

Allowable Beam Spans
Eagle Metal Distributors, Inc.
Aluminum Alloy 6061 T-6

For 110 MPH Wind Zones, Exposure "B" and Latitudes Below 30°-30'-00" North (Jacksonville, FL)
 Uniform Load = 4 #/SF, a Point Load of 300 #/SF over (1) linear ft. is also considered

Hollow Sections	Tributary Load Width "W" = Beam Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"
3" x 2" x 0.045"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"
3" x 2" x 0.070"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"
2" x 3" x 0.045"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"
2" x 4" x 0.050"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"
2" x 5" x 0.060"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"

Self Mating Sections	Tributary Load Width "W" = Beam Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 4" x 0.048" x 0.109"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"	18'-11"
2" x 5" x 0.050" x 0.131"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"
2" x 6" x 0.050" x 0.135"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"	25'-1"
2" x 7" x 0.055" x 0.135"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"	35'-4"
2" x 8" x 0.070" x 0.239"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"	45'-5"
2" x 9" x 0.070" x 0.219"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"	49'-3"
2" x 9" x 0.082" x 0.321"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"	53'-1"
2" x 10" x 0.090" x 0.389"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"	57'-5"

- Note:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. The structures designed using this section shall be limited to a maximum combined span and upright height of 50' and a maximum upright height of 16'. Structures larger than these limits shall have site specific engineering.
 3. Span is measured from center of beam and upright connection to fascia or wall connection.
 4. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
 5. Tables are based on a maximum wall height of 16' including a 4' max. mansard or gable.
 6. Spans may be interpolated.
 7. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on Table 1B Page 3.

Table 1.2 110
E 6061
Allowable Purlin Spans
Eagle Metal Distributors, Inc.
Aluminum Alloy 6061 T-6

For 110 MPH Wind Zones, Exposure "B" and Latitudes Below 30°-30'-00" North (Jacksonville, FL)
 Uniform Load = 4 #/SF, a Point Load of 300 # over (1) linear ft. is also considered

Hollow Sections	Tributary Load Width "W" = Purlin Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"	5'-9"
3" x 2" x 0.045"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"	6'-9"
3" x 2" x 0.070"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"	8'-3"
2" x 3" x 0.045"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"
2" x 4" x 0.050"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"
2" x 5" x 0.060"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"	21'-1"

Hollow Sections	Tributary Load Width "W" = Purlin Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"	8'-2"
3" x 2" x 0.045"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"	8'-5"
3" x 2" x 0.070"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"	12'-4"
2" x 3" x 0.045"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"	14'-8"
2" x 4" x 0.050"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"	21'-11"
2" x 5" x 0.060"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"	31'-7"

- Note:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. Span is measured from center of beam and upright connection to fascia or wall connection.
 3. Tables are based on a maximum wall height of 16' including a 4' max. mansard or gable.
 4. Spans may be interpolated.
 5. 2" x 4" & 2" x 5" Hollow Girts shall be connected w/ an internal or external 1-1/2" x 1-1/2" x 0.044" angle.
 6. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on Table 1B Page 3.
- CHECK TABLE 1.6 FOR MINIMUM PURLIN SIZE FOR BEAMS.

Table 1.3 110 E 6061
Allowable Upright Heights
Eagle Metal Distributors, Inc.
Aluminum Alloy 6061 T-6

For 3 second wind gust at a velocity of 110 MPH, Exposure "B" or an applied load of 13 #/sq. ft.

Hollow Sections	Tributary Load Width "W" = Upright Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"	7'-5"
3" x 2" x 0.045"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"	8'-4"
3" x 2" x 0.070"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"
2" x 3" x 0.045"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"	10'-7"
2" x 4" x 0.050"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"	13'-10"
2" x 5" x 0.060"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"

Self Mating Sections	Tributary Load Width "W" = Upright Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 4" x 0.048" x 0.109"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"	16'-5"
2" x 5" x 0.050" x 0.131"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"
2" x 6" x 0.050" x 0.135"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"	22'-10"
2" x 7" x 0.055" x 0.135"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"	25'-8"
2" x 8" x 0.070" x 0.239"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"	30'-8"
2" x 9" x 0.070" x 0.219"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"	33'-3"
2" x 9" x 0.082" x 0.321"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"	35'-10"
2" x 10" x 0.090" x 0.389"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"	41'-9"

- Note:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. Using screen panel width "W" select upright length "H".
 3. Above heights do not include length of knee brace. Add vertical distance from upright to center of brace to beam connection to the above spans for total beam spans.
 4. Site specific engineering required for pool enclosures over 30' in mean roof height.
 5. Height is to be measured from center of beam and upright connection to fascia or wall connection.
 6. Chair rails of 2" x 2" x 0.044" min. and set @ 36" in height are designed to be residential guardrails provided they are attached with min. (3) #10 x 1-1/2" S.M.S. into the screw bosses and do not exceed 8'-0" in span.
 7. Max. beam size for 2" x 5" is 2" x 7" x 0.055" x 0.120".
 8. Spans may be interpolated.
 9. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on Table 1B Page 3.
 10. For patio decks 30' above grade and less than 1 story in height, screen meets the criteria for use as pickets.

