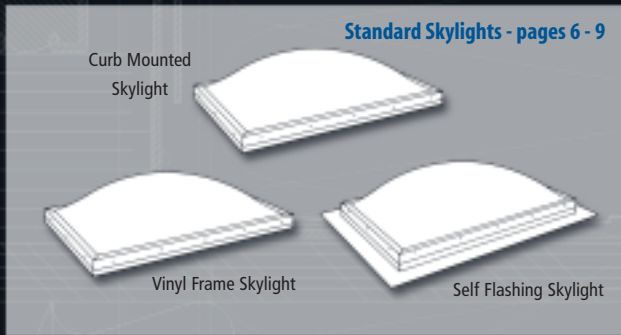
The use of skylights is bringing about new design concepts in both residential and commercial construction. Skylights bring the outdoors indoors; yet with an abundance of light, are wonderfully private.

Mac Skylights are available in a variety of sizes, shapes, styles and colors for individual or clustered installation on all types of buildings. Don't be deceived by imitations, insist on a Mac Skylight, the ultimate in design, variety and quality!



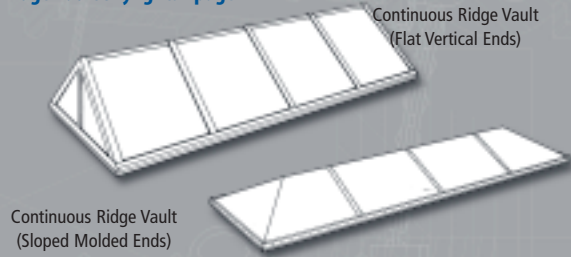


# MAC Skylights

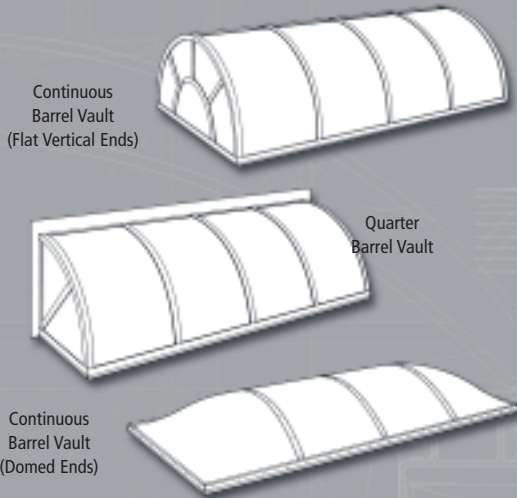




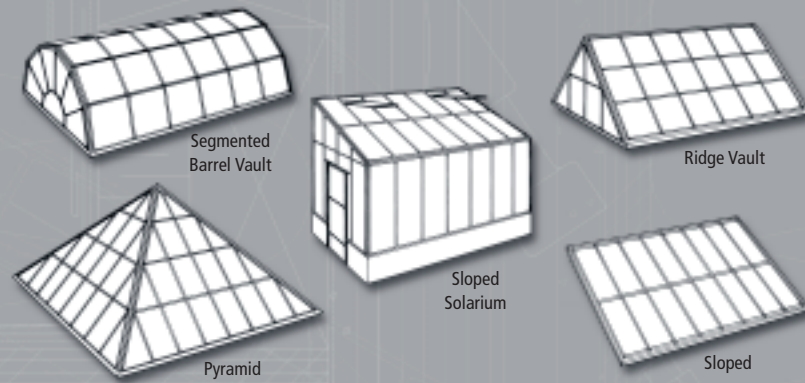
Ridge Vault Skylights - page 17



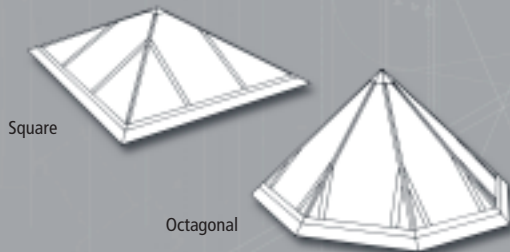
Barrel Vault Skylights - page 16



Glass Skylights - pages 19 - 22



Structural Pyramid Skylights - page 18





# Technical Information

## Aluminum Framing

Mac Skylights are fabricated from 6063-T5 extruded aluminum alloy. Some structural components utilize the stronger 6063-T54 alloy. In addition to this, some frame components incorporate a thermal break. This thermal break consists of a core of structural, insulative material, which thermally divides the warm inner portion of the aluminum frame, and the cold outer portion, thereby increasing thermal efficiency. Corner joints of unit skylights have a continuous weld to provide protection against leakage. Unless otherwise specified, all aluminum framing is supplied in mill finish. All skylight models are available with optional pre-finished brown or white baked enamel paint finish on all exterior exposed aluminum. Anodized or custom color finishes are available on special order.

Larger skylight assemblies are custom fabricated to suit specific jobsite conditions. Framing components are welded and/or mechanically connected. Unless otherwise specified all aluminum framing is supplied in mill finish. Common optional finishes include clear and bronze anodized aluminum. Custom painted framing components are also available.

## Glazing Materials

Depending on size and type of skylight, the glazing material will be 1/8 inch (3.0mm), 3/16 (4.5mm) or 1/4 inch (6.0mm) thick. Most Mac Skylights are supplied with acrylic glazing. Some models are supplied with glass. Polycarbonate plastic glazing is available on special order. The advantages of polycarbonate are that it offers improved fire resistance over standard acrylic, and it is virtually unbreakable. Polycarbonate is approved by Underwriter's Laboratory of Canada as the only burglar resistant glazing material. However, it is less scratch resistant, does not stand up to weathering as well, and is more costly than standard acrylic plastic.

## Glazing Colors

Clear glazing allows vision to the exterior and transmits direct light. It should be used where maximum amount of direct light is desired. Use only where glare, light diffusion and solar heat transmission are not important. Tinted glazing also allows vision to the exterior and transmits direct light. The tint reduces glare, brightness and solar heat transmission. The standard bronze color offers a significant reduction in solar heat gain, but does with a significant reduction in the transmission of visible light. Other light blue and green tints, available specifically in glass, offer a significant reduction in solar heat gain, without as much of a reduction in the transmission of visible light. White translucent glazing, available in both plastic and glass, is excellent for diffusion. It provides uniform day lighting over the entire floor area, reduces glare, eliminates shadows, and minimizes solar heat gain. It does not allow vision to the exterior.

## Plastic Glazing

Only high quality cast acrylic or polycarbonate glazing materials are used. Clear, bronze tinted and white translucent are standard, with other colors available on special order. Because plastic glazing materials can be economically thermally formed they are an excellent choice for molded or curved skylights. In addition, plastic is generally less expensive, is lighter, and stronger than glass. Plastic glazing provides insulative qualities against heat loss that are superior to those of standard uncoated glass. There are no specialty high performance coatings that can be applied to plastic materials to improve their performance.

## Glass

Only proper safety glass materials are used. All double and triple glazed skylights are fabricated with tempered outer and laminate inner glass materials. Single glazed skylights are fabricated with laminate or heat-strengthened laminate glass. Clear, Bronze Tinted, Grey Tinted and White translucent are standard, with many other specialty materials also available. Glass is more resistant to scratching, ultraviolet breakdown and fire than are plastic glazing materials. More importantly, there are many types of specialty coatings that can be applied to glass surfaces to improve its performance characteristics. Reflective and semi-reflective coatings may be used to control light transmittance, solar heat gain and heat loss, or to achieve a reasonable balance between the three. Different coatings may be applied to different colored glass substrates to achieve the best all around performance for specific applications.

## Single, Double and Triple Glazing

Single Glazed skylights should only be used for unheated structures such as patio covers, garages, entrance canopies and cold storage warehouses.

Double Glazed skylights are recommended for most applications to provide thermal insulation and guard against condensation. They will reduce heat loss in winter and solar heat gain in summer.

Triple Glazed skylights provide insulation values that, in general, are approximately 50% better than those of double glazed skylights. Triple glazing can be achieved by using a triple glazed skylight, or by installing a ceiling panel beneath a double glazed skylight. A ceiling panel consists of a flat sheet (or on larger skylights a slightly domed sheet may be used) of plastic (or safety glass), installed in the skylight opening at ceiling level. Ceiling panels are recommended for high humidity areas such as kitchens, bathrooms, above pools and spas, or where lack of air movement in deep light shafts causes excessive condensation build up.

## Insulation Values

In general, plastic glazing materials have about one-fourth the thermal conductivity of glass. This translates to an insulation value about 20% better than standard uncoated glass. However, many specialty glass materials such as low-emissivity glass, heat mirror glass, or glass sealed units with a gas filled space offer drastically improved insulation and heat transmission qualities. In general, the approximate U-values for standard acrylic glazing verses standard uncoated glass are as follows....

Double Glazed Acrylic Plastic:	0.43 BTU/Hr/Ft <sup>2</sup> /°F
Double Glazed Glass:	0.51 BTU/Hr/Ft <sup>2</sup> /°F

## Impact Resistance

Tempered Glass:	approx. 4 times stronger than standard glass
Acrylic:	approx. 20 times stronger than standard glass
Polycarbonate:	approx. 200 times stronger than standard glass

## Flame Spread Ratings

Material	Thickness	Flame Spread (GWL)	Smoke Developed
Acrylic	1/8" - 1/4"	125 - 145	400 - 500
Polycarbonate	1/8" - 1/4"	45 - 60	400 - 500
Glass		Non-Combustible	

Flame Spread requirements for plastic glazing materials vary depending upon the occupancy of the building, and local fire codes. There is no one standard that applies in this regard. In general acrylic plastic is allowable, up to certain size limitations, for most buildings. It may be necessary to use polycarbonate plastic on the inner-glazing layer of plastic skylights to achieve the lower flame spread rating indicated above. For further information it is recommended that local authorities, as well as the applicable building standards, be referenced.

## Performance Specifications

	Visible Light Transmittance	Total Solar Transmittance	Shading Co-efficient	Winter Night Time U-Value
Double Clear Acrylic Plastic	92%	85%	0.89	0.43 (R2.3)
Double Acrylic Plastic/Bronze on Clear	27%	35%	0.43	0.43 (R2.3)
Double Acrylic Plastic/Clear on White	53%	53%	0.43	0.43 (R2.3)
Double Clear Polycarbonate Plastic	86%	89%	0.87	0.43 (R2.3)
Double Polycarbonate Plastic				
Bronze on Clear	50%	60%	0.67	0.43 (R2.3)
Glass - Clear Temp. on Clear Lam.	79%	61%	0.81	0.51 (R2.0)
Glass - Bronze Temp. on Clear Lam.	46%	37%	0.56	0.51 (R2.0)
Glass - Clear Temp. on White Lam.	58%	45%	0.63	0.51 (R2.0)

**Visible Light Transmittance:** In the visible spectrum (380 to 720nm), the percentage of light that is transmitted through the glazing material.

**Total Solar Transmittance:** In the solar spectrum (200 to 2500nm), the percentage of ultraviolet, visible and near infrared energy from the sun that is transmitted through the glazing.

**Shading Co-efficient:** A measure of total solar heat gain through a glazing material relative to a single pane of 1/8" thick clear uncoated glass under the same design conditions. It includes both the solar energy transmitted directly plus any absorbed solar radiation that is re-radiated as heat to the interior. Dimensionless and varying between 0 and 1, the smaller the number, the better the glazing is at preventing solar heat gain.

**Winter Night Time U-Value:** The heat flow rate through a glazing material expressed in BTU/Hr/ft<sup>2</sup>/°F. Values are normally given for winter conditions of 0°F outdoor temperature 70°F indoor temperature, 15-mph wind speed and no solar load. The R-value is the thermal resistance of a glazing material expressed in hr x ft<sup>2</sup> x °F/BTU. It is the reciprocal of the U-value and is based on the same set of conditions.

Contact Mac Plastics Ltd. for performance specifications on the many high performance glass materials that are also available.

## Care and Maintenance

Skylights require only a minimum of maintenance. Due to their location, and elevated shape of most styles, they are self-washing (rain). However, if cleaning is desired the following precautions must be observed.

**Plastic Skylights.** Use soft cloth, sponge or chamois with warm water. A mild detergent such as dishwashing liquid may be used, if necessary. Rinse well with clear water. Blot dry with a soft cloth or sponge to prevent water spots. Always make certain to rinse all dirt and grit off of the skylight before wiping. Never use items such as gritty cloths, scouring pads, scrapers, strong solvents or cleaning agents. Many foreign substances can not be successfully removed from plastic glazing without damage.

**Glass skylights** are much less likely to scratch or be damaged by cleaning solutions. Use common sense and the same cleaning methods as for standard glass windows. Coated glass materials are more likely to be damaged by cleaning than are uncoated glass materials.

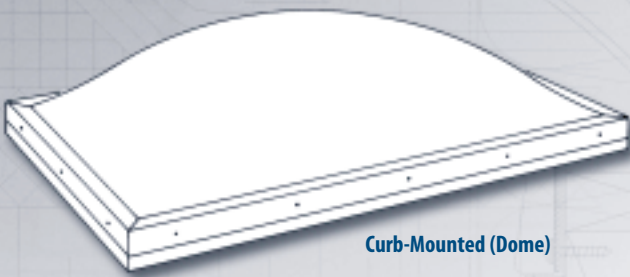
## Warranty

Mac Skylights, as manufactured by Mac Plastics Ltd., are guaranteed for a period of two years from the date of shipment (from the date of installation - if installed by Mac Plastics Ltd.) against defects in materials and workmanship in the production and fabrication processes (also the installation process - if installed by Mac Plastics Ltd.), provided that such Mac Plastics Ltd. products are installed according to Mac Plastics Ltd. recommendations. Liability of Mac Plastics Ltd., under the above mentioned guarantee is limited to the original purchase price of the defective unit or item, exclusive of shipping and installation costs. Shipping and installation costs are covered under the above warranty only if Mac Plastics Ltd. carried out the original delivery and installation at the time of purchase. Any unit or component proved to be defective due to faulty material or workmanship, if returned transportation charges prepaid, will be repaired or replaced, at the discretion of Mac Plastics Ltd., without charge, FOB Mac Plastics Ltd. Edmonton plant. Any unit or component, originally installed by Mac Plastics Ltd., and proved to be defective due to faulty material or workmanship, will be repaired or replaced, at the discretion of Mac Plastics Ltd., without charge, at the originally installed location. Advance written notice must be received and acknowledged by Mac Plastics Ltd. prior to returning any products for warranty repair or replacement. This warranty is effective only if installation, handling and operation of Mac Skylights are in accordance with the approved methods of installation, handling and operation. Any charges which may be incurred by the purchaser of any Mac Plastics Ltd., product, which was not installed by Mac Plastics Ltd., such as materials, labour and equipment for inspecting, removing, etc., are not covered under this warranty. Liability shall not be accepted for consequential damages of any nature. In the event that the original invoice for any Mac Plastics Ltd. product, including related services, as well as any late payment charges, has not been paid in full, this warranty is void. This warranty supercedes any other expressed, written or implied warranty.

