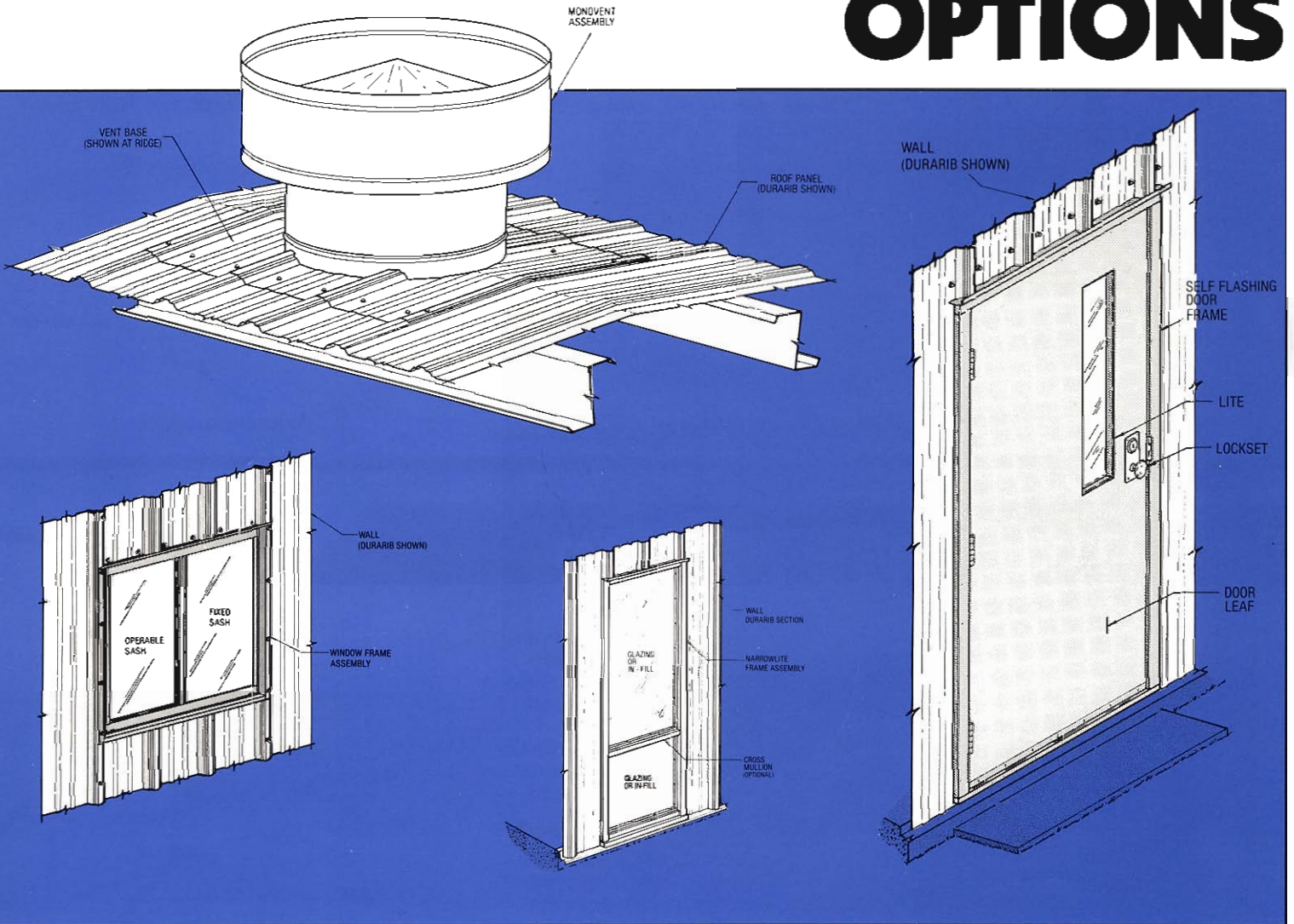


Robertson Building Systems  
 M.P.O. Box 100  
 61 Burford Road  
 Hamilton, Ontario L8N 3B6  
 905-561-7000  
 Fax 905-561-6966

# STAR ROOF AND WALL ACCESSORIES OPTIONS



- STAR THERMAL EFFICIENT WINDOW SYSTEM
- STAR UTILITY WINDOW SYSTEM
- STAR NARROWLITE WINDOW SYSTEM
- STAR OVERHEAD DOOR FRAME SYSTEM
- STAR WALL LOUVER SYSTEMS
- STAR SLIDE DOORS
- STAR COMMERCIAL ENTRY DOOR SYSTEM
- STAR PIPE FLASHING
- STAR UNIVENT VENTILATOR SYSTEM
- STAR ROOF JACK
- STAR MONOVENT VENTILATOR SYSTEM
- STAR LIGHT TRANSMITTING PANELS

