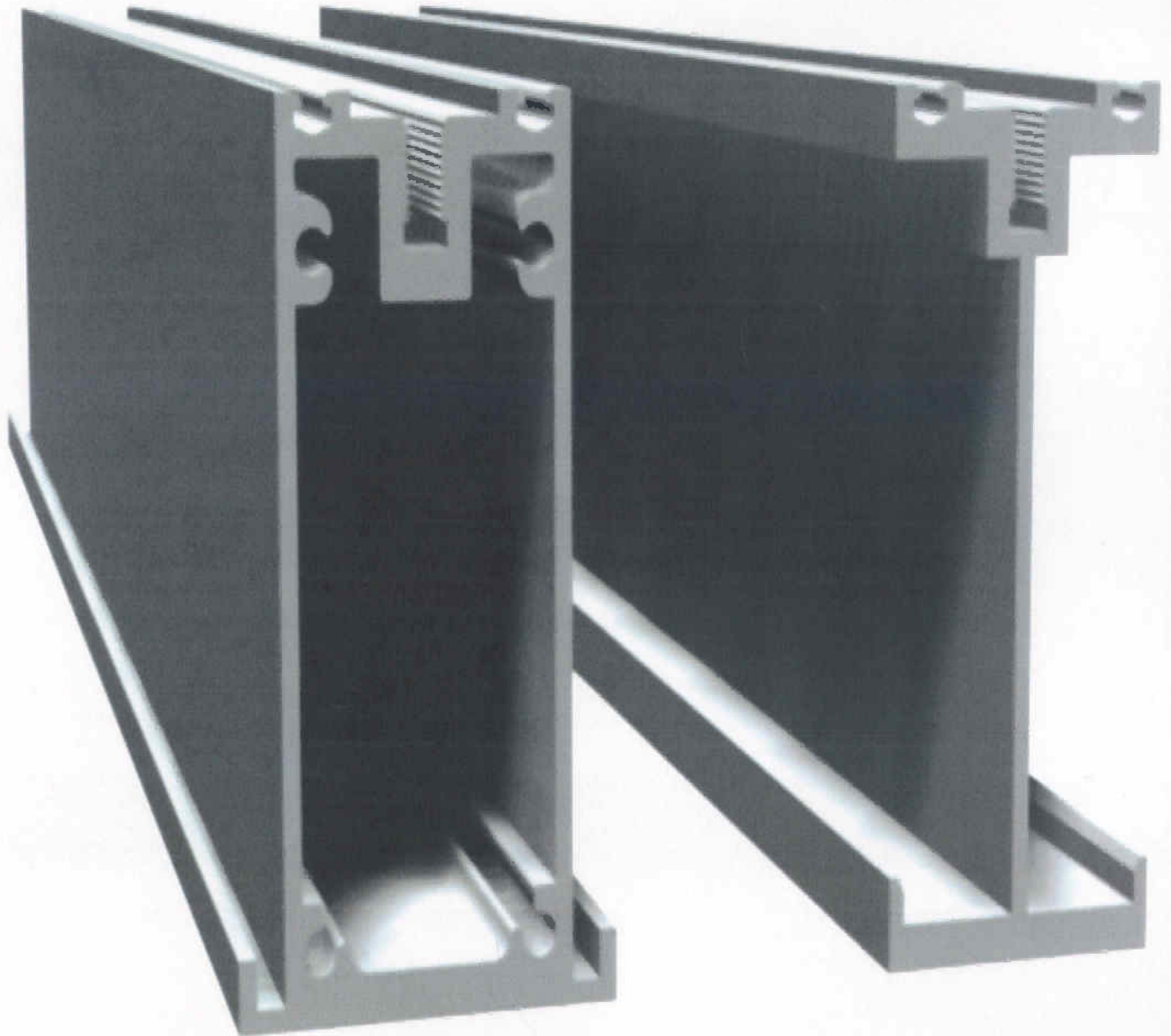


SKYLIGHT STRUCTURAL INFORMATION



SUPER SKY
PRODUCTS, INC.