For further information please contact the manufacturer:

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# Mac Curb-Mounted Skylights



Curb-Mounted (Dome)

## Standard Sizes for Mac Curb-Mounted Skylights

Catalogue Number	Outside Dimension		Rough Opening (Standard Curb Construction)	
	Inches	MM	Inches	MM
MCM 2028	20 x 28	508 x 711	14 x 22	355 x 559
MCM 2036	20 x 36	508 x 915	14 x 30	355 x 762
MCM 2048	20 x 48	508 x 1219	14 x 42	355 x 1067
MCM 2052	20 x 52	508 x 1321	14 x 46	355 x 1169
MCM 2060	20 x 60	508 x 1524	14 x 54	355 x 1371
MCM 2424	24 x 24	610 x 610	18 x 18	457 x 457
MCM 2436	24 x 36	610 x 915	18 x 30	457 x 762
MCM 2448	24 x 48	610 x 1219	18 x 42	457 x 1067
MCM 2460	24 x 60	610 x 1524	18 x 54	457 x 1371
MCM 2472	24 x 72	610 x 1829	18 x 66	457 x 1677
MCM 2496	24 x 96	610 x 2438	18 x 90	457 x 2286
MCM 2828	28 x 28	711 x 711	22 x 22	559 x 559
MCM 2836	28 x 36	711 x 915	22 x 30	559 x 762
MCM 2848	28 x 48	711 x 1219	22 x 42	559 x 1067
MCM 2852	28 x 52	711 x 1321	22 x 46	559 x 1169
MCM 2860	28 x 60	711 x 1524	22 x 54	559 x 1371
MCM 2872	28 x 72	711 x 1829	22 x 66	559 x 1677
MCM 2896	28 x 96	711 x 2438	22 x 90	559 x 2286
MCM 3636	36 x 36	915 x 915	30 x 30	762 x 762
MCM 3648	36 x 48	915 x 1219	30 x 42	762 x 1067
MCM 3652	36 x 52	915 x 1321	30 x 46	762 x 1169
MCM 3660	36 x 60	915 x 1524	30 x 54	762 x 1371
MCM 3672	36 x 72	915 x 1829	30 x 66	762 x 1677
MCM 3696	36 x 96	915 x 2438	30 x 90	762 x 2286
MCM 4242	42 x 42	1067 x 1067	36 x 36	915 x 915
MCM 4848	48 x 48	1219 x 1219	42 x 42	1067 x 1067
MCM 4852	48 x 52	1219 x 1321	42 x 46	1067 x 1169
MCM 4860	48 x 60	1219 x 1524	42 x 54	1067 x 1371
MCM 4872	48 x 72	1219 x 1829	42 x 66	1067 x 1677
MCM 4896	48 x 96	1219 x 2438	42 x 90	1067 x 2286
MCM 5252	52 x 52	1321 x 1321	46 x 46	1169 x 1169
MCM 5260	52 x 60	1321 x 1524	46 x 54	1169 x 1371
MCM 5272	52 x 72	1321 x 1829	46 x 66	1169 x 1677
MCM 5296	52 x 96	1321 x 2438	46 x 90	1169 x 2286
MCM 52108	52 x 108	1321 x 2743	46 x 102	1169 x 2590
MCM 6060	60 x 60	1524 x 1524	54 x 54	1371 x 1371
MCM 6072	60 x 72	1524 x 1829	54 x 66	1371 x 1677
MCM 6096	60 x 96	1524 x 2438	54 x 90	1371 x 2286
MCM 7272	72 x 72	1829 x 1829	66 x 66	1677 x 1677
MCM 7296	72 x 96	1829 x 2438	66 x 90	1677 x 2286
MCM 8080	80 x 80	2032 x 2032	74 x 74	1880 x 1880
MCM 8484	84 x 84	2133 x 2133	78 x 78	1981 x 1981
MCM 9696	96 x 96	2438 x 2438	90 x 90	2286 x 2286

Note: Outside dimensions listed on this chart are actual outside dimensions of the skylight base frame. It is recommended to allow additional clearance when constructing the skylight curb.

To calculate **Rough Opening** dimensions for **Wide Curb Construction** subtract two times the actual curb width from the outside dimension. Custom sizes available on request.

## Model MCM

Mac Curb-Mounted Skylights are our most commonly used skylight model as they can be installed onto virtually any type of roof. They incorporate a thermally broken aluminum base frame, which is an important feature in colder climates. This thermal break consists of a core of structural, insulative material, which divides the warm inner portion and the cold outer portion of the aluminum frame, thereby increasing thermal efficiency. Glazing consists of single, double or triple layers of thermally formed acrylic domes. The elevated profile of the domed shape helps to shed snow during winter months. This is an important consideration for our long Canadian winters, as the skylight must remain free of snow to provide maximum illumination. During winter months the number of hours of daylight are at the lowest, and people generally spend more time indoors.

Mac Curb-Mounted Skylights are designed to fit onto a curb constructed on top of the roof. The construction of these curbs may be modified to suit various roof types. Typically the curb consists of a wood or metal structure, rigid insulation, roof membranes and/or flashings, a vapor barrier, and interior finishing material.

**Standard Curb Construction**, as outlined in the upper detail on Page 7, is typical on most sloped roof installations, or when the thickness of the required roofing materials is minimal. This curb construction method allows for a wood curb, 1-1/2" (38mm) thick, insulated with 1" (25mm) of rigid insulation, and waterproofed with membrane roofing and/or flashing. The total curb thickness must not exceed 2-3/4" (70mm). The height of the curb may be adjusted to suit specific jobsite conditions. If this construction method is being utilized, then the **rough opening dimensions shown on the size chart to the left** are applicable. Many of these sizes are intended to line up to standard rafter and truss spaces.

If for any reason the thickness of the roof curb will exceed 2-3/4" (70mm) then **Wide Curb Construction** will apply. Many different curb construction methods may be utilized. One typical wide curb detail is illustrated in the lower drawing on Page 7. This is common on flat roof installations due to the added thickness of most roofing systems, or when additional insulation within the curb is desired. The same skylight is used with either Standard Curb or Wide Curb Applications. The outside dimensions of the skylight remains as per the standard sizes indicated in the chart to the left. The **rough opening of the skylight is reduced** to accommodate the added thickness of the curb materials. The rough opening must be calculated by subtracting two times the actual curb thickness from the outside dimensions.

The Mac Model MCM Curb-Mounted Skylight is the most versatile skylight available, not only because of its adaptability to various roof types, but also because of the many options offered. This includes a wide variety of sizes, shapes and glazing and operability options as outlined on this and some of the following pages. Although not illustrated, Mac Model MCM Curb-Mounted Skylights may also be custom fabricated with special flashings to permit installation directly against adjacent vertical walls. This can be particularly effective when installed on the edge of a buildings' foundation to allow natural illumination of basement areas.

The drawings to the right illustrate the same Mac Model MCM Curb-Mounted Skylight installed onto two different types of roof curb. Note that the outside dimensions remain consistent and that it is the rough opening that is reduced to accommodate increased curb width. The chart to the left indicates standard sizes available. The rough opening dimensions listed are for Standard Curb Construction. The rough opening dimensions for Wide Curb Construction must be calculated by subtracting the thickness of the required curb, multiplied by two, from the outside dimension of the skylight. Remember to allow some exterior clearance for expansion and contraction, and for the buildup of the roofing material at lapped corners.

## Specifications

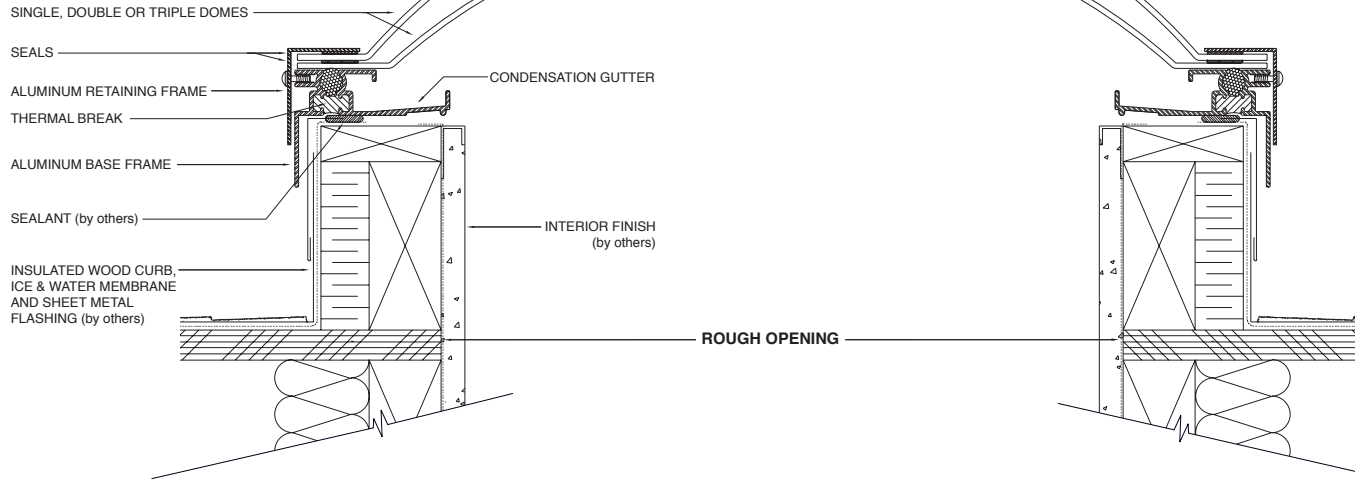
For designers or architects wishing to specify Mac Curb-Mounted Skylights, the following short specification may be quoted...

Skylights shall be Mac Curb-Mounted Skylights, catalogue number MCM....., as manufactured by Mac Plastics Ltd. They shall be factory assembled units consisting of extruded aluminum base frame (6063-T5 alloy), with thermal break and condensation gutter, for curb mount. Glazing material shall be (single, double, or triple) acrylic (or polycarbonate) domes, in clear (or bronze tinted or white translucent). Specify type and color of glazing material and frame finish (if other than mill finish).

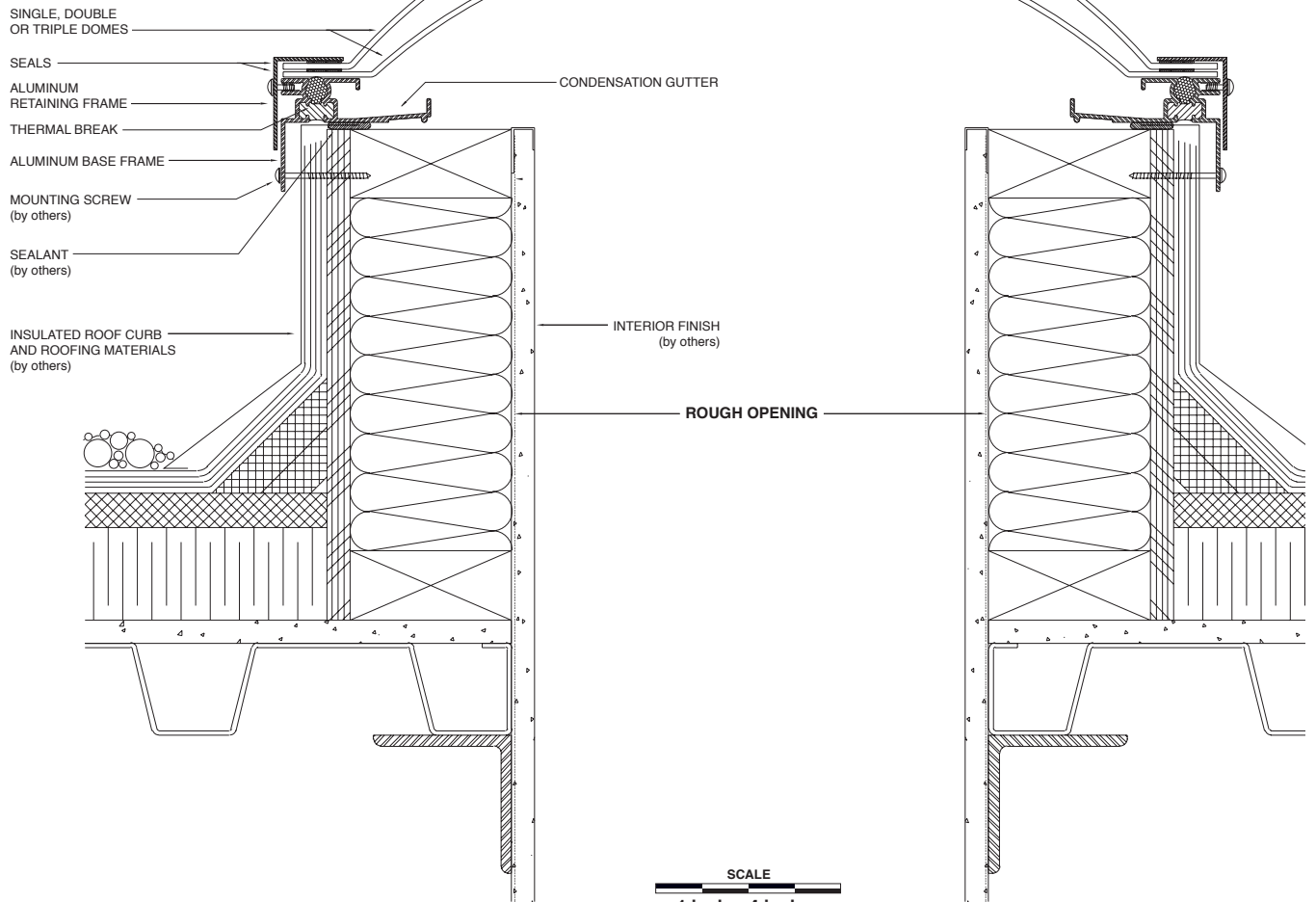
Full specifications available upon request.



**MAC Curb-Mounted Skylight  
(Standard Curb Construction)**



**MAC Curb-Mounted Skylight  
(Wide Curb Construction)**



SCALE  
1 inch = 4 inches  
(25 mm = 100 mm)

# Mac Vinyl Frame Skylights



Vinyl Frame

## Standard Sizes for Mac Vinyl Frame Skylights

Catalogue Number	Outside Dimension		Rough Opening (Standard Curb Construction)	
	Inches	MM	Inches	MM
MVF 2028	20 x 28	508 x 711	14 1/2 x 22 1/2	368 x 571
MVF 2036	20 x 36	508 x 915	14 1/2 x 30 1/2	368 x 775
MVF 2048	20 x 48	508 x 1219	14 1/2 x 42 1/2	368 x 1079
MVF 2052	20 x 52	508 x 1321	14 1/2 x 46 1/2	368 x 1181
MVF 2060	20 x 60	508 x 1524	14 1/2 x 54 1/2	368 x 1384
MVF 2424	24 x 24	610 x 610	18 1/2 x 18 1/2	470 x 470
MVF 2436	24 x 36	610 x 915	18 1/2 x 30 1/2	470 x 775
MVF 2448	24 x 48	610 x 1219	18 1/2 x 42 1/2	470 x 1079
MVF 2460	24 x 60	610 x 1524	18 1/2 x 54 1/2	470 x 1384
MVF 2472	24 x 72	610 x 1829	18 1/2 x 66 1/2	470 x 1689
MVF 2828	28 x 28	711 x 711	22 1/2 x 22 1/2	571 x 571
MVF 2836	28 x 36	711 x 915	22 1/2 x 30 1/2	571 x 775
MVF 2848	28 x 48	711 x 1219	22 1/2 x 42 1/2	571 x 1079
MVF 2852	28 x 52	711 x 1321	22 1/2 x 46 1/2	571 x 1181
MVF 2860	28 x 60	711 x 1524	22 1/2 x 54 1/2	571 x 1384
MVF 2872	28 x 72	711 x 1829	22 1/2 x 66 1/2	571 x 1689
MVF 3636	36 x 36	915 x 915	30 1/2 x 30 1/2	775 x 775
MVF 3648	36 x 48	915 x 1219	30 1/2 x 42 1/2	775 x 1079
MVF 3652	36 x 52	915 x 1321	30 1/2 x 46 1/2	775 x 1181
MVF 3660	36 x 60	915 x 1524	30 1/2 x 54 1/2	775 x 1384
MVF 3672	36 x 72	915 x 1829	30 1/2 x 66 1/2	775 x 1689
MVF 4242	42 x 42	1067 x 1067	36 1/2 x 36 1/2	927 x 927
MVF 4848	48 x 48	1219 x 1219	42 1/2 x 42 1/2	1079 x 1079
MVF 4852	48 x 52	1219 x 1321	42 1/2 x 46 1/2	1079 x 1181
MVF 4860	48 x 60	1219 x 1524	42 1/2 x 54 1/2	1079 x 1384
MVF 4872	48 x 72	1219 x 1829	42 1/2 x 66 1/2	1079 x 1689
MVF 5252	52 x 52	1321 x 1321	46 1/2 x 46 1/2	1181 x 1181
MVF 5260	52 x 60	1321 x 1524	46 1/2 x 54 1/2	1181 x 1384
MVF 5272	52 x 72	1321 x 1829	46 1/2 x 66 1/2	1181 x 1689
MVF 6060	60 x 60	1524 x 1524	54 1/2 x 54 1/2	1384 x 1384
MVF 6072	60 x 72	1524 x 1829	54 1/2 x 66 1/2	1384 x 1689
MVF 7272	72 x 72	1829 x 1829	66 1/2 x 66 1/2	1689 x 1689

Note: Outside dimensions listed on this chart are actual outside dimensions of the skylight base frame. It is recommended to allow additional clearance when constructing the skylight curb.