Table 1.4 110 E 6061
Allowable Post / Girt / Chair Rail / Header Spans & Upright Heights
Eagle Metal Distributors, Inc.
Aluminum Alloy 6061 T-6

For 3 second wind gust at a velocity of 110 MPH, Exposure "B" or an applied load of 13 #/sq. ft.
 A. Sections As Horizontals Fastened To Posts With Clips

Hollow Sections	Tributary Load Width "W" = Member Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"
3" x 2" x 0.045"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"	7'-11"
3" x 2" x 0.070"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"
2" x 3" x 0.045"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3" x 3" x 0.082"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"	10'-9"
2" x 4" x 0.050"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"
3" x 3" x 0.090"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"	13'-2"
3" x 3" x 0.090"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"	14'-6"
2" x 5" x 0.060"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"	16'-9"
4" x 4" x 0.125"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"	19'-4"

Hollow Sections	Tributary Load Width "W" = Member Spacing									
	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2" x 2" x 0.043"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"	9'-5"
3" x 2" x 0.045"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"	9'-9"
3" x 2" x 0.070"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"	12'-1"
3" x 3" x 0.045"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"
3" x 3" x 0.062"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"	13'-7"
2" x 4" x 0.050"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"	17'-3"
3" x 3" x 0.090"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"	17'-8"
3" x 3" x 0.125"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"	19'-5"
2" x 5" x 0.060"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"	22'-4"
4" x 4" x 0.125"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"	25'-10"

- Note:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. Using screen panel width "W" select girt lengths.
 3. Site specific engineering required for pool enclosures over 30' in mean roof height.
 4. Span/height is to be measured from center of beam and upright connection to fascia or wall connection.
 5. Chair rails of 2" x 2" x 0.044" min. and set @ 36" in height are designed to be residential guardrails provided they are attached with min. (3) #10 x 1-1/2" S.M.S. into the screw bosses and do not exceed 8'-0" o.c.
 6. Girt spacing shall not exceed 6'-8".
 7. Max. beam size for 2" x 5" is 2" x 7" x 0.055" x 0.120".
 8. 2" x 4" & 2" x 5" hollow girts shall be connected w/ an internal or external 1-1/2" x 1-1/2" x 0.044" angle.
 9. Spans/heights may be interpolated.
 10. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on Table 1B Page 3.

Table 1.5 110
110 E 6061
Allowable Spans for Miscellaneous Framing Beams as Supporting Screen Roof Frame Members
One End of Beam Attached to Host Structure (Axially Loaded)
Eagle Metal Distributors, Inc.
Aluminum Alloy 6061 T-6

(110 MPH)
 for Areas with Wind Loads up to 110 M.P.H., Exposure "B" and Latitudes Below 30°-30'-00" North (Jacksonville, FL)
 Uniform Load = 4 #/ft., a Point Load of 300 # over (1) linear ft. is also considered

Single Self-Mating Beams	Tributary Load Width											
	10'-0"	14'-0"	18'-0"	22'-0"	26'-0"	30'-0"	34'-0"	38'-0"	42'-0"	46'-0"	50'-0"	54'-0"
	Allowable Span 'L' / Point Load (P) or Uniform Load (U), bending (b), deflection (d)											
2" x 4" x 0.044" x 0.100" SMB	16'-3" U	14'-6" U	13'-4" U	11'-11" U	10'-9" U	9'-10" U	9'-0" U	8'-4" U	7'-9" U	7'-3" U	6'-9" U	6'-4" U
2" x 5" x 0.050" x 0.116" SMB	18'-5" U	16'-5" U	14'-11" U	13'-4" U	12'-0" U	10'-11" U	10'-2" U	9'-5" U	8'-9" U	8'-2" U	7'-8" U	7'-2" U
2" x 6" x 0.050" x 0.120" SMB	21'-8" U	19'-4" U	17'-8" U	15'-9" U	14'-3" U	13'-0" U	12'-1" U	11'-3" U	10'-6" U	9'-10" U	9'-3" U	8'-9" U
2" x 7" x 0.055" x 0.120" SMB	24'-8" U	22'-0" U	19'-11" U	17'-10" U	16'-3" U	14'-11" U	13'-10" U	12'-10" U	12'-1" U	11'-4" U	10'-9" U	10'-2" U
2" x 8" x 0.072" x 0.224" SMB	30'-5" U	27'-2" U	24'-11" U	23'-4" U	21'-4" U	19'-8" U	18'-4" U	17'-2" U	16'-2" U	15'-4" U	14'-7" U	13'-10" U
2" x 9" x 0.072" x 0.224" SMB	32'-11" U	29'-6" U	27'-1" U	24'-11" U	22'-10" U	21'-1" U	19'-7" U	18'-5" U	17'-4" U	16'-5" U	15'-7" U	14'-11" U
2" x 9" x 0.082" x 0.306" SMB	35'-7" U	31'-9" U	29'-3" U	27'-4" U	25'-9" U	23'-10" U	22'-3" U	20'-11" U	19'-9" U	18'-9" U	17'-10" U	17'-0" U
2" x 10" x 0.092" x 0.374" SMB	41'-5" U	36'-11" U	34'-0" U	31'-10" U	30'-1" U	28'-8" U	26'-10" U	25'-3" U	23'-10" U	22'-8" U	21'-8" U	20'-8" U