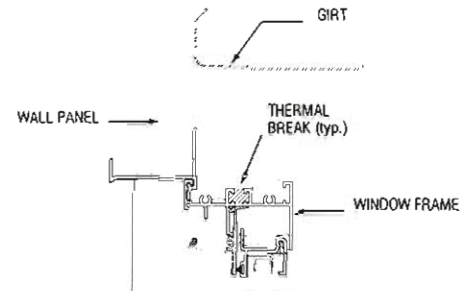
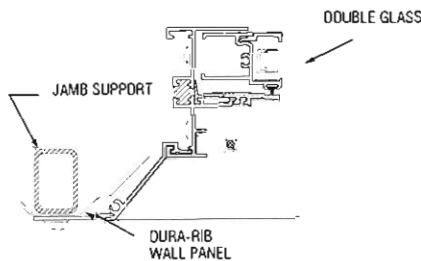
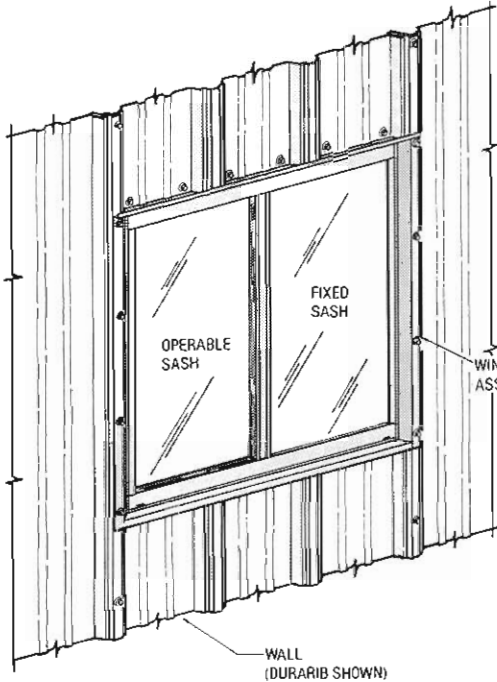
**Star Building Systems**  
 8600 South Interstate 35  
 Box 94910  
 Oklahoma City, OK 73143  
 (800) 654-3921



# THE STAR THERMAL EFFICIENT WINDOW SYSTEM

## GENERAL SPECIFICATIONS

- A. Thermal-efficient horizontal sliding windows shall have structural sections of .055 inch minimum thickness extruded 6063-T5 aluminum alloy, and shall meet or exceed AAMA specifications HS-C20.
- B. Frame and sash members shall be of extruded aluminum with overlapping corners fully secured with fasteners and sealed with high grade exterior color matched sealant meeting AAMA specification 803.3-85. The frame sill shall provide drainage to the outside by means of factory fabricated weep holes.
- C. All frame and sash members are thermally broken and utilize high-density, low thermal conductive polyurethane structural thermal material that shall structurally combine the inner and outer frame and sash sections. NOTE This is a pure thermally divided window, not a thermally stitched or connected window.
- D. Factory Glazing shall consist of 5/8 inch thick clear glass, with the sash members providing for "drop-in" glazing to allow convenient reglazing when required.
- E. All hardware such as fasteners, that are exposed shall be of aluminum or stainless steel non-corrosive material compatible with aluminum. The locking arrangement shall consist of a positive latch type lock and shall provide reasonable security against forced entry.
- F. All weather stripping shall conform to AAMA 701.2-1974 and shall be high density poly-pile with a mylar seal. Air infiltration shall be in accordance with ASTM E-283-84. Water resistance shall be in accordance with ASTM E-331-86.
- G. All frame and sash members shall be factory finished with a dark bronze electrostatically applied acrylic enamel.
- H. All horizontal slide windows are furnished completely assembled with glazed panels, screen panels, weather-stripping and hardware in place, ready for field installation into the proper STAR wall system.



•WINDOW SIZES: 3030 SHOWN, AND 6030.

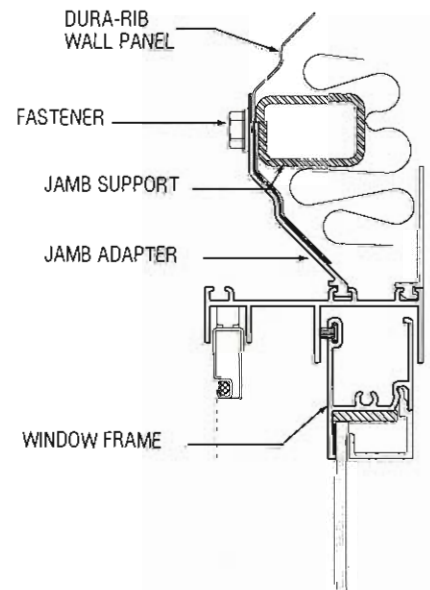
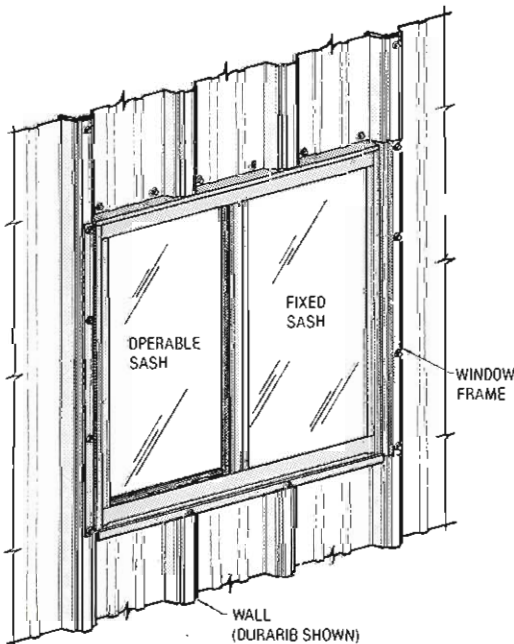
DURA-RIB JAMB DETAIL  
DURA-RIB JAMB DETAIL

TYPICAL HEAD DETAIL

# THE STAR UTILITY WINDOW SYSTEM

## GENERAL SPECIFICATIONS

- A. Utility horizontal sliding windows shall have structural sections of .055 inch minimum thickness extruded aluminum alloy, and shall meet or exceed AAMA Specifications HS-C20.
- B. Frame shall be of extruded aluminum with over-lapping corners fully secured with fasteners. Bead sealant shall be factory applied to corners to provide watertight joints.
- C. Sash members shall be accurately manufactured with overlapping corners and assembled with fasteners. Sash members will provide for "drop-in" glazing to allow convenient reglazing. The sash's interior locking mechanism is designed to eliminate opening from the building exterior. Each operating sash shall roll on two brass tire/stainless steel axle assemblies.
- D. Horizontal sliding windows shall be furnished completely assembled with glazed panels, screen panels, weather-stripping and hardware in place.
- E. Sliding glazed panels and screens shall be easily removed from the inside without tools.