To calculate **Rough Opening** dimensions for **Wide Curb Construction** subtract two times the actual curb width from the outside dimension. Custom sizes available on request.

## Model MVF

Mac Vinyl Frame Skylights are similar to Mac Curb-Mounted Skylights in that they also fit onto a curb (not included with the skylight) and are suitable for virtually any type of roof. The principal difference between the two is value. Mac Vinyl Frame Skylights are designed with an emphasis on economy, yet with minimal reduction in quality. They consist of domed glazing, a durable weather resistant, extruded aluminum exterior retaining frame and an extruded vinyl base frame. There is no need for a thermal break within this vinyl base frame because the coefficient of thermal conductivity for vinyl is greatly superior to that of solid aluminum. This property makes the vinyl base frame approximately equal, in terms of thermal efficiency, to a thermally broken aluminum frame. Standard sizes are shown on the chart at left. These skylights, as detailed on the drawing below, may be used with either a standard or wide curb.

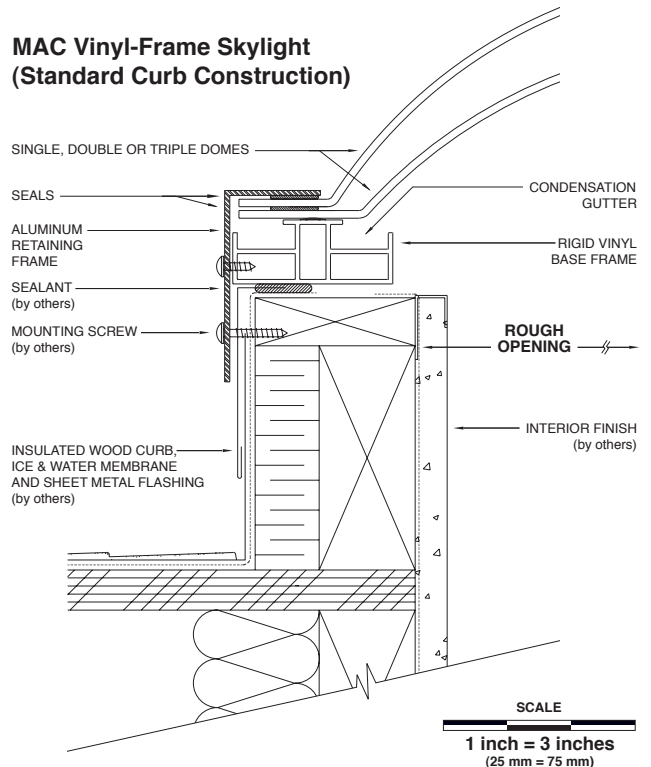
## Specifications

For designers or architects wishing to specify Mac Vinyl Frame Skylights, the following short specification may be quoted....

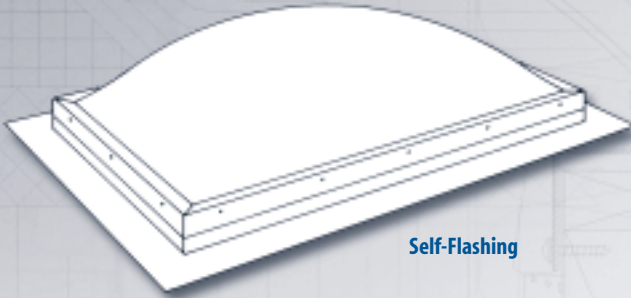
Skylights shall be Mac Vinyl Frame Skylights, catalogue number MVF..... as manufactured by Mac Plastics Ltd. They shall be factory-assembled units consisting of extruded, rigid vinyl base frame and extruded aluminum retaining frame (alloy 6063-T5), for curb mount. Glazing material shall be (single, double, or triple) acrylic (or polycarbonate) domes, in clear (or bronze tinted or white translucent). Specify type and color of glazing material and retaining frame finish (if other than mill finish).

Full specifications available upon request.

## MAC Vinyl-Frame Skylight (Standard Curb Construction)







Self-Flashing

## Standard Sizes for Mac Self-Flashing Skylights

Catalogue Number	Outside Dimension		Rough Opening	
	Inches	MM	Inches	MM
MSF 2028	20 x 28	508 x 711	14 1/2 x 22 1/2	368 x 571
MSF 2036	20 x 36	508 x 915	14 1/2 x 30 1/2	368 x 775
MSF 2048	20 x 48	508 x 1219	14 1/2 x 42 1/2	368 x 1079
MSF 2052	20 x 52	508 x 1321	14 1/2 x 46 1/2	368 x 1181
MSF 2060	20 x 60	508 x 1524	14 1/2 x 54 1/2	368 x 1384
MSF 2424	24 x 24	610 x 610	18 1/2 x 18 1/2	470 x 470
MSF 2436	24 x 36	610 x 915	18 1/2 x 30 1/2	470 x 775
MSF 2448	24 x 48	610 x 1219	18 1/2 x 42 1/2	470 x 1079
MSF 2460	24 x 60	610 x 1524	18 1/2 x 54 1/2	470 x 1384
MSF 2472	24 x 72	610 x 1829	18 1/2 x 66 1/2	470 x 1689
MSF 2828	28 x 28	711 x 711	22 1/2 x 22 1/2	571 x 571
MSF 2836	28 x 36	711 x 915	22 1/2 x 30 1/2	571 x 775
MSF 2848	28 x 48	711 x 1219	22 1/2 x 42 1/2	571 x 1079
MSF 2852	28 x 52	711 x 1321	22 1/2 x 46 1/2	571 x 1181
MSF 2860	28 x 60	711 x 1524	22 1/2 x 54 1/2	571 x 1384
MSF 2872	28 x 72	711 x 1829	22 1/2 x 66 1/2	571 x 1689
MSF 2896	28 x 96	711 x 2438	22 1/2 x 90 1/2	571 x 2298
MSF 3636	36 x 36	915 x 915	30 1/2 x 30 1/2	775 x 775
MSF 3648	36 x 48	915 x 1219	30 1/2 x 42 1/2	775 x 1079
MSF 3652	36 x 52	915 x 1321	30 1/2 x 46 1/2	775 x 1181
MSF 3660	36 x 60	915 x 1524	30 1/2 x 54 1/2	775 x 1384
MSF 3672	36 x 72	915 x 1829	30 1/2 x 66 1/2	775 x 1689
MSF 3696	36 x 96	915 x 2438	30 1/2 x 90 1/2	775 x 2298
MSF 4242	42 x 42	1067 x 1067	36 1/2 x 36 1/2	927 x 927
MSF 4848	48 x 48	1219 x 1219	42 1/2 x 42 1/2	1079 x 1079
MSF 4852	48 x 52	1219 x 1321	42 1/2 x 46 1/2	1079 x 1181
MSF 4860	48 x 60	1219 x 1524	42 1/2 x 54 1/2	1079 x 1384
MSF 4872	48 x 72	1219 x 1829	42 1/2 x 66 1/2	1079 x 1689
MSF 4896	48 x 96	1219 x 2438	42 1/2 x 90 1/2	1079 x 2298
MSF 5252	52 x 52	1321 x 1321	46 1/2 x 46 1/2	1181 x 1181
MSF 5260	52 x 60	1321 x 1524	46 1/2 x 54 1/2	1181 x 1384
MSF 5272	52 x 72	1321 x 1829	46 1/2 x 66 1/2	1181 x 1689
MSF 5296	52 x 96	1321 x 2438	46 1/2 x 90 1/2	1181 x 2298
MSF 6060	60 x 60	1524 x 1524	54 1/2 x 54 1/2	1384 x 1384
MSF 6072	60 x 72	1524 x 1829	54 1/2 x 66 1/2	1384 x 1689
MSF 6096	60 x 96	1524 x 2438	54 1/2 x 90 1/2	1384 x 2298

Custom sizes available on request.

## Model MSF

Mac Self-Flashing Skylights are designed for use in renovation projects. They may also be used in new construction; however, they should only be installed on roofs with a minimum slope of 20 degrees, and can only be used with asphalt shingles. Mac Self-Flashing Skylights incorporate a thermally broken aluminum base frame, important in our cold climate. This thermal break consists of a core of structural, insulative material, which divides the warm inner portion of the aluminum frame and the cold outer portion, thereby minimizing the degree of thermal conduction. Mac Self-Flashing Skylights, as detailed on the drawing below, do not require a curb. A thermally broken aluminum curb filled with insulation, and incorporating flashing, is integral with the aluminum base frame. When installing self-flashing skylights it is essential to use self adhesive-roofing underlayment to seal around the skylight, prior to installation or re-installation of the adjacent asphalt shingles.

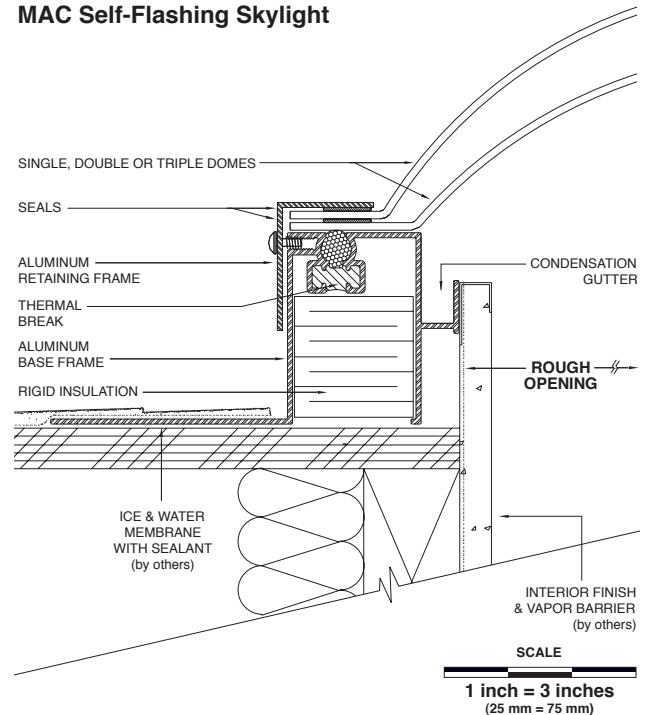
## Specifications

For designers or architects wishing to specify Mac Self-Flashing Skylights, the following short specification may be quoted....

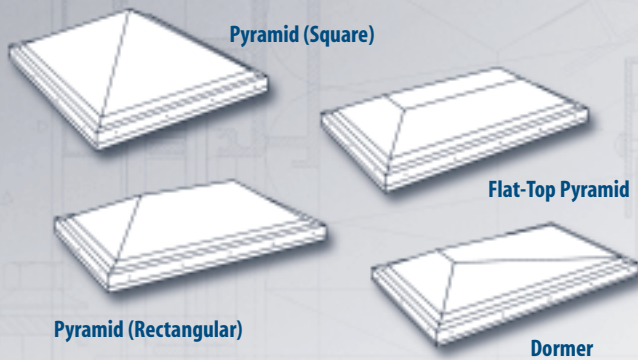
Skylights shall be Mac Self-Flashing Skylights, catalogue number MSF..... as manufactured by Mac Plastics Ltd. They shall be factory assembled units consisting of a one-piece, insulated, self-flashing extruded aluminum curb (alloy 6063-T5), with thermal break and condensation gutter. Glazing material shall be (single, double, or triple) acrylic (or polycarbonate) domes in clear (or bronze tinted or white translucent). Specify type and color of glazing material and frame finish (if other than mill finish).

Full specification available upon request.

## MAC Self-Flashing Skylight



# Pyramid, Flat-top and Dormer Skylights



## Availability Chart for Pyramid, Flat-Top & Dormer Skylights

Catalogue Number	Outside Dimension Inches	Outside Dimension MM			
			Pyramid	Flat-Top Pyramid	Dormer
M..... 2028	20 x 28	508 x 711			
M..... 2036	20 x 36	508 x 915			✓
M..... 2048	20 x 48	508 x 1219	✓		✓
M..... 2052	20 x 52	508 x 1321	✓		✓
M..... 2060	20 x 60	508 x 1524	✓		✓
M..... 2424	24 x 24	610 x 610	✓		
M..... 2436	24 x 36	610 x 915	✓		
M..... 2448	24 x 48	610 x 1219	✓	✓	✓
M..... 2460	24 x 60	610 x 1524	✓		
M..... 2472	24 x 72	610 x 1829	✓		
M..... 2828	28 x 28	711 x 711	✓	✓	
M..... 2836	28 x 36	711 x 915	✓	✓	✓
M..... 2848	28 x 48	711 x 1219	✓	✓	✓
M..... 2852	28 x 52	711 x 1321	✓	✓	✓
M..... 2860	28 x 60	711 x 1524	✓	✓	✓
M..... 2872	28 x 72	711 x 1829	✓	✓	✓
M..... 2896	28 x 96	711 x 2438	✓	✓	✓
M..... 3636	36 x 36	915 x 915	✓	✓	
M..... 3648	36 x 48	915 x 1219	✓	✓	✓
M..... 3652	36 x 52	915 x 1321	✓	✓	✓
M..... 3660	36 x 60	915 x 1524	✓	✓	✓
M..... 3672	36 x 72	915 x 1829	✓	✓	✓
M..... 3696	36 x 96	915 x 2438	✓	✓	✓
M..... 4242	42 x 42	1067 x 1067	✓	✓	
M..... 4848	48 x 48	1219 x 1219	✓	✓	
M..... 4852	48 x 52	1219 x 1321	✓		
M..... 4860	48 x 60	1219 x 1524	✓	✓	✓
M..... 4872	48 x 72	1219 x 1829	✓	✓	✓
M..... 4896	48 x 96	1219 x 2438	✓	✓	✓
M..... 5252	52 x 52	1321 x 1321	✓	✓	
M..... 5260	52 x 60	1321 x 1524	✓		
M..... 5272	52 x 72	1321 x 1829	✓	✓	
M..... 5296	52 x 96	1321 x 2438	✓		
M..... 6060	60 x 60	1524 x 1524	✓		
M..... 6072	60 x 72	1524 x 1829	✓	✓	✓
M..... 6096	60 x 96	1524 x 2438	✓	✓	
M..... 7272	72 x 72	1829 x 1829	✓	✓	
M..... 7296	72 x 96	1829 x 2438	✓		
M..... 8080	80 x 80	2032 x 2032	✓		
M..... 8484	84 x 84	2133 x 2133	✓		
M..... 9696	96 x 96	2438 x 2438	✓		

NOTE: Custom units with non-standard slopes (between 15 and 45 degrees) available on special order.