Double Self-Mating Beams	Tributary Load Width											
	10'-0"	14'-0"	18'-0"	22'-0"	26'-0"	30'-0"	34'-0"	38'-0"	42'-0"	46'-0"	50'-0"	54'-0"
	Allowable Span 'L' / Point Load (P) or Uniform Load (U), bending (b), deflection (d)											
(2) 2" x 8" x 0.072" x 0.224"	36'-3" U	34'-3" U	31'-6" U	29'-5" U	27'-10" U	26'-6" U	25'-5" U	24'-6" U	23'-9" U	22'-10" U	21'-9" U	20'-10" U
(2) 2" x 9" x 0.072" x 0.224"	41'-6" U	37'-2" U	34'-2" U	31'-11" U	30'-3" U	28'-10" U	27'-9" U	26'-7" U	25'-7" U	24'-5" U	23'-4" U	22'-4" U
(2) 2" x 9" x 0.082" x 0.206"	44'-10" U	40'-1" U	36'-10" U	34'-5" U	32'-7" U	31'-1" U	29'-7" U	28'-8" U	27'-9" U	26'-11" U	26'-2" U	25'-3" U
(2) 2" x 10" x 0.092" x 0.374"	52'-2" U	46'-7" U	42'-10" U	40'-1" U	37'-11" U	36'-2" U	34'-8" U	33'-5" U	32'-4" U	31'-4" U	30'-6" U	29'-9" U

LATITUDES NORTH 30 - 30' - 00" NORTH (JACKSONVILLE, FL)

Table 1.6 Minimum Upright Sizes and Number of Screws for Connection of Roof Beams To Wall Uprights or Beam Splicing

Beam Size	Minimum Upright / Column Size	Minimum Purlin Size	Minimum Girt & Knee Brace Size	Minimum Number of Screws*	Beam Splicing Screws & Spacing
2" x 3" x 0.045" Hollow	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	-
2" x 4" x 0.050" Hollow	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	-
2" x 5" x 0.060" Hollow	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	-
2" x 4" x 0.048" x 0.109" SMB	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	#8 @ 12" O.C.
2" x 5" x 0.050" x 0.131" SMB	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	#8 @ 12" O.C.
2" x 6" x 0.050" x 0.135" SMB	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	2" x 2" x 0.043" Hollow	8 6 4	#8 @ 12" O.C.
2" x 7" x 0.055" x 0.135" SMB	2" x 4" SMB or Hollow	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	10 8 6	#10 @ 12" O.C.
2" x 8" x 0.070" x 0.239" SMB	2" x 5" SMB or Hollow	2" x 3" x 0.045" Hollow	2" x 2" x 0.043" Hollow	14 12 10	#12 @ 12" O.C.
2" x 9" x 0.072" x 0.219" SMB	2" x 6" x 0.050" x 0.135" SMB	2" x 3" x 0.045" Hollow	2" x 3" x 0.045" Hollow	18 16 14	#14 @ 12" O.C.
2" x 9" x 0.082" x 0.321" SMB	2" x 7" x 0.055" x 0.135" SMB	2" x 4" x 0.050" Hollow or SMB	2" x 3" x 0.045" Hollow	20 18 16	#14 @ 12" O.C.
2" x 10" x 0.090" x 0.389" SMB	2" x 8" x 0.070" x 0.239" SMB	2" x 5" x 0.060" Hollow or SMB	2" x 4" x 0.050" Hollow or SMB	20 18 16	#14 @ 12" O.C.

Screw Size	Minimum Distance and Spacing of Screws
#8	Edge To Center 5/16"
#10	Center To Center 3/4"
#12	Center To Center 1"
#14 or 1/4"	Center To Center 1-1/2"
5/16"	Center To Center 1-3/4"
3/8"	Center To Center 2"

Gusset Plate Thickness	Beam Size	Thickness
2" x 7" x 0.055" x 0.120" SMB	2" x 7" x 0.055" x 0.120" SMB	0.063"
2" x 8" x 0.082" x 0.306" SMB	2" x 8" x 0.082" x 0.306" SMB	0.125"
2" x 9" x 0.072" x 0.219" SMB	2" x 9" x 0.072" x 0.219" SMB	0.125"
2" x 9" x 0.082" x 0.306" SMB	2" x 9" x 0.082" x 0.306" SMB	0.190"
2" x 10" x 0.092" x 0.374" SMB	2" x 10" x 0.092" x 0.374" SMB	0.250"

Connection Example:
 2" x 7" Beam & 2" x 4" at beam & gusset plate, (14) #8 x 1/2" s.m.s. & upright & gusset plate (14) #8 x 1/2" s.m.s. ea. side of beam & upright.
 Note:
 1. Connection of 2" x 6" to 2" x 4" shall use