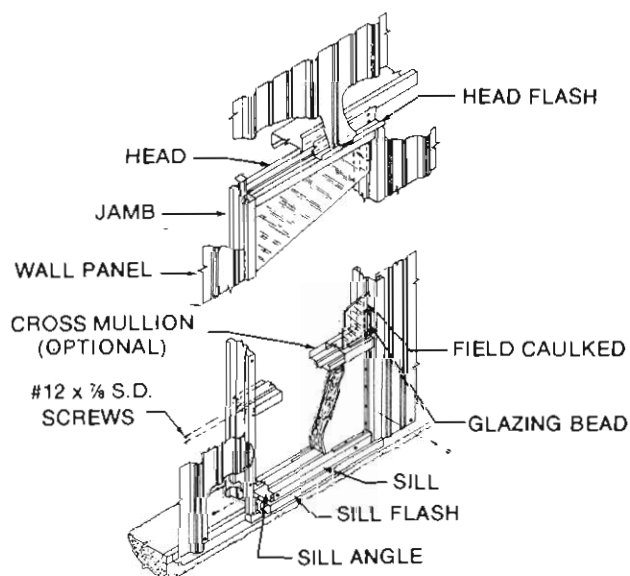
DURA-RIB JAMB DETAIL

WINDOW SIZES: 3030 (SHOWN) AND 6030.

# THE STAR NARROWLITE WINDOW SYSTEM

## GENERAL SPECIFICATIONS

- A. All components shall be fabricated from minimum 16 gauge galvanized (G-60) material, conforming to the latest edition of ASTM-A-525-87.
- B. The frame profile shall be a self-trimming and wrap-around type and shall have factory-welded clips on the cross members to facilitate field assembly. Head flash that is color-matched to the wall panel will be provided.
- C. The jamb profile shall be approximately 5 3/4" deep with a 2" outside and 7/8" inside face double rabbeted. The head, sill and horizontal mullion (cross members shall be coped and, when installed into the jamb), shall provide a connection that is neat and square in appearance and suitable to accept field caulk to seal the joint. All cross members shall be approximately 5" deep with a 2" outside face double rabbeted.
- D. The window frame will be field assembled with all joints field caulked to ensure weather-tightness.
- E. All frame components shall be cleaned, bonderized, oven dried and factory-primed to assure a clean surface in strict accordance with Government Specification MIL-T-490. The primer finish, which shall be a bronze color. Finish paint shall be applied in the field.
- F. Glass and/or accent material is not provided by Star.



**NARROWLITE  
DETAILS**



**NARROWLITE USED WITH  
ENTRANCE DOOR**

# THE STAR OVERHEAD DOOR FRAME SYSTEM



## SPECIFICATIONS

### I. General

A. Framed openings for overhead door assembly shall be manufactured by Star to be field (or factory) located in building sidewall and/or endwall.

B. Frame shall be complete with header and jambs, with all necessary clip angles and bolts, and jamb trim, header trim, and fasteners.

C. Frame shall be installed in accordance with manufacturer's specifications and good construction practices.

### II. Sizes (sizes to nearest inch)

Widths 8'-0" 11'-0" 14'-0" 20'-0" 10'-0" 12'-0" 16'-0"

Height 8'-0" 12'-0" 16'-0" 10'-0" 14'-0"

### III. Door Frames

A. All door frame structural steel components shall be factory fabricated, sheared, punched, and shall be 8" x 3" C-Section, precision roll-formed from 14-gauge galvanized steel. Optional primer painted red is available.

B. Frame connection assemblies at jamb base and foundation, wall girts, jamb and header; and jamb at eave strut shall be 14 gauge steel clip angle in 1/2" bolts.

C. Clip angle connections shall be 1/2" bolts. All bolts exposed to weather shall be cadmium-plated.

D. Anchor bolts shall be 1/2" x 2 1/2" lag bolts with expansion shields or 1/2" bolts to be embedded in concrete (in the field, by builder or contractor).

### IV. Overhead Door Assembly

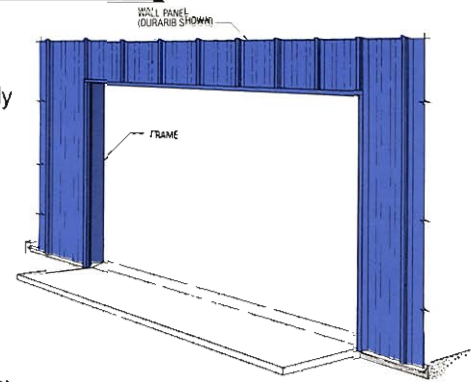
Door, as specified, shall be supplied by others.