Custom sizes available upon request.

## Pyramids, Flat-Top Pyramids and Dormers

Mac Model MCM Curb-Mounted Skylights (as shown on Page #6), Mac Model MVF Vinyl Frame Skylights (as shown on Page #8), and Mac Model MSF Self-Flashing Skylights (as shown on Page #9) are available with pyramid, flat-top pyramid and dormer style glazing. Not all sizes and models are available in all styles. Please refer to the chart at left for availability. The principal difference between these styles and the standard dome style glazing is exterior appearance. Regardless of which model is selected, these skylights are identical to the corresponding domed model with the exception of the shape of the glazing.

### Pyramid (Model MCM-P, MVF-P or MSF-P)

Glazing material is thermally formed to a pyramidal shape. The four surfaces of the pyramid slope upwards at 30 degrees to a point (on square skylights) or a ridge (on rectangular skylights) in the center. There are no structural framing members within this form. The letter "P" is added to the skylight catalogue number to signify this glazing style.

### Flat-Top Pyramid (Model MCM-FT, MVF-FT or MSF-FT)

Glazing material is thermally formed to a pyramidal shape with a flat top. This style is of a lower profile than the corresponding pyramid style. The four inclined surfaces of the flat-top pyramid slope upwards at 30 degrees to a fifth square or rectangular flat surface in the center. There are no structural framing members within this form. The letters "FT" are added to the skylight catalogue number to signify this glazing style.

### Dormer (Model MCM-D, MVF-D or MSF-D)

Glazing material is thermally formed to a shape resembling a dormer style roof. This similarity is achieved by installing dormer style skylights with the raised end facing the roof eaves. Dormer style glazing is available only on rectangular skylights. This style is of a lower profile than the corresponding pyramid style. There are no structural framing members within this form. The letter "D" is added to the skylight catalogue number to signify this glazing style.

Refer to the size charts on Pages #6, #8 and #9 for availability of standard size curb mounted, vinyl frame and self-flashing skylights.

## Specifications

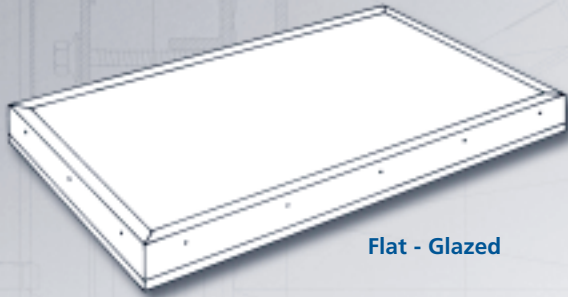
For designers or architects wishing to specify Mac Pyramid, Flat-Top Pyramid or Dormer skylights, the following short specification may be quoted....

Quote specification for Mac Model MCM Curb-Mounted Skylights (page #6), or Mac Model MVF Vinyl Frame Skylights (page #8), or Mac Model MSF Self-Flashing Skylights (page #9) and substitute the following....

- Substitute the appropriate catalogue number as outlined on this page.
- Replace the word "domes" with the word(s) "pyramids", "flat-top pyramids" or "dormers".

Full specifications available upon request.





Flat - Glazed

### Mac Flat-Glazed Skylights (Model MCM-FG or MSF-FG)

Mac Flat-Glazed Skylights are manufactured with glass sealed units. All sealed units are manufactured with tempered glass on the outboard layer and laminate glass on the inboard layer. The tempered glass outer offers improved resistance to breakage. The laminate glass inner is used for safety reasons. This glass material has an interlayer of transparent (or translucent) vinyl. If this glass is ever broken, the vinyl interlayer keeps it in place in the frame.

There are many different glass types and colors that can be used including some of the new high performance glass materials. These materials offer superior performance with reduced solar heat gain and/or improved insulation value, while maintaining high visible light transmittance. They are a good choice in applications where solar heat gain is of concern, or where the elevated profile of dome, pyramid, flattop pyramids or dormer styles are not desirable. Glass types available include clear, tinted (bronze, grey, blue, or green), translucent, Low-E, reflective, heat-mirror, argon filled, etc. During winter months, flat-glazed skylights on low-pitched roofs may become covered with snow, reducing light intensity at a time when natural light is already at a minimum. It may be necessary to carry out winter snow removal in such applications. Flat glazing is ideal for steeper roof pitches and buildings, which experience minimal accumulations of snow. Mac Flat-Glazed skylights are available with Curb-Mounted and Self-Flashing base frames. Catalogue numbers are as follows...

Mac Curb-Mounted Flat-Glazed Skylights..... #MCM-FG.....  
Mac Self-Flashing Flat-Glazed Skylights..... #MSF-FG.....

Mac Flat-Glazed Skylights are only available in a limited variety of standard sizes. Catalogue numbers are as follows:

.....-FG 2028	.....-FG 2424	.....-FG 2828	.....-FG 3636	.....-FG 4242
.....-FG 2036	.....-FG 2436	.....-FG 2836	.....-FG 3648	.....-FG 4848
.....-FG 2048	.....-FG 2448	.....-FG 2848	.....-FG 3652	.....-FG 4852
.....-FG 2052	.....-FG 2460	.....-FG 2852	.....-FG 3660	.....-FG 4860
.....-FG 2060	.....-FG 2472	.....-FG 2860	.....-FG 3672	.....-FG 4872
		.....-FG 2872		.....-FG 5252
				.....-FG 5260

Custom sizes available upon request

Outside and rough opening dimensions for these skylights are identical to those of standard domed skylights on pages #6 and #9. Some sizes of flat-glazed skylights are also available as venting skylights (refer to page #12). Tandem and cluster units of two or more flat-glazed skylights are available to glaze medium sized areas. (refer to page #15).

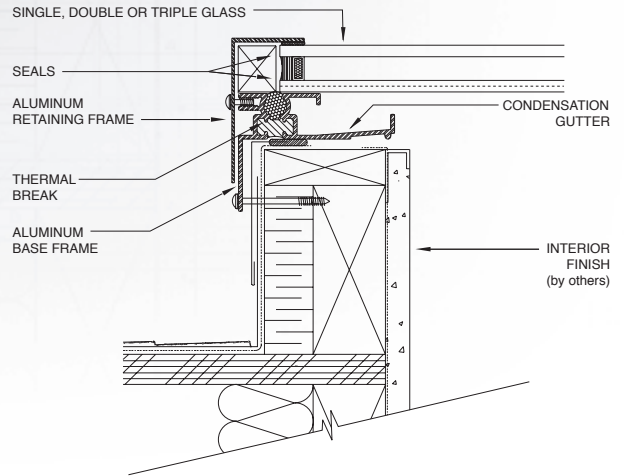
Larger flat-glazed skylight assemblies are fabricated with the Mac Series MSGS Skylight Glazing System (refer to Page #19).

### Specifications

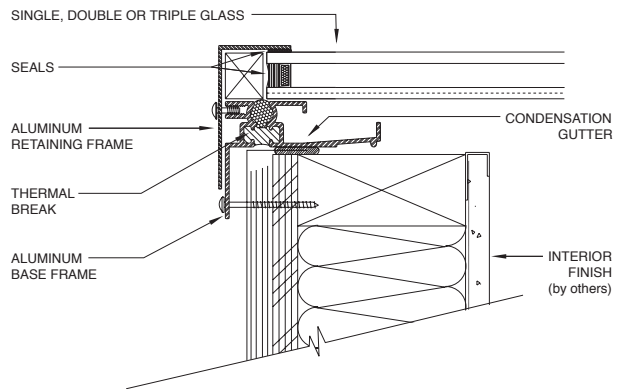
For designers or architects wishing to specify Mac Flat-Glazed Skylights, the following short specification may be quoted...Quote specifications for Mac Curb-Mounted Skylights (page #6) or Mac Self-Flashing Skylights (page #9) and substitute the following.....

- Substitute the appropriate catalogue number as outlined on this page.
- Replace the word "domes" with the words "glass sealed unit"

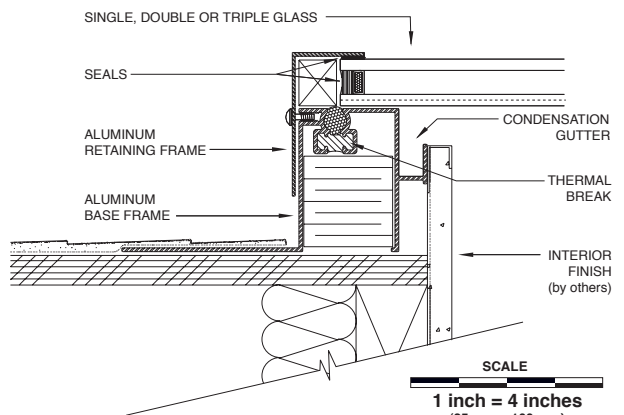
### MAC Curb-Mounted Flat-Glazed Skylight (Standard Curb Construction)



### MAC Curb-Mounted Flat-Glazed Skylight (Wide Curb Construction)

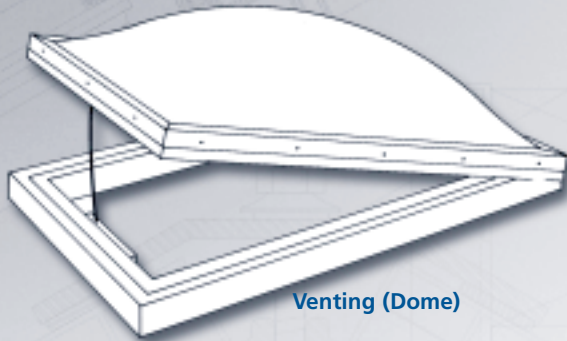


### MAC Self-Flashing Flat-Glazed Skylight



SCALE  
1 inch = 4 inches  
(25 mm = 100 mm)

# Mac Venting Skylights



## Mac Venting Skylights (Model MCM-V.....or MSF-V...)

Mac Venting Skylights not only provide lighting they also afford a means of ventilation. Even a small venting skylight will provide excellent ventilation due to the chimney effect created when warm air rises. Mac Venting Skylights are supplied with a hinged, two-piece, aluminum base frame, with thermal break in both Curb-Mounted and Self-Flashing models. Hinges are situated on the narrow side of the skylight and a hand-operated crank allows it to open a total of 11 1/2 inches (290mm). By simply releasing the lifting mechanism and removing the optional insect screen, the skylight can be manually opened completely for roof access or fire escape. Detachable 115 inch (2920mm) telescoping cranks, as well as motorized operators, remote controls, rain sensors, thermostatic controls, and insect screens are optional. Catalogue numbers are as follows....

Dome....	MCM-V or MSF-V
Pyramid....	MCM-V-P or MSF-V-P
Flat-Top Pyramid....	MCM-V-FT or MSF-V-FT
Dormer....	MCM-V-D or MSF-V-D
Flat-Glazed Glass	MCM-V-FG or MSF-V-FG

Mac Venting Skylights are available in a limited variety of standard sizes. Catalogue numbers are as follows:

.....-V 2028	.....-V 2424	.....-V 2828	.....-V 3636	.....-V 4242*
.....-V 2036	.....-V 2436	.....-V 2836	.....-V 3648	.....-V 4848*
.....-V 2048	.....-V 2448	.....-V 2848	.....-V 3652	.....-V 5252*
.....-V 2052	.....-V 2460	.....-V 2852	.....-V 3660*	
.....-V 2060	.....-V 2472	.....-V 2860	.....-V 3672*	
		.....-V 2872*		

Custom sizes available on request.  
\*Not Available in Flat-Glazed Glass.

Outside and rough opening dimensions for these skylights are identical to those of standard Curb-Mounted and Self-Flashing skylights as shown on page #6 and #9. Note that Curb-Mounted Venting Skylights are available only for Standard Curb Construction. Curb-Mounted Venting Skylights can be modified for Wide Curb Construction. Refer to the chart on Page #10 for availability of Pyramid, Flat-Top Pyramid and Dormer type glazing.

## Specifications

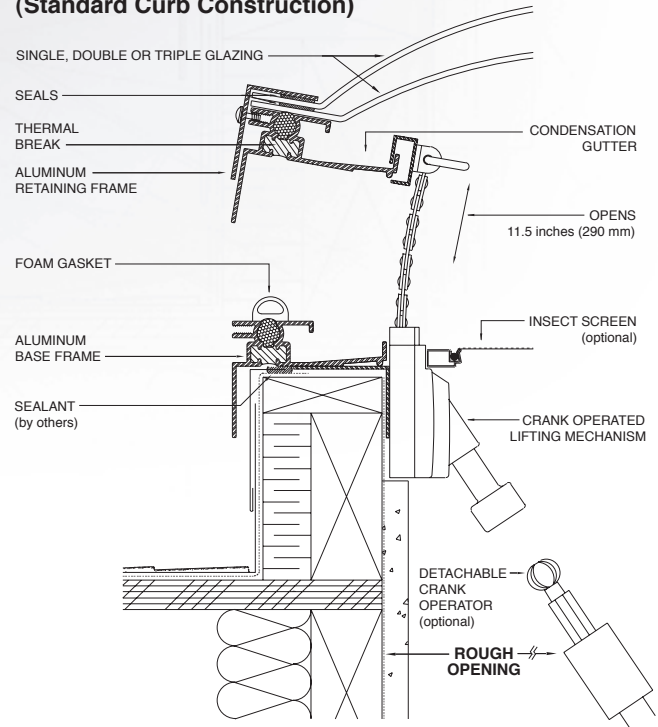
For designers or architects wishing to specify Mac Venting Skylights, the following short specification may be quoted....

Skylights shall be Mac (Curb-Mounted or Self-Flashing) Venting Skylights, catalogue number..... (quote appropriate catalogue number), as manufactured by Mac Plastics Ltd. They shall be factory

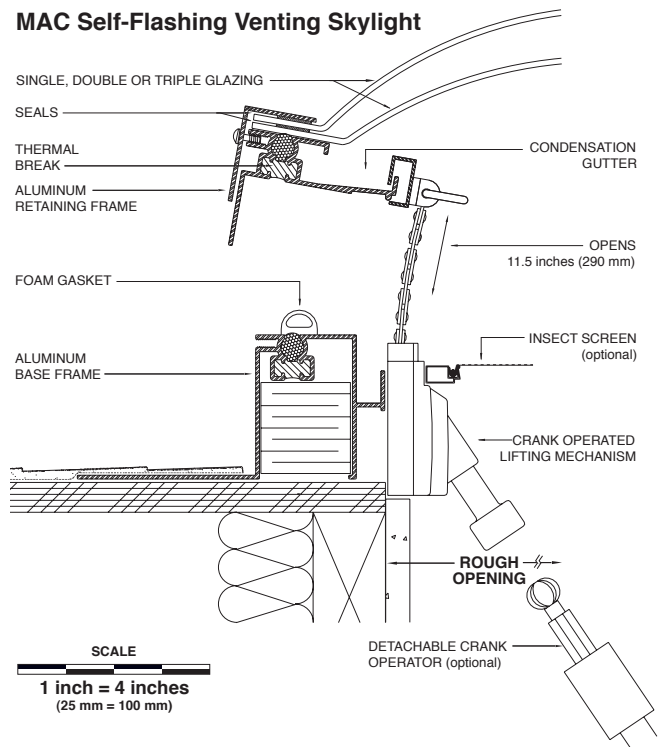
assembled units consisting of hinged, two-piece, extruded aluminum base frame (alloy 6063-T5) with thermal break and condensation gutter. Lifting mechanism shall be crank operated. Glazing material shall be (single, double or triple) acrylic (or polycarbonate, or glass) domes (or pyramids, or flat-top pyramids, or dormers, or glass sealed unit) in clear (or bronze tinted, or white translucent). Specify type, color and style of glazing, type of base frame, hardware requirements, and frame finish (if other than mill finish.)