10301 N. Enterprise Drive
Mequon, Wisconsin 53092

Phone: (262) 242-2000
Fax: (262) 242-7409
www.supersky.com

STR-CVR

STRUCTURAL ENGINEERING GUIDELINES

In this section we publish simplified engineering span charts for estimating the size of frame members. We also provide basic information about reactions for some skylight shapes, with simple forms and charts for estimating frame size. Framework sizes are directly related to governing building codes, specified design loads, and deflection criteria. The more accurately these criteria are identified, the more accurately the sizes may be predicted.

Skylights can be considered to behave in different ways, depending on how they are supported. Consider this structural information to be introductory, to assist in determining feasibility and general appearance.

Aluminum is a high strength, with low stiffness. The design strength of aluminum alloy 6005-T5 is comparable to A-36 steel. However, the stiffness, or modulus of elasticity of aluminum, is only about one-third that of steel. The design of aluminum in skylights is most often governed by deflection rather than stress.

The deflection perpendicular (normal) to the glass plane is a primary concern of skylight engineering. This deflection is specified as a relative limit, for example, span/175 or L/175, and a maximum dimension, for example, 1". This assures proper glass support, effective condensation drainage and minimizes visible distortion. The deflection of the glazed frame in-plane is another concern. In-plane deflection is specified as a maximum ratio of edge clearance and glass bite, and a maximum dimension. The object is to prevent any glass-to-metal contact and to limit the movement of weatherseals and joints. As skylight geometric complexity increases, there are additional considerations for engineering concerns: side sway, story drift, racking, thermal movements, support settlement and stiffness. Some projects involve major expansion and seismic joints. When structures are complex, arched, segmented, cantilevered or multi-spanned, specific structural analysis and computer modeling may be required. Super Sky engineers all skylights with full consideration of all these factors.

There is no substitute for full structural calculations. It is appropriate to give equal consideration to connections within the framework, as well as to the building structure.

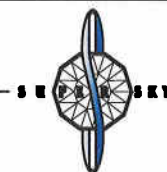
For more information, Super Sky recommends this excellent reference manual:

STRUCTURAL DESIGN GUIDELINES FOR ALUMINUM FRAMED SKYLIGHTS
A.A.M.A., 1827 Walden Office Square; Schaumburg, IL 60173; (847) 303-5664