### V. Trim

A. Door frame openings shall be trimmed with 26 gauge galvanized steel, factory colored, as specified.

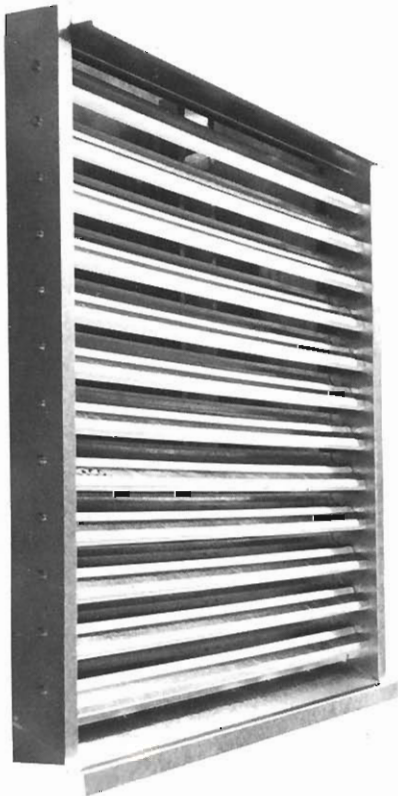
B. Header trim shall be attached to header and wall panels with trim fasteners at centerline of major ribs of wall panels.

C. Jamb trim shall be attached to jambs with trim fasteners.



COMPONENT  
DETAIL FOR TYPICAL OVERHEAD  
DOOR FRAME ASSEMBLY

# THE STAR WALL LOUVER SYSTEMS



## SPECIFICATIONS

### I. General

A. Louvers shall be nominally sized 48" x 48" units with adjustable blades, factory painted with bronze color finish.

B. Louvers shall include structural support members, necessary jamb trim, sealant and fasteners.

### II. Design and Materials

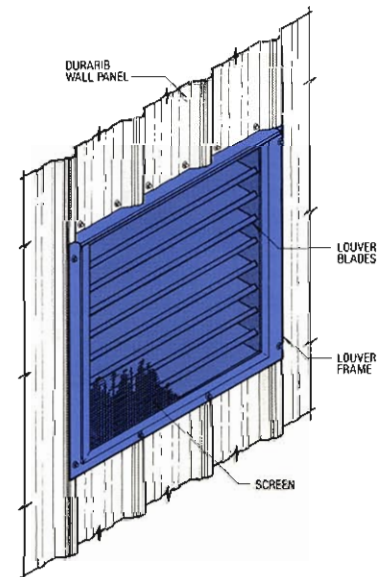
A. Louver frames shall be fabricated from 18 gauge galvanized steel and blades from 20 gauge galvanized steel pivoting on 1/2" diameter, self-lubricating pins.

B. Louvers shall provide a clear opening of 2,304 square inches exclusive of blades and 1,774 square inches free air flow area when blades are in full open position.

C. Louvers shall be equipped with an exterior mounted bird screen of aluminum mesh which can be easily removed for cleaning.

D. Operator shall be pull chain.

E. Structural supports shall be 1" x 3/4" steel tubes at each jamb.



COMPONENT DETAIL

# STAR SLIDE DOOR SYSTEM

## SPECIFICATIONS

### I. General

- Slide doors shall be manufactured by Star to be field installed in building sidewall and/or endwall.
- Door shall be designed for installation on buildings covered with Star Dura-Rib wall panels and shall be complete with jambs, headers, jamb and hood trim, tracks, trolleys, bottom guides, astragal, locking devices, handles, and all clips and fasteners necessary for field assembly.
- Doors shall be bottom guided and suspended from track with smooth rolling hardware.
- Doors shall be furnished in single/or double slide sections, as specified.
- Door shall be installed in accordance with manufacturer's specifications and good construction practices.

### II. Sizes

Slide doors shall be a combination of width and height:

Single leaf width 10', 12', 15'

Heights 8', 10', 12', 14'

Double leaf width 12', 14', 20'

### III. Door Frames

- Headers and jambs for door openings shall be 8" by 3" C Section, precision roll-formed red iron material only.
- Door leaf framing members shall be cold-formed .074 gauge galvanized steel.
- Door tracks, trolleys and brackets shall be galvanized steel.
- All frame opening connections shall be .064 gauge steel clip angles.
- Bolted connections shall be made with 1/2" bolts.
- Anchor bolts shall be 1/2" X 2 1/2" bolts with expansion shields or 1/2" bolts embedded in concrete, (not by Star).

### IV. Door leaf Coverings

- Doorleaves shall be covered with Star Dura-Rib wall panels.
- Panels shall be 26 gauge steel, factory colored, as specified, or galvanized with G-90 zinc coating.
- Panels shall be factory cut to length.

### V. Trim

- Door jambs shall be closed with 26 gauge steel flashing and rubber belting.
- Door opening frames and doorleaves shall be trimmed at headers with hood trim of 26 gauge galvanized steel, painted white, or factory colored to match wall panels, as specified.

### VI. Door Locks

- Doors shall be furnished with locking hardware as per manufacturer's drawings.
- Hardware shall be provided for locking on interior of building.

### VII. Erection

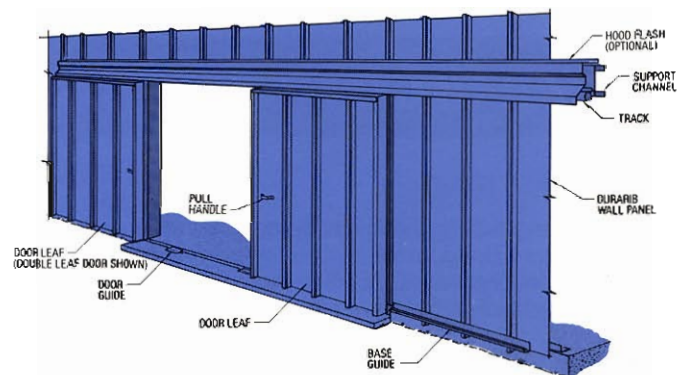
#### A. Door Framing Assembly

- Frame shall be anchored by 1/2" X 2 1/2" bolts with expansion shields or 1/2" bolts embedded in concrete, (not by Star).