Full specifications available upon request.

## MAC Curb-Mounted Venting Skylight (Standard Curb Construction)

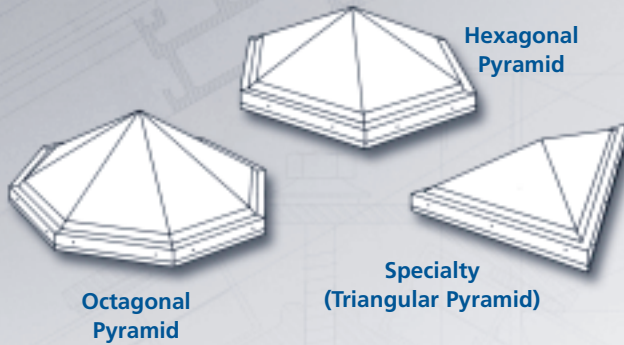


## MAC Self-Flashing Venting Skylight





# Hexagonal and Octagonal Skylights



## Mac Hexagonal (6 Sided) and Octagonal (8 Sided) Pyramid Skylights

Mac Skylights are available in a variety of custom models including the popular Mac Hexagonal Pyramid and Mac Octagonal Pyramid Skylights. These units are supplied with thermally-broken aluminum base frames in both Curb-Mounted and Self-Flashing models. Catalogue numbers are as follows....

Mac Curb-Mounted Hexagonal Pyramid Skylights	MCM-HP.....
Mac Self-Flashing Hexagonal Pyramid Skylights	MSF-HP.....
Mac Curb-Mounted Octagonal Pyramid Skylights	MCM-OP.....
Mac Self-Flashing Octagonal Pyramid Skylights	MSF-OP.....

Refer to the size charts below for outside and rough opening dimensions of standard size Hexagonal Pyramid and Octagonal Pyramid Skylights. Rough opening dimensions listed for Curb-Mounted Skylights are for Standard Curb Construction.

## Standard Sizes for Mac Hexagonal Pyramid Skylights Mac Curb-Mounted Hexagonal Pyramid Skylights (6 Sided)

Catalogue Number	Outside Dimension Diagonal Corner to Corner		Length each Side		Rough Opening Diagonal Corner to Corner		Length each Side	
	Inches	MM	Inches	MM	Inches	MM	Inches	MM
	MCM-HP 36	36	915	18	457	29	737	14 1/2
MCM-HP 48	48	1219	24	610	41	1042	20 1/2	521
MCM-HP 60	60	1524	30	762	53	1346	26 1/2	673
MCM-HP 72	72	1829	36	915	65	1651	32 1/2	826
MCM-HP 96	96	2438	48	1219	89	2261	44 1/2	1130

Note: Outside dimensions listed on this chart are actual outside dimensions of the skylight base frame. It is recommended to allow additional clearance when constructing the skylight curb. To calculate **Rough Opening** dimensions for **Wide Curb Construction** subtract two times the actual curb width from the outside dimension.

## Mac Self-Flashing Hexagonal Pyramid Skylights (6 Sided)

Catalogue Number	Outside Dimension Diagonal Corner to Corner		Length each Side		Rough Opening Diagonal Corner to Corner		Length each Side	
	Inches	MM	Inches	MM	Inches	MM	Inches	MM
	MSF-HP 36	36	915	18	457	29 3/4	756	14 7/8
MSF-HP 48	48	1219	24	610	41 3/4	1060	20 7/8	530
MSF-HP 60	60	1524	30	762	53 3/4	1365	26 7/8	683

## Standard Sizes for Mac Octagonal Pyramid Skylights Mac Curb-Mounted Octagonal Pyramid Skylights (8 Sided)

Catalogue Number	Outside Dimension Diagonal Flat to Flat		Length each Side		Rough Opening Diagonal Flat to Flat		Length each Side	
	Inches	MM	Inches	MM	Inches	MM	Inches	MM
	MCM-OP 36	36	915	14 7/8	378	30	762	12 7/16
MCM-OP 48	48	1219	19 7/8	505	42	1067	17 7/8	441
MCM-OP 60	60	1524	24 7/8	632	54	1371	22 7/8	568
MCM-OP 72	72	1829	29 7/8	759	66	1677	27 7/8	695
MCM-OP 96	96	2438	39 3/4	1010	90	2286	37 1/4	946

Note: Outside dimensions listed on this chart are actual outside dimensions of the skylight base frame. It is recommended to allow additional clearance when

constructing the skylight curb. To calculate **Rough Opening** dimensions for **Wide Curb Construction** subtract two times the actual curb width from the outside dimension

## Mac Self-Flashing Octagonal Pyramid Skylights. (8 Sided)

Catalogue Number	Outside Dimension Diagonal Flat to Flat		Length each Side		Rough Opening Diagonal Flat to Flat		Length each Side	
	Inches	MM	Inches	MM	Inches	MM	Inches	MM
	MSF-OP 36	36	915	14 7/8	378	30 1/2	775	12 5/8
MSF-OP 48	48	1219	19 7/8	505	42 1/2	1079	17 5/8	448
MSF-OP 60	60	1524	24 7/8	632	54 1/2	1384	22 7/16	570

## Specifications

For designers or architects wishing to specify Mac Hexagonal Pyramid Skylights, or Mac Octagonal Pyramid Skylights, the following short specifications may be quoted....

Quote specifications for Mac Curb-Mounted Skylights (page #6) or Mac Self-Flashing Skylights (page #9) and substitute the following....

- Substitute the appropriate catalogue number as outlined on this page
- Replace the word "domes" with the words "Hexagonal Pyramids" or "Octagonal Pyramids".

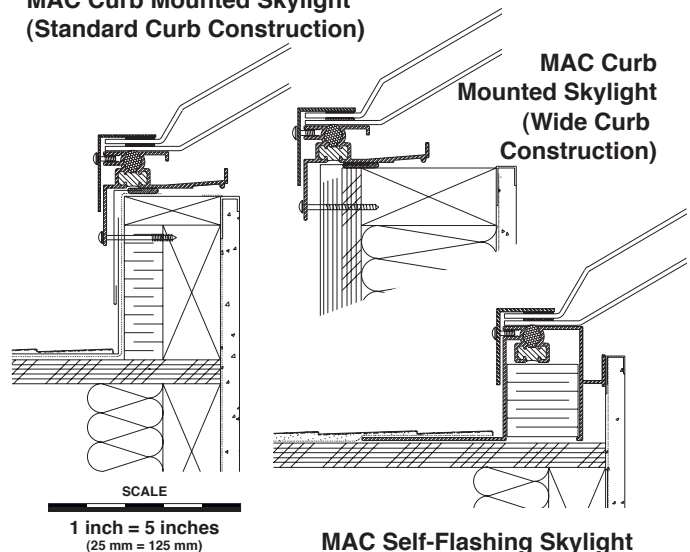
## Specialty Skylights

An infinite variety of unusual, customized skylights are available on special order. These include such shapes as triangles, quadrilaterals, trapezoids, parallelograms, pentagons, hexagons, octagons, etc. These units may be regular or irregular shaped and may be glazed with any of the various types of glazing mentioned in this catalogue. Specialty Units with dome style glazing or flat glazing are very readily and economically available. They may also be specially ordered with pyramid style, flat-top pyramid style, and dormer style glazing. Some of the standard sizes available from existing molds include....

48" x 48"	(1219mm x 1219mm)	Triangular Pyramid
52" x 60"	(1321mm x 1524mm)	Triangular Dormer
60" x 96"	(1524mm x 2438mm)	Flat-Top Octagonal Pyramid
36" x 60"	(915mm x 1524mm)	Triangular Pyramid
48" x 72"	(1219mm x 1829mm)	Octagonal Pyramid

Inquiries about these and any other custom skylights should be directed to Mac Plastics Ltd.

## MAC Curb Mounted Skylight (Standard Curb Construction)



# Mac Circular Skylights



## Mac Circular Wall Domes (Model MCW)

Mac Circular Wall Domes are supplied with insulated, fibreglass reinforced plastic (FRP) wall liners, which are custom manufactured to suit the wall thickness of each specific project. This liner is designed to protrude inward approximately 1/4 inch (6.0 mm) beyond the surface of the interior wall finish, thereby eliminating the need for a casing. Finishing of the interior circular opening is unnecessary as the liners are surfaced with white FRP. Mac Circular Wall Domes are available in two types. The angle ring type, as detailed on the drawing below, is suitable for walls with an exterior finish of siding or stucco. The flat ring type, as detailed on the drawing below, is suitable for walls with an exterior finish of masonry or brick. Both are supplied with a mounting flange permitting the installer to seal and secure the unit into place before applying the exterior wall finish.

### Specifications

For designers or architects wishing to specify Mac Circular Wall Domes, the following short specification may be quoted.....

Wall Domes shall be Mac Circular Wall Domes, catalogue number MCW....., as manufactured by Mac Plastics Ltd. They shall be factory assembled units consisting of insulated fibreglass reinforced plastic wall liner to fit wall thickness of ..... (please specify) and pre-finished brown aluminum trim ring. Glazing material shall be (single, double or triple) acrylic (or polycarbonate) domes in clear (or bronze tinted or white translucent). Specify type and color of glazing, type (angle ring or flat ring), and wall thickness.

Full specifications available upon request.

### Specialty Wall Domes

For information with respect to dimensions, availability and pricing of customized wall skylights such as oval-shaped, half-round, hexagonal or octagonal contact Mac Plastics Ltd.

## Mac Circular Roof Domes (Model MCR)

Mac Circular Roof Domes are supplied with insulated fibreglass reinforced plastic (FRP) curbs. These curbs are available in various heights. Finishing of these curbs on the interior is optional as they are surfaced with white FRP. Mac Circular Roof Domes are available in two types. The built-up roof type, as detailed on the drawing at right, is intended for installation onto tar and gravel roofs. The shingled roof type is identical to the afore-mentioned except that the flange is wider and thus serves as flashing for installation onto shingled roofs. Both types are installed by sealing and securing the flange of the unit to the roof sheathing or decking and then applying the roofing or shingles over the flange.

### Specifications

For designers or architects wishing to specify Mac Circular Roof Domes the following short specification may be quoted...

Skylights shall be Mac Circular Roof Domes, catalogue number MCR .... as manufactured by Mac Plastics Ltd. They shall be factory-assembled units consisting of fibreglass reinforced plastic curb and aluminum retaining ring. Glazing material shall be (single, double or triple) acrylic (or polycarbonate) domes in clear (or bronze tinted or white translucent.) Specify type and color of glazing, type (built-up or shingled roof), and curb height.

Full specifications available upon request.

### Aluminum Curbs

Mac Circular Roof Domes are available with circular aluminum curbs in place of standard FRP curbs on special order. For information contact Mac Plastics Ltd.

### Standard Sizes for Mac Circular Wall Domes

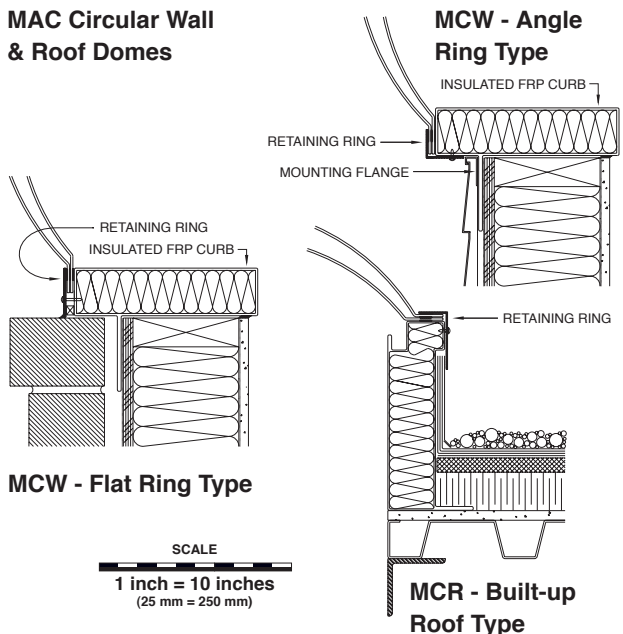
Catalogue Number	Outside Dimension (DIA.)		Rough Opening (DIA.)		Daylight Opening (DIA.)	
	Inches	MM	Inches	MM	Inches	MM
MCW 36	36	915	37	940	31	787
MCW 48	48	1219	49	1245	43	1092
MCW 60	60	1524	61	1550	55	1397
MCW 72	72	1829	73	1854	67	1701
MCW 84	84	2133	85	2159	79	2006
MCW 96	96	2438	97	2463	91	2311

### Standard Sizes for Mac Circular Roof Domes

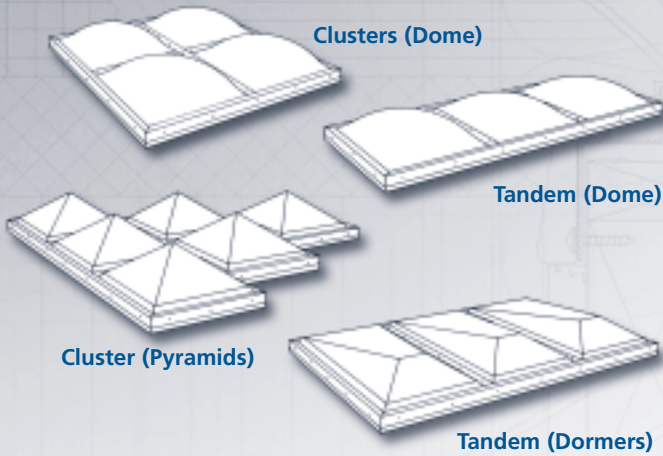
Catalogue Number	Outside Dimension (DIA.)		Rough Opening (DIA.)	
	Inches	MM	Inches	MM
MCR 36	36	915	30	762
MCR 48	48	1219	42	1067
MCR 60	60	1524	54	1372
MCR 72	72	1829	66	1676
MCR 84	84	2133	78	1981
MCR 96	96	2438	90	2286

Custom sizes available on request.

### MAC Circular Wall & Roof Domes







The following information applies to both Tandem and Cluster Skylights...

Individual modules or units may be arranged in a regular or irregular grouping consisting of two or more units of the same size and shape, or a combination of different sizes and/or shapes.

Tandems and Clusters may be made up of domed, pyramid, flat-top pyramid, dormer or flat-glazed skylight units, or a combination of different styles.

Small Tandems and Clusters (up to 80 sq. ft. - 7.50m<sup>2</sup>) shall be factory assembled. Larger groupings shall consist of prefabricated components to be assembled on site.

Individual modules are joined with intermediate framing, which on most applications, must be supported by a structural member. Tandem and Cluster Skylights must be installed with a minimum 1/2" per foot (40mm per metre) slope or crown to permit drainage.

### Mac Tandem Skylights and Mac Cluster Skylights

Mac Curb-Mounted Skylights may be grouped together to form Mac Tandem or Mac Cluster Skylights. Tandems consist of a row of two or more skylights within one common base frame, and Clusters consist of a group of three or more units clustered together within one common base frame.