10301 N. Enterprise Drive
Mequon, Wisconsin 53092

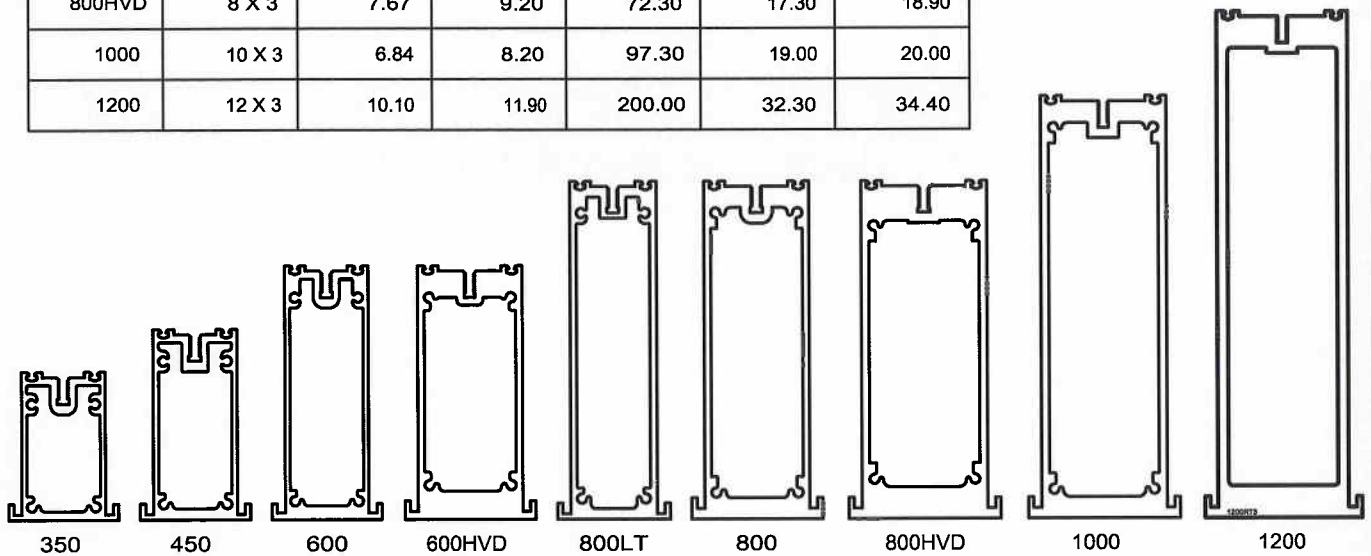
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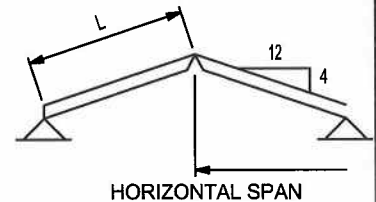
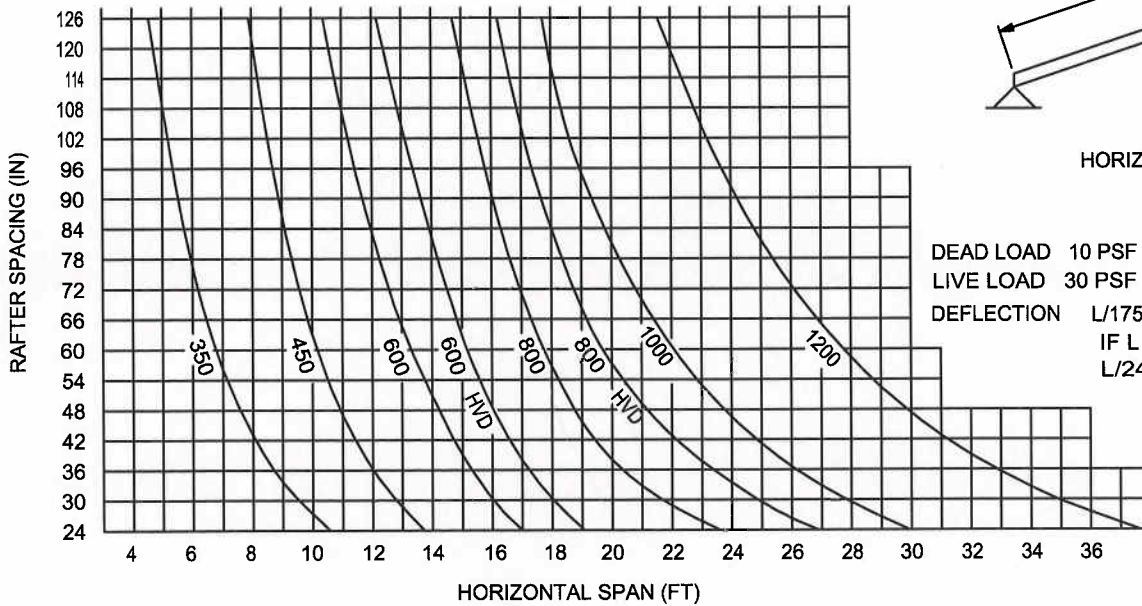


TUBULAR SECTION PROPERTIES

STRUCTURAL SERIES	DEPTH X WIDTH (IN.)	AREA (IN ²)	WT. PER FOOT (LBS.)	MOMENT OF INERTIA	SECTION MODULUS	
					TOP	BOTTOM
350	3-1/2 X 2	2.12	2.54	3.51	1.91	2.11
450	4-1/2 X 2	2.56	3.07	7.31	3.12	3.39
600	6 X 2	3.19	3.83	16.60	5.44	5.63
600HVD	6 X 2-1/2	5.07	6.08	26.73	8.30	9.61
800	8 X 2-1/2	5.32	6.38	50.15	12.18	12.91
800LT	8 X 2	4.08	4.90	34.62	8.70	8.60
800HVD	8 X 3	7.67	9.20	72.30	17.30	18.90
1000	10 X 3	6.84	8.20	97.30	19.00	20.00
1200	12 X 3	10.10	11.90	200.00	32.30	34.40



4:12 SLOPE TUBE



DEAD LOAD 10 PSF
 LIVE LOAD 30 PSF
 DEFLECTION $L/175$ OR 1" MAX,
 IF $L < 20$ FT.
 $L/240$, IF $L \geq 20$ FT.



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STR-2