- Anchor bolts are to be furnished by concrete contractor as shown on manufacturer's drawings or shall be bolts with expansion shields installed by erection crews.

- Doorleaves - All connections of doorleaf frames shall be made with self drilling fasteners at locations as shown on manufacturer's drawings.

- Erection shall be done in a neat and workmanlike manner by qualified mechanics skilled in this type of work.

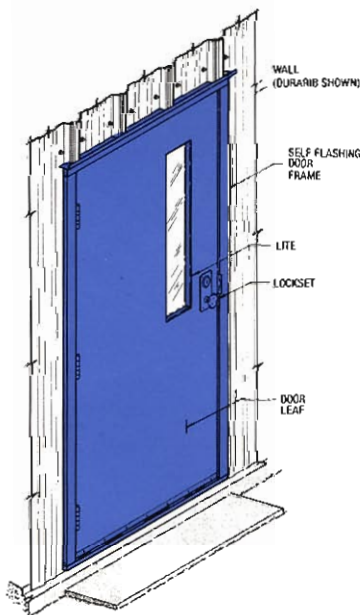


# THE STAR COMMERCIAL ENTRY DOOR SYSTEM

## SPECIFICATIONS:

### GENERAL

- Single and double swing door frames shall be 5 3/4" double rabbeted cold form 16 gauge galvanized steel with self-flashing, non-handed features.
- Doors are available as embossed or smooth. Embossed doors shall be fabricated from 20 gauge cold rolled embossed steel with honey comb cone construction. Smooth doors shall be fabricated from 24 gauge cold rolled steel with foam core construction.
- Embossed doors shall be available in 3070, 4070 and 6070 sizes while the smooth skin door will be available in 3070 and 6070 sizes only. All doors are 1 3/4" thick construction.
- All doors will be available with glass or louver opening preparation as an available option.
- The embossed doors shall have a "U" factor of .45 and the smooth skin door shall be .068.
- All doors will be provided with 1 1/2" pair of 4 1/2" X 4 1/2" hinges with non-removable hinge pins.
- Embossed doors will be prepared for mortise locks as standard with panic devices as options.
- Smooth skin doors will be prepared for cylinder locks as standard with panic devices as an option.
- Door closures, astragal bars, removable center mullions, head and foot bolts are available options.
- All doors provided with aluminum door bottoms, and threshold and optional weatherstrip to provide a weathertight installation.
- All doors and frames will be cleaned, bonderized and receive one coat of rust inhibitive bronze primer.



COMPONENT DETAIL FOR TYPICAL ENTRY DOOR



# STAR PIPE FLASHING

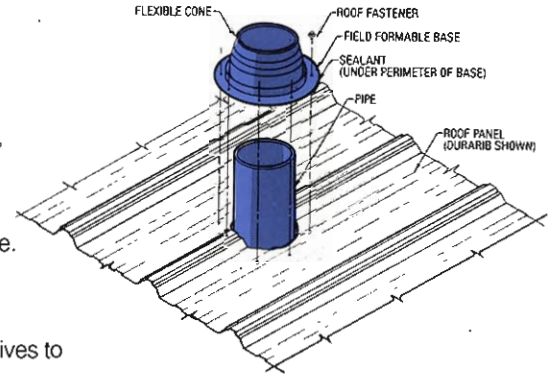
## SPECIFICATIONS

### I. General

- A. Star pipe flashing's design makes fitting and conformity to various roof pitches and panel configurations, as well as placement anywhere on the panel, easily accommodated.
- B. A unique rubber ribbed design, which constitutes the underside of the flashing's aluminum base, provides excellent sealing capacity.
- C. Star pipe flashing is extremely resilient, so expansion and contraction of both pipe and sheets is accommodated.
- D. Star pipe flashing is easy to fit and slide over the pipe, yet requires no sealant or caulk at the pipe.
- E. Star pipe flashing is available in two convenient sized to fit pipes ranging from 1/4" through 7" in diameter. Large sizes are available as optional.

### II. Material

- A. Star pipe flashing is modeled of EPDM, which is compounded with carbon black and other additives to provide maximum weatherability and resistance to ozone and ultraviolet light.
- B. Star pipe flashing's bonded base ring is 1 mm.-thick aluminum alloy A 1100-0; a soft, corrosion-resistant alloy that bends easily with simple hand pressure to conform to any panel configuration.