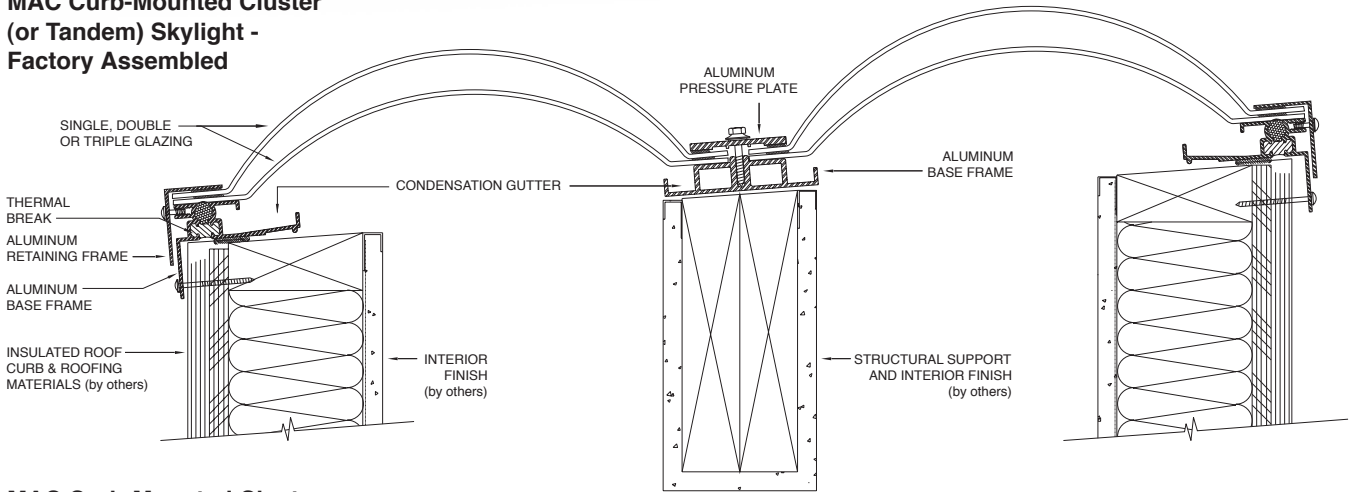
### Specifications

For designers or architects wishing to specify Mac Tandem Skylights or Mac Cluster Skylights, the following short specification may be quoted...

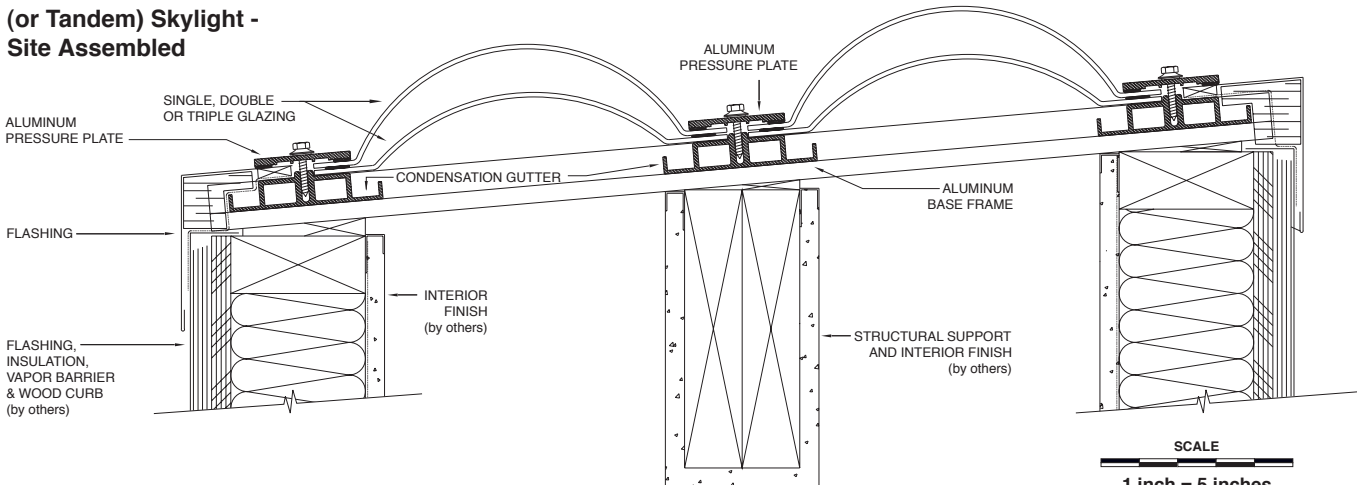
Skylights shall be Mac (Tandem or Cluster) Skylights consisting of a grouping of..... (specify quantity). Mac Curb-Mounted Skylights, catalogue number...(quote balance of specification from page #6).

Also refer to specifications on pages #10 and #11.

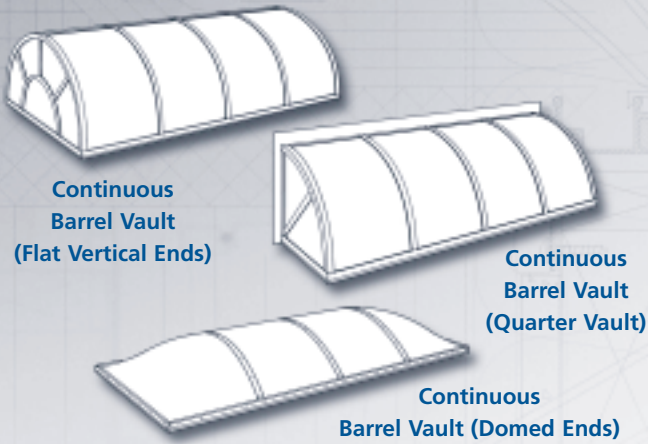
### MAC Curb-Mounted Cluster (or Tandem) Skylight - Factory Assembled



### MAC Curb-Mounted Cluster (or Tandem) Skylight - Site Assembled



# Barrel Vault Skylights



## Mac Continuous Barrel Vault Skylights (Series MCBV)

Mac Continuous Barrel Vault Skylights are manufactured from curved or arched plastic glazing panels joined by a structural aluminum framing system. This framing is most commonly spaced at 36 inches (915 mm), 48 inches (1219 mm) or 60 inches (1524 mm) on centre. Because of their modular construction, these skylights can be supplied in virtually any

length or width. Smaller units are supplied fully assembled while larger units may consist of pre-fabricated components to be assembled on site. Mac Continuous Barrel Vault Skylights may be manufactured with a half circle profile (height equals 1/2 of the width) or in a lower profile semi-circle variety. The end panels on these skylights are available in varying designs to fit a variety of applications. Examples include vertical, sloped and domed glazing with various framing designs. Domed ends are available only on low-rise barrels, to a maximum width of 96" (2438 mm). The drawings below outline typical sectional details. Mac Continuous Barrel Vault Skylights may be modified to suit specific applications, such as solariums, arched walkway enclosures, entrance canopies, etc.

## Specifications

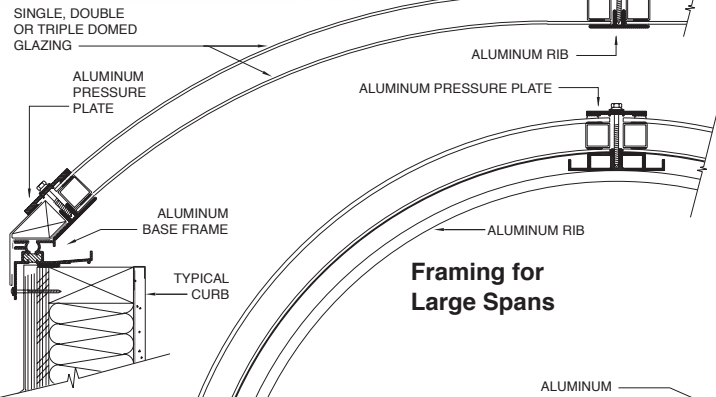
For designers or architects wishing to specify Mac Continuous Barrel Vault Skylights, the following short specification may be quoted.....

Skylights shall be Mac Continuous Barrel Vault Skylights, Series MCBV, as manufactured by Mac Plastics Ltd. They shall be factory assembled units consisting of extruded aluminum frame (alloy 6063-T5) with thermal break and condensation gutter, for curb mount (by others). Glazing material shall be (single, double, or triple) acrylic (or polycarbonate) plastic in clear (or bronze tinted, or white translucent). Specify type and color of glazing, and frame finish (if other than mill finish).

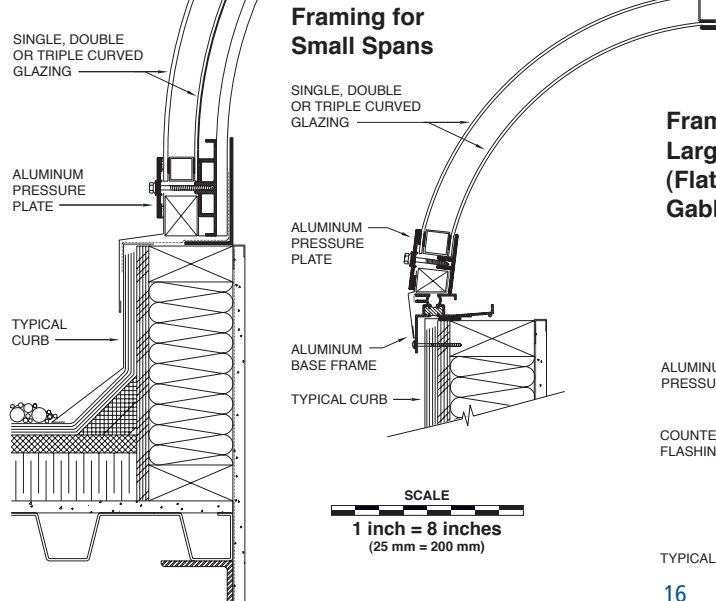
Full specifications available upon request.

## Mac Barrel Vault Skylights (Typical Details)

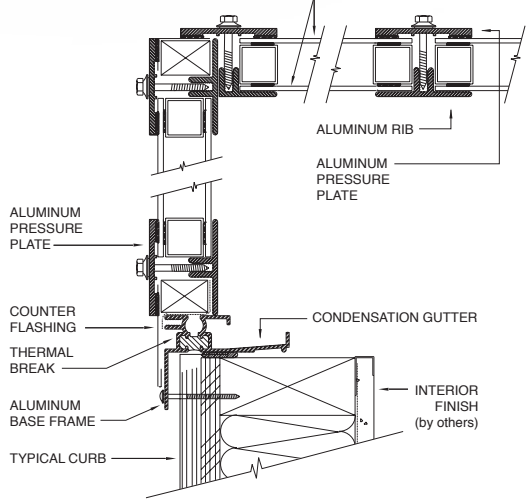
### Framing for Small Spans (Vault at Domed End)



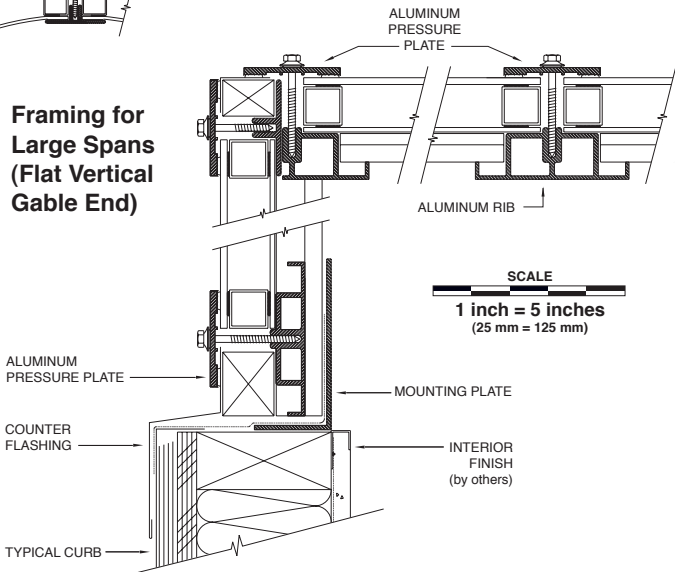
### Framing for Large Spans



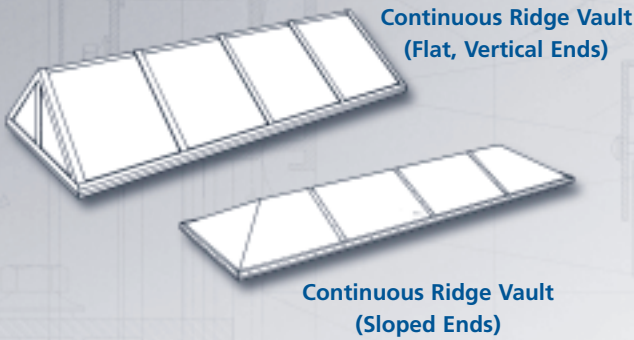
### Framing for Small Spans (Flat Vertical Gable End)



### Framing for Large Spans (Flat Vertical Gable End)







## Mac Continuous Ridge Vault Skylights (Series MCRV)

Mac Continuous Ridge Vault Skylights are similar to Mac Continuous Barrel Vault Skylights, except that Ridge Vaults are sloped and Barrel Vaults are curved. The aluminum framing members are most commonly spaced at 36 inches (915 mm), 48 inches (1219 mm) or 60 inches (1524 mm) on centre. Because of their modular construction, they are available in virtually any length or width. Smaller units are supplied fully assembled, while larger units may consist of prefabricated components to be assembled on site. They may be manufactured at almost any slope; large, low sloped units may require additional structural support.

Mac Continuous Ridge Vault Skylights may be supplied with vertical or sloped end glazing panels, or these panels may be absent to permit installation on the ridge of a roof. Small Ridge Vault Skylights may be supplied with glazing panels formed at the centre ridge and/or molded sloped ends. Molded sloped end panels are available only at a 30° slope, and to a maximum width of 96" (2438mm). Medium and large Ridge Vault Skylights are manufactured with aluminum framing members at all ridges. Ridge Vault Skylights may be modified to suit specific applications, including solariums, greenhouses, walkway enclosures, entrance canopies, etc.

Typical sectional details are outlined on the drawings below.

## Specifications

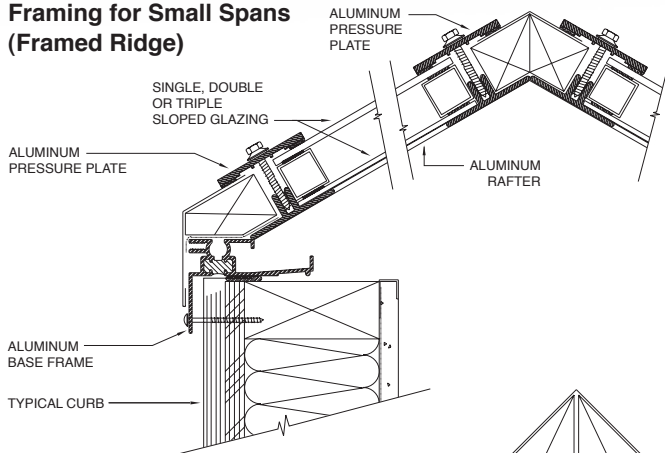
For designers or architects wishing to specify Mac Continuous Ridge Vault Skylights, the following short specification may be quoted.....

Skylights shall be Mac Continuous Ridge Vault Skylights, Series MCRV, as manufactured by Mac Plastics Ltd. They shall be factory assembled units consisting of extruded aluminum frame (alloy 6063-T5) with thermal break and condensation gutter, for curb mount (by others). Glazing material shall be (single, double or triple) acrylic (or polycarbonate) plastic, in clear (or bronze tinted, or white translucent). Specify type and color of glazing, and frame finish (if other than mill finish).

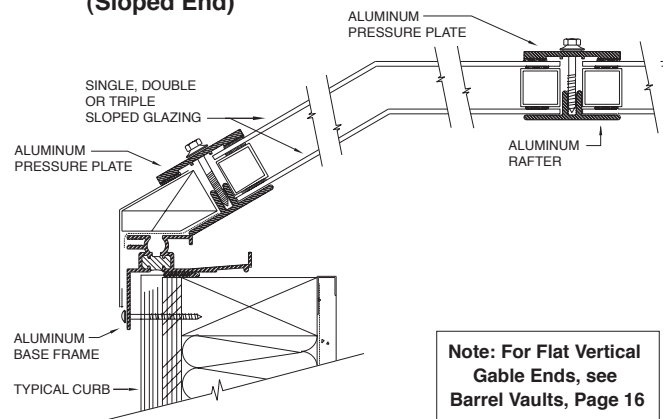
Full specifications available upon request.

## Mac Ridge Vault Skylights (Typical Details)

### Framing for Small Spans (Framed Ridge)

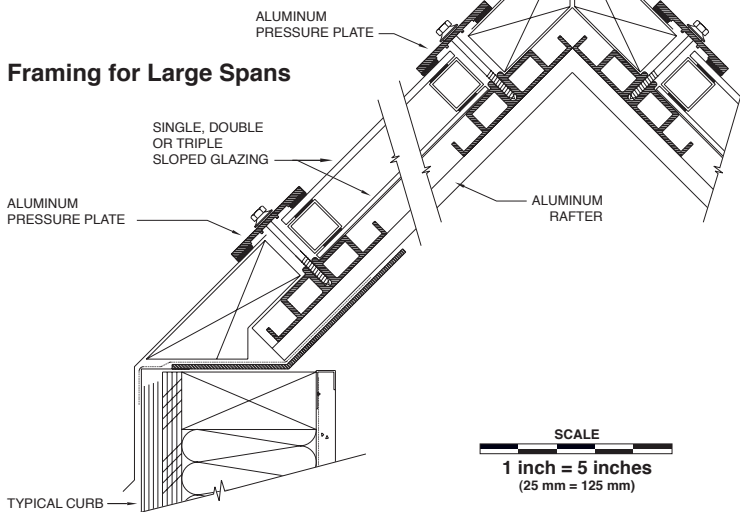


### Framing for Small Spans (Sloped End)

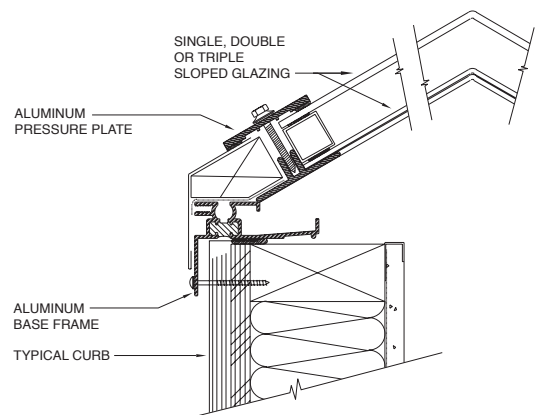


Note: For Flat Vertical Gable Ends, see Barrel Vaults, Page 16

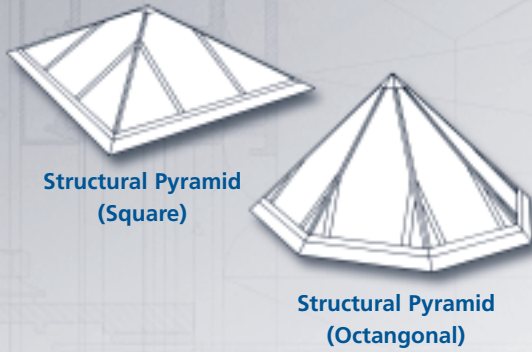
### Framing for Large Spans



### Framing for Small Spans (Formed Ridge)



# Structural Pyramid Skylights



**Structural Pyramid  
(Square)**

**Structural Pyramid  
(Octagonal)**

## Mac Structural Pyramid Skylights

Mac Structural Pyramid Skylights are fabricated using polycarbonate rib-structured, extruded glazing panels (as per sketch below). These panels are only available in a width of 48 inches (1220mm) and thus all framing members within the structure of the skylight shall be based on this dimension. Due to the light weight and high structural strength of these glazing panels, Mac Structural Pyramid Skylights are entirely self-supporting. The light transmittance and solar transmission characteristics of these rib-structured glazing panels are outlined in the chart below.

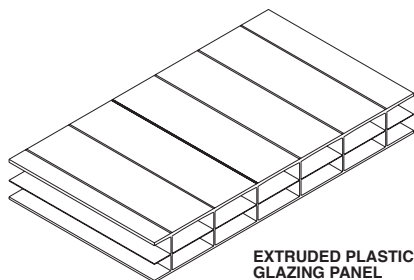
If a more transparent appearance and unobscured visibility to the exterior are of concern, Mac Structural Pyramid Skylights may also be manufactured with double (or triple) glazed plastic glazing panels. (Similar to Mac Series MCRV Continuous Ridge Vault Skylights).

## Performance Specifications for Rib-Structured Extruded Polycarbonate Glazing Panels

	Light Transmittance	Shading Co-Efficient	Winter U-Value	Summer U-Value
Clear	74%	0.87	0.48 (R2.1)	0.51 (R2.0)
Light Bronze	50%	0.70	0.48 (R2.1)	0.52 (R1.9)
Dark Bronze	25%	0.61	0.48 (R2.1)	0.61 (R1.6)
White	40%	0.66	0.48 (R2.1)	0.54 (R1.8)

Mac Structural Pyramid Skylights may be fabricated at any slope between 15 and 60 degrees. They may be manufactured in various different shapes including triangular, square, rectangular, hexagonal, octagonal, etc. These units are available in virtually any size, 8 feet by 8 feet (2440mm x 2440 mm) and larger.

Refer to the drawings at right which outline typical framing details for Mac Structural Pyramid Skylights.



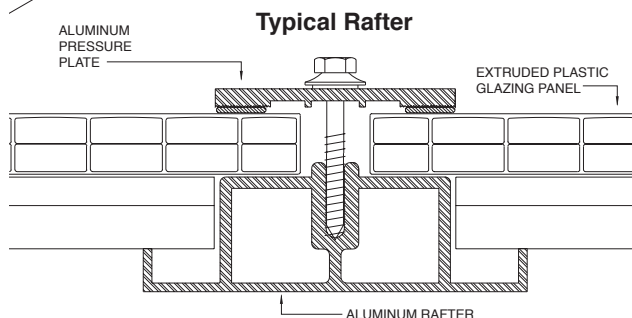
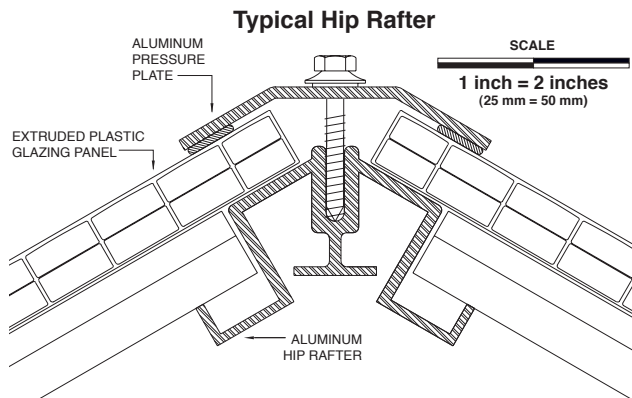
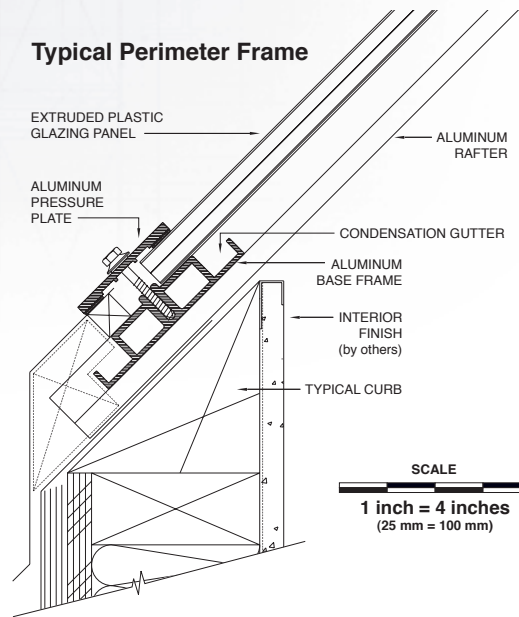
**EXTRUDED PLASTIC  
GLAZING PANEL**

## Specifications

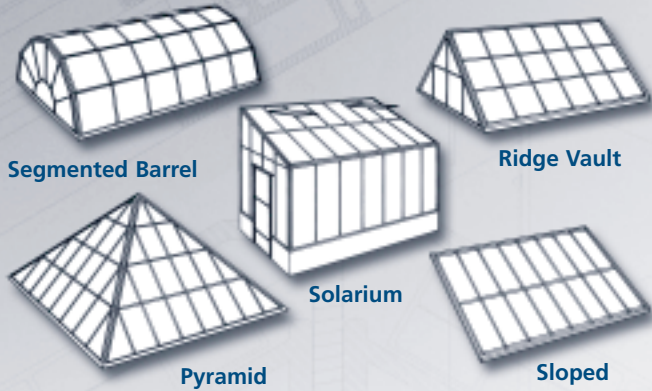
For designers or architects wishing to specify Mac Structural Pyramid Skylights, the following short specification may be quoted.....

Skylights shall be Mac Structural Pyramid Skylights, Series MSP, as manufactured by Mac Plastics Ltd. They shall be site-fabricated units consisting of extruded aluminum (alloy 6063-T5) structural framing system. Glazing material shall be clear (or bronze tinted, or white translucent) rib-structured extruded polycarbonate glazing panels. Specify color of glazing, and frame finish (if other than mill finish).

Full specifications available upon request.







## Mac Series MSGS Skylight Glazing System

This is a state of the art aluminum framing system which can be utilized to fabricate virtually any type of skylight, including sloped skylights, ridge vault skylights, pyramid skylights, segmented barrel vault skylights and solariums.

The design concept behind the system is a separation of the internal pressure equalized drainage channels and the interior condensation gutters. All intermediate purlin and sill sections are installed in a shingled manner so as to drain into the rafters. This allows for seepage to be channeled to the exterior, condensation to be collected on the interior, with a positive barrier between the two. There is no direct contact between exterior pressure plates and interior structural members thereby yielding a positive thermal separation. Structural design requirements are achieved with a selection of rafters. These sections have been professionally engineered to maximum deflections of 1/200th of the overall span. Pressure plates on vertical and upper horizontal members may be supplied with snap-on covers to conceal fasteners. Pressure plates on intermediate and lower horizontal members shall be of minimum profile, with exposed fasteners, to permit drainage. All pressure plates may be of minimum profile, with exposed fasteners, in applications not exposed to direct view.

The Mac Series MSGS Skylight Glazing System is normally custom fabricated to suit specific design requirements. Aluminum framing may be supplied with clear anodized, bronze anodized, black anodized, two-component epoxy enamel, baked enamel or thermosetting fluoropolymer enamel finishes. The Mac Series MSGS Skylight Glazing System is specifically designed for use with glass. Glass may be single, double or triple glazed. Single glazed glass is always laminate or heat-strengthened laminate safety glass. Sealed units in double or triple glazing are always tempered glass on the outboard lite and laminate safety glass on the inboard lite. A variety of glass types including clear, tinted, reflective, low-emissivity, and heat mirror are available.

Extruded aluminum rafter, purlin and sill sections each incorporate a set of pressure equalized internal drainage channels intended to equalize the pressure beneath the extruded aluminum pressure plates, with the exterior environment. All intermediate purlin and sill sections are half-lapped into a notch in the rafters. This shingled installation allows for any seepage of moisture through the exterior rain screen (pressure plates) to drain to the base of the skylight and out onto the roof. The pressure equalization assures that this drainage will occur under all conditions. All sections incorporate a continuous air seal at the inside face of the glazing panel. This system collects and controls any

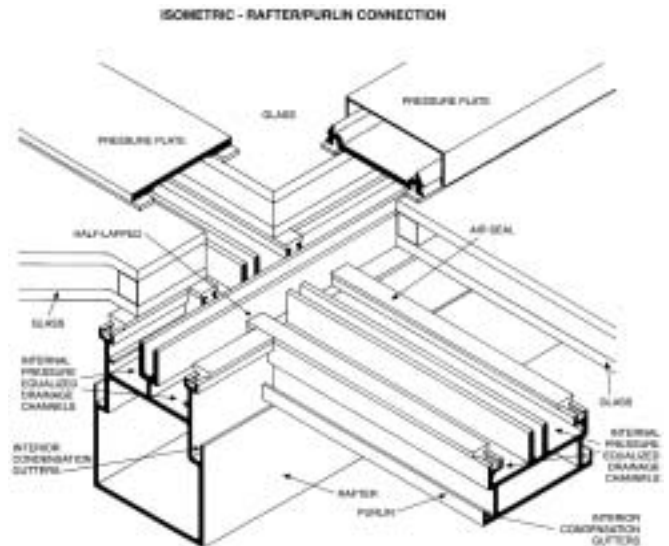
penetration of moisture without compromising the integrity of the air barrier. Interior condensation gutters are also incorporated in each section and are installed in a similar shingled manner. These interior gutters collect any accumulation of condensation from the interior surface of the glass and lead it to a large evaporation trough at the base of the skylight. As these gutters and the evaporation trough are situated entirely on the interior of the air barrier, they control any buildup of condensation without allowing any air infiltration. Mechanical drainage of the evaporation trough can be incorporated for applications expected to experience excessive condensation buildup.

The industry leader in skylight technology, Mac Plastics Ltd. has had the Mac Series MSGS Skylight Glazing System fully tested by a certified testing facility. The system yielded superior air in/exfiltration results of 0.32 m<sup>3</sup>/hr/m of crack length at 75 Pa pressure difference and 0.70 m<sup>3</sup>/hr/m of crack length at 300 Pa pressure difference. The maximum allowable air leakage as outlined in CAN/CGSB0-63.14-M89 is 2.79 m<sup>3</sup>/hr/m of crack length at 75 Pa pressure difference. The Mac Series MSGS Skylight Glazing System allows almost nine times less air leakage than this standard. The system also yielded a superior water penetration result of No penetration after 15 minutes of spray at 1000 Pa pressure difference.