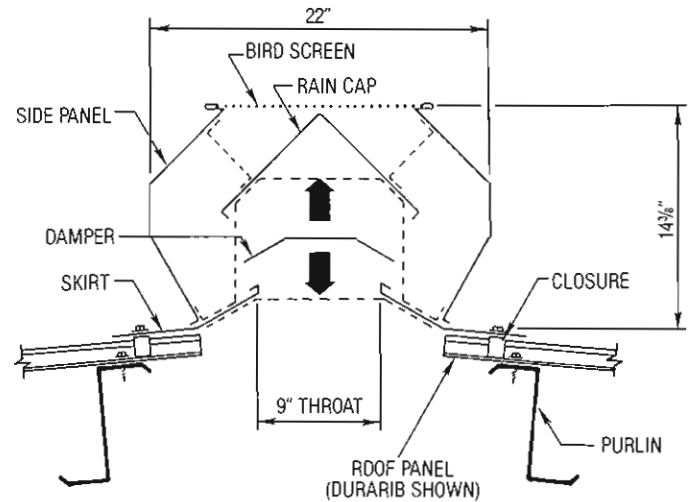
PIPE FLASHING ASSEMBLY

# THE STAR UNIVENT VENTILATOR SYSTEM

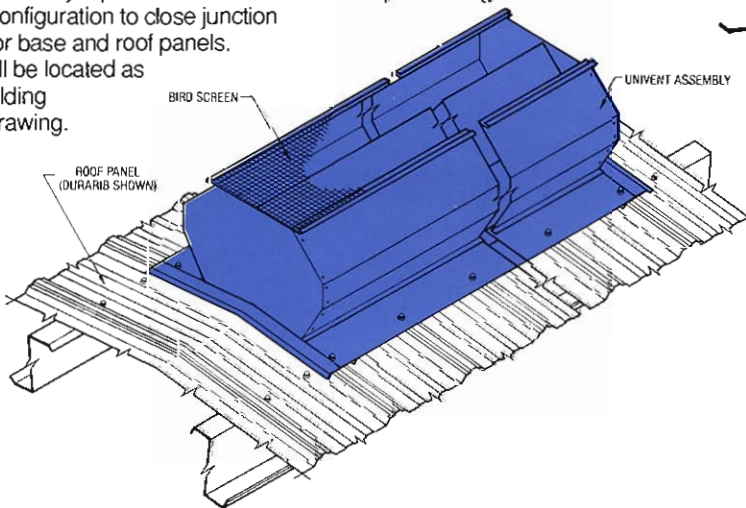
## SPECIFICATIONS

### I. General

- A. Ventilator will be gravity type, and shall be designed to accommodate the roof slope of Star buildings.
- B. Univents, with or without dampers will be fabricated from 26 gauge aluminum/zinc alloy steel, factory white only furnished with birdscreen and end closures.
- C. Univents have a field installed end skirt and may be installed as a single 10' unit or as continuous units in multiples of 10'.
- D. The ventilator damper will be designed to operate in any position from full open to close. Pull chain as standard. Remote lever operated pull cable as optional. Cable can be furnished to extend to the building endwall or sidewall. Up to ten units in a continuous run can be operated by hand.
- E. Ventilator throats will be 9". Damper height will be over half the throat width for ample air passage and throat protection.
- F. Ventilator base will be sealed at end connection with a continuous strip of sealant identical to that used for installation of the building roof panels. Edge of the skirt will be sealed by a preformed rubber closure strip matching the Dura-Rib panel configuration to close junction between ventilator base and roof panels.
- G. Ventilators will be located as shown on the building manufacturer's drawing.



UNIVENT SECTION



### DISCHARGE CAPACITY (CFM)

Discharge capacity based on inlet area 2 times that of the univent area (except 0 MPH column is based on equal inlet and ventilator area). Inlets are assumed to be uniformly distributed around the building. Wind is assumed to blow diagonally on 1/2 of the inlet openings. Increased flow may be obtained by locating inlets into prevailing wind. Temp. Diff. is difference (F°) between inlet temperature and discharge temperature. Stack Height is vertical distance (FT.) between inlet and discharge.

		DISCHARGE CAPACITY (CFM)				
TEMP. DIFF.	STACK HEIGHT	WIND VELOCITY				
		0 MPH	2 MPH	4 MPH	6 MPH	8 MPH
0° F.	ALL	0	462	924	1386	1848
	10'	705	981	1160	1561	1962
10° F.	20'	997	1261	1513	1702	2144
	30'	1221	1545	1700	1931	2240
	40'	1410	1784	1873	2140	2319
20° F.	10'	997	1261	1513	1765	2144
	20'	1410	1784	1873	2140	2319
	30'	1727	2185	2294	2622	2731
30° F.	40'	1994	2522	2522	2648	3026
	10'	1221	1545	1700	1931	2240
	20'	1727	2184	2293	2620	2730
40° F.	30'	2115	2675	2675	2809	3210
	40'	2442	3089	3089	3243	3398
	10'	1410	1784	1873	2141	2319
40° F.	20'	1994	2522	2522	2648	3026
	30'	2442	3089	3089	3243	3398
	40'	2820	3567	3567	3567	3745

# STAR ROOF JACK

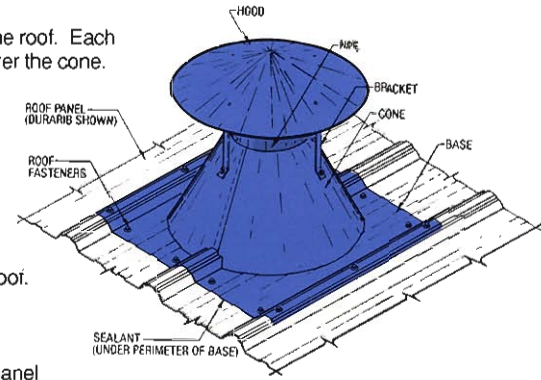
## SPECIFICATIONS

### I. General

- A. Roof jacks shall be mounted on the roof panel to provide weather protection for stacks or pipes penetrating the roof. Each jack shall consist of a cone attached to a 2-foot square base section of Dura-Rib® panel and a hood mounted over the cone.
- B. Cones shall be mounted in the Dura-Rib panel base they will be vertical when mounted on the slope of the roof.
- C. Cones shall be designed to be field trimmed to accommodate stack sizes 7" through 12". The hood shall be field attached after cone is trimmed.

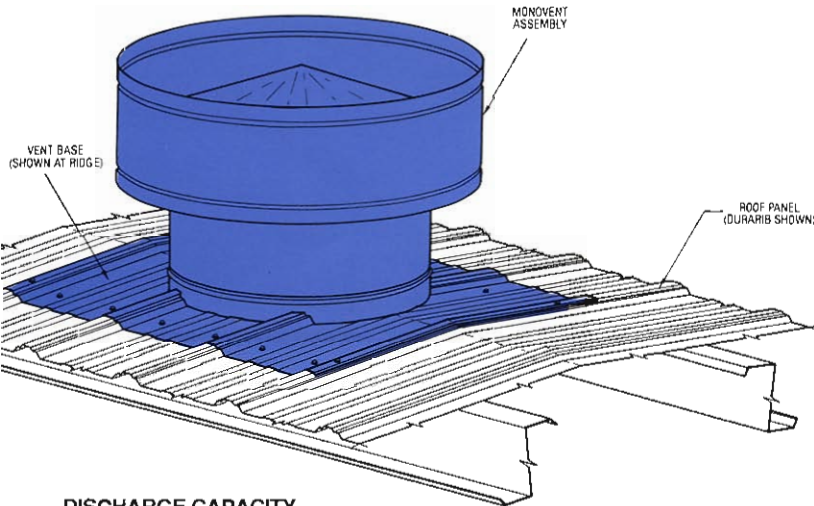
### II. Materials

- A. Panel base shall be a 2-foot square portion of a standard Dura-rib roll formed roof panel and shall be fabricated from 26 gauge galvanized steel and factory coated with Star color finishes.
- B. Cones shall be fabricated from 26-gauge galvanized steel with a factory coated Star color finish. The cones will have an elliptical base to accommodate pipe sizes of 7" to 12" O. D. inclusive and to match the slope of the roof.
- C. Hood shall be fabricated from 26 gauge galvanized steel factory coated with Star color finish and shall be 14" in diameter. Hoods shall be furnished with four straps of 20 gauge steel for support and shall be attached with 1/8" diameter stainless steel pop rivets.
- D. Roof jack base shall be sealed to the roof with non-shrinking, non-drying butyl tape and attached to the roof panel with self-drilling screws.
- E. Stack or pipe penetrations shall be located at the center-line of a major corrugation of the Dura-Rib roof panel.



ROOF JACK ASSEMBLY

# THE STAR MONOVENT VENTILATOR SYSTEM



## DISCHARGE CAPACITY

DISCHARGE CAPACITIES BASED ON 20" DIA. MONOVENT WITH TEMP. DIFFERENTIAL BETWEEN INSIDE TEMPERATURE IN DEGREES FAHRENHEIT AND OUTSIDE TEMPERATURE IN DEGREES FAHRENHEIT  
CFM...CUBIC FEET PER MINUTE  
MPH...MILE PER HOUR  
STACK HEIGHT...AVERAGE HEIGHT IN FEET BETWEEN INTAKE (LOUVERS, DOORS, ETC.) AND OUTLET (DAMPER)

		DISCHARGE CAPACITY (CFM)				
TEMP. DIFF.	STACK HEIGHT	WIND VELOCITY				
		0 MPH	2 MPH	4 MPH	6 MPH	8 MPH
0° F.	ALL	0	134	269	403	538
	10'	205	285	337	454	571
10° F.	20'	290	367	440	495	624
	30'	355	449	495	562	652
	40'	410	519	545	623	675
20° F.	10'	290	367	440	513	624
	20'	410	519	545	623	675
	30'	502	636	667	763	794
30° F.	40'	580	734	734	770	880
	10'	355	449	495	562	652
	20'	502	635	667	762	794
40° F.	30'	615	778	778	817	934
	40'	710	899	899	943	988
	10'	410	519	545	623	675
40° F.	20'	580	734	734	770	880
	30'	710	899	899	943	988
	40'	820	1038	1038	1038	1089

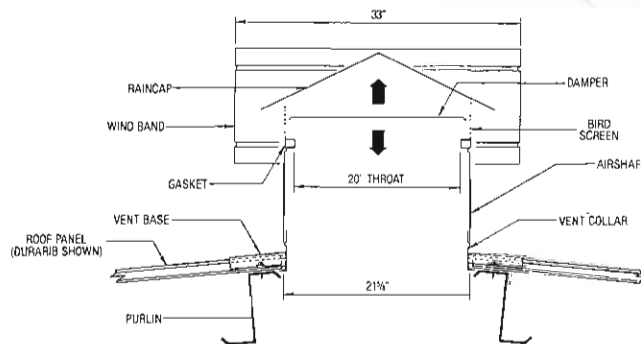
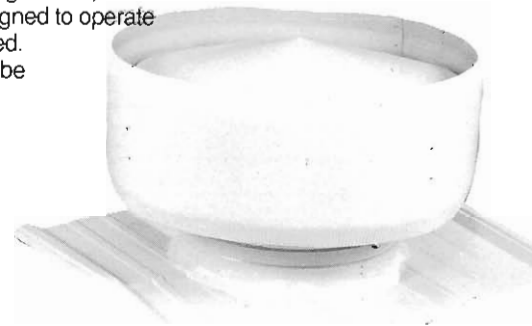
## SPECIFICATIONS

### I. General

- A. Monovent ventilators shall be circular, gravity-type mounted on a base that matches the profile of the Dura-Rib roof panel.
- B. Monovents shall include wind band, bird screen, ventilator throat, base assembly and necessary sealant and fasteners, optional insulation collar is available upon request.
- C. Pull chain as standard or lever operated pull cable as option for remote operation.
- D. Monovents shall be designed to replace a standard ridge panel on roof slopes of 1:12 and 4:12. A special roof panel will be used at desired location to leave opening for monovent base at the ridge for 1/2":12.