## Specifications

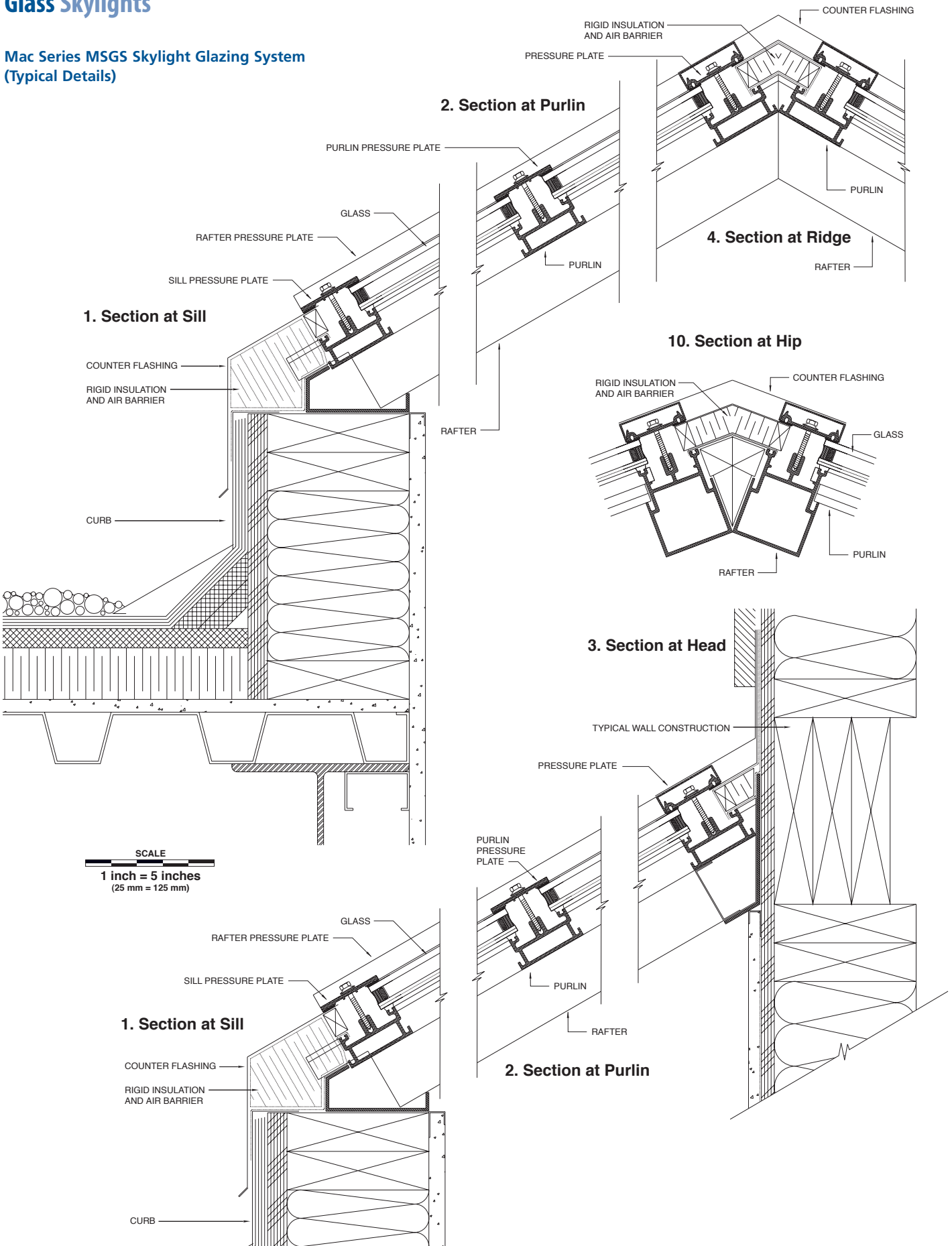
For designers or architects wishing to specify Glass Skylights fabricated with the Mac Series MSGS Skylight Glazing System, the following short specification may be quoted...

Glass Skylights shall be fabricated with the Mac Series MSGS Skylight Glazing System, as supplied and installed by Mac Plastics Ltd. They shall be site-assembled units consisting of extruded aluminum (alloy 6063-T54) structural framing members; incorporating internal pressure equalized drainage channels and interior condensation gutters. Glazing shall be (Single, Double or Triple) glass in clear (or specify other glass types). Specify skylight style (sloped, ridge vault, pyramid, or segmented barrel), type and color of glazing and frame finish. Detailed specifications are available upon request.

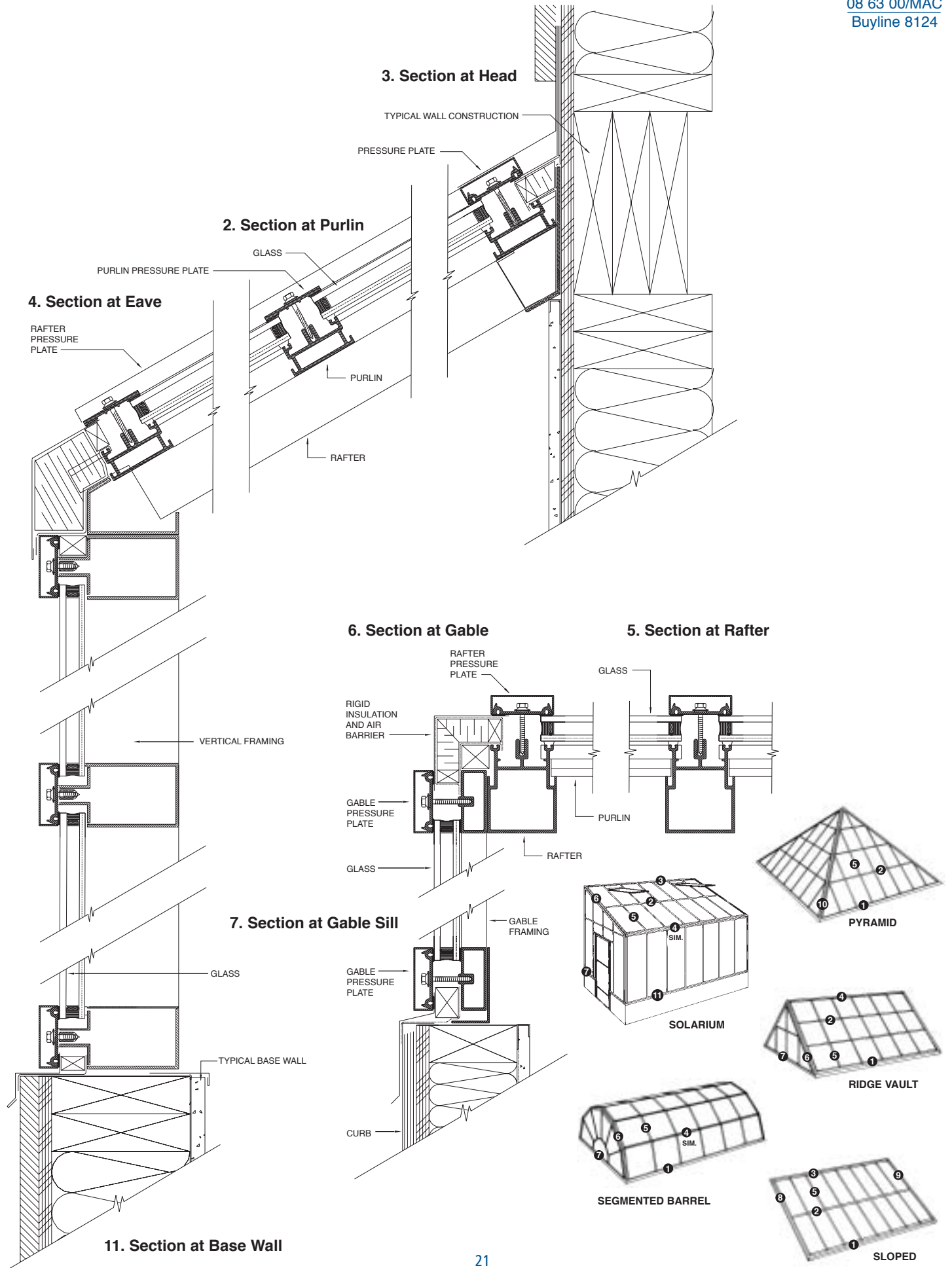


# Glass Skylights

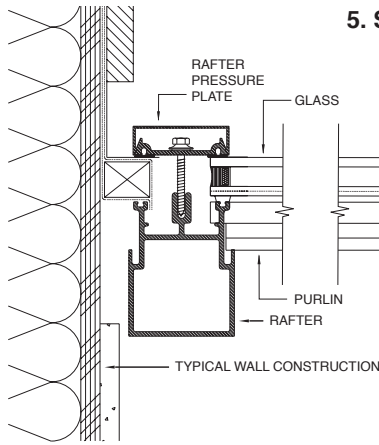
## Mac Series MSGS Skylight Glazing System (Typical Details)



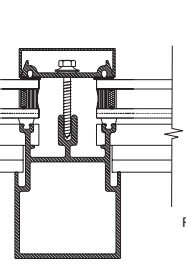




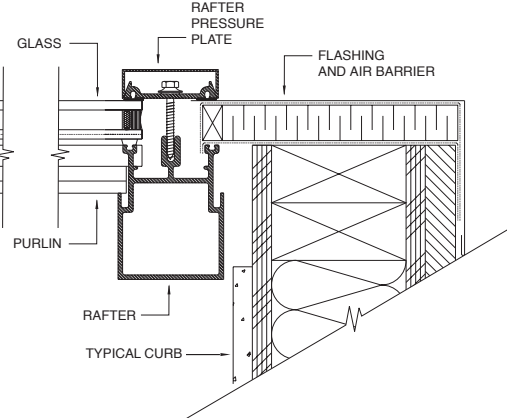
**8. Section at End Rafter (Wall)**



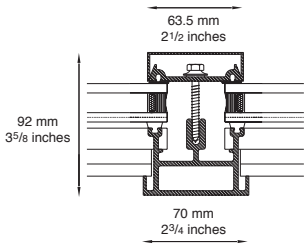
**5. Section at Rafter**



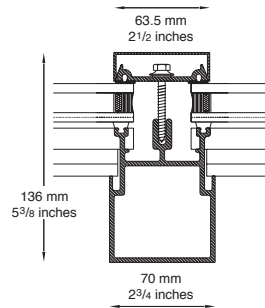
**9. Section at End Rafter (Curb)**



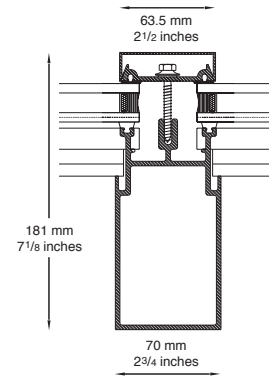
**Small Rafter**



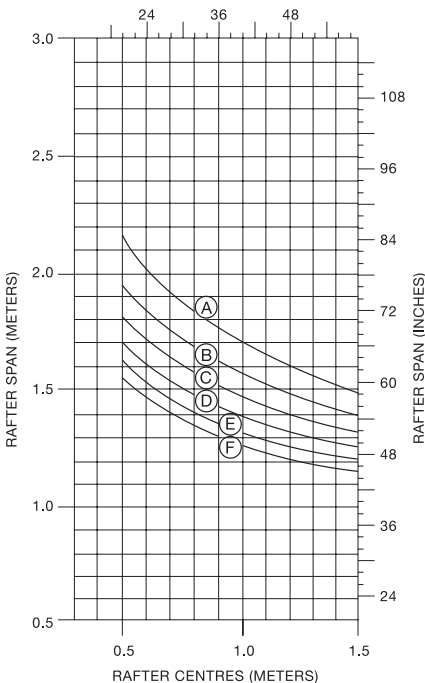
**Medium Rafter**



**Large Rafter**

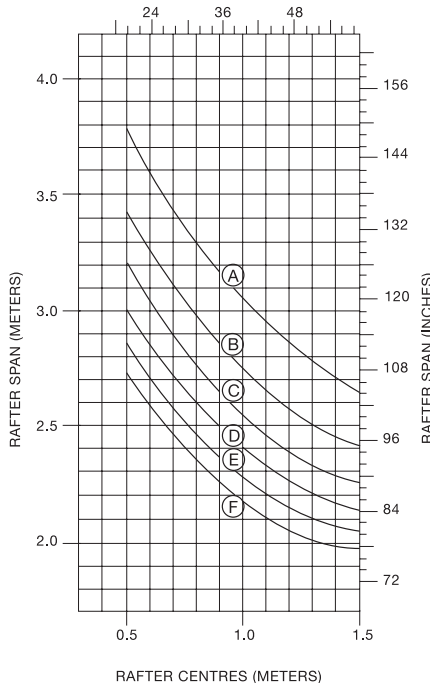


**LOADING TABLE FOR SMALL RAFTER**  
RAFTER CENTRES (INCHES)



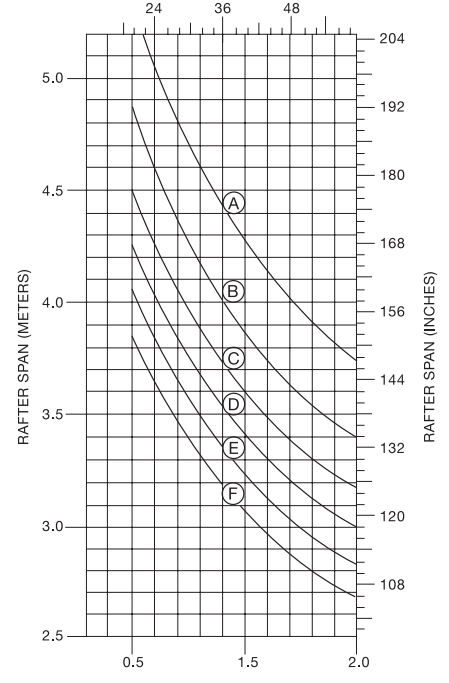
- A. 1.5 kPa (30 PSF)
- B. 2.0 kPa (40 PSF)
- C. 2.5 kPa (50 PSF)
- D. 3.0 kPa (60 PSF)
- E. 3.5 kPa (70 PSF)
- F. 4.0 kPa (80 PSF)

**LOADING TABLE FOR MEDIUM RAFTER**  
RAFTER CENTRES (INCHES)



- A. 1.5 kPa (30 PSF)
- B. 2.0 kPa (40 PSF)
- C. 2.5 kPa (50 PSF)
- D. 3.0 kPa (60 PSF)
- E. 3.5 kPa (70 PSF)
- F. 4.0 kPa (80 PSF)

**LOADING TABLE FOR LARGE RAFTER**  
RAFTER CENTRES (INCHES)



- A. 1.5 kPa (30 PSF)
- B. 2.0 kPa (40 PSF)
- C. 2.5 kPa (50 PSF)
- D. 3.0 kPa (60 PSF)
- E. 3.5 kPa (70 PSF)
- F. 4.0 kPa (80 PSF)



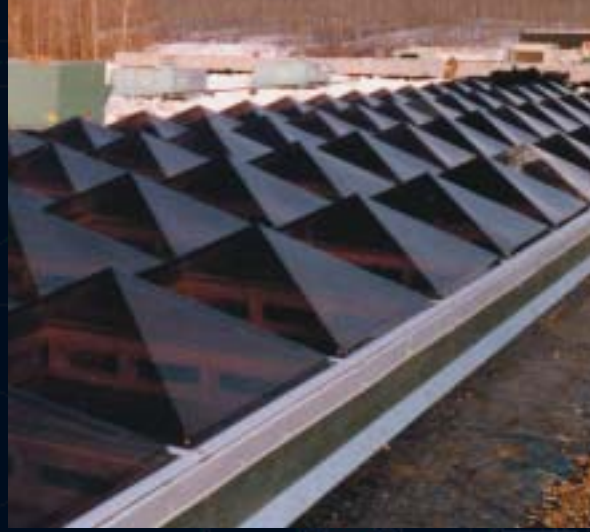




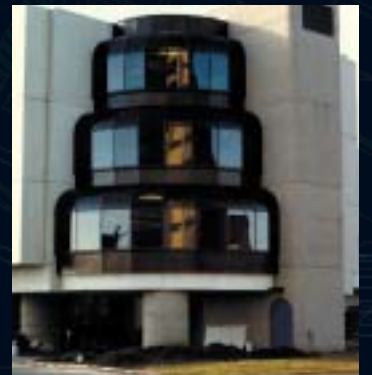
# MAC Skylights











## MAC Plastics Ltd.

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