### II. Materials

- A. Monovents shall be fabricated from 26 gauge Alum-zinc alloy steel, using white Star color finishes.
- B. Dura-Rib® panel base assembly shall be 3'-0" long providing a net coverage of 36" roll formed to match the profile of the Dura-Rib roof panel.
- C. Damper shall be spring loaded, chain or cable operated, and designed to operate from full open to full closed.
- D. Monovent base shall be attached to the roof panels with standard roof fasteners and sealed with non-drying, non-hardening butyl sealant tape.



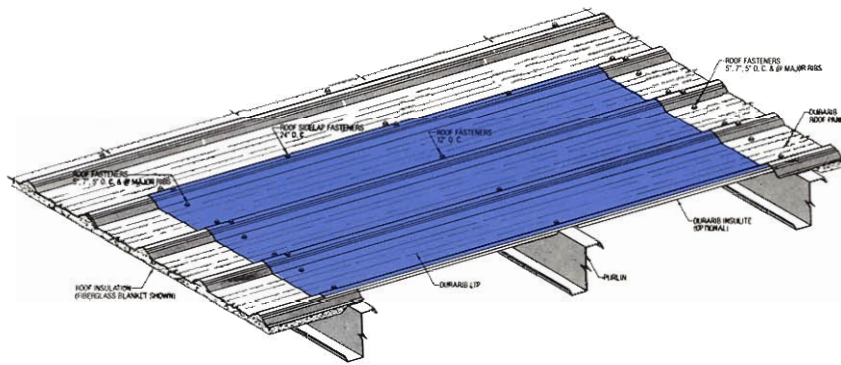
CROSS SECTION

# STAR LIGHT TRANSMITTING PANELS

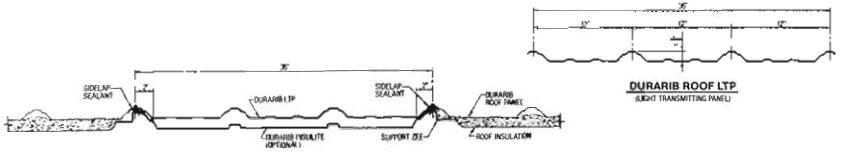
## SPECIFICATIONS

### I. General

- A. All LTP's shall be fiberglass reinforced translucent polyester panels with a minimum thickness of .055" (8 oz./psf) formed to match the profile of the panel.
- B. LTP's shall have a smooth surface and be white in color.
- C. LTP's shall have a light transmission factor of 55% and solar energy transmission of 25%.
- D. All panels used in conjunction with Star standard LTP's shall be factory cut to length.
- E. Roof LTP's shall have panel endlaps and sidelaps sealed with a non-hardening, nontoxic, pressure-sensitive butyl tape to provide an air tight seal. Sealant shall be located as shown on manufacturer's drawings.
- F. The optional insulated light transmitting panels shall be designed to be field assembled with the standard roof LTP to provide a one-inch dead air-space.
- G. The insulated LTP can be installed over 2'-6" or 5'-0" purlin spaces.
- H. When used with the white exterior roof LTP the overall units shall have a light transmission factor of 45%.
- I. The insulated roof LTP shall provide a U Factor of 0.50.

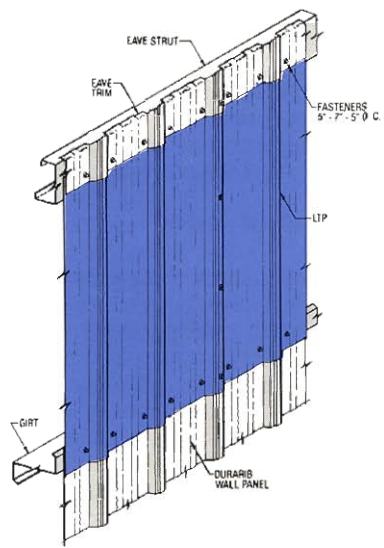


**DURARIB ROOF LTP**

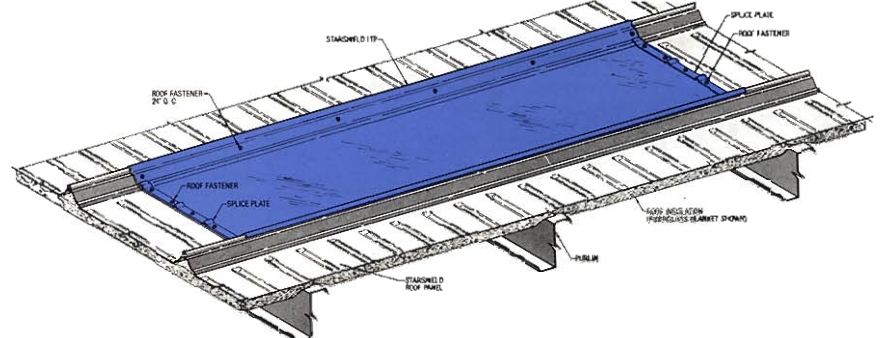


**LTP CROSS SECTION**

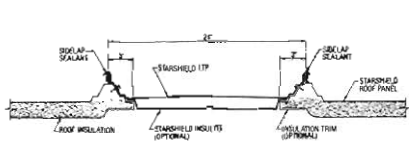
**LTP WITH INSULITE**



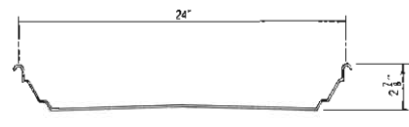
**WALL LTP**



**STARSHIELD LTP**



**STARSHIELD CROSS SECTION**



**STARSHIELD LTP (LIGHT TRANSMITTING PANEL)**

## PROJECT ACCESSORY REQUIREMENTS

QUANTITY	ACCESSORIES	SIZE

QUANTITY	ACCESSORIES	SIZE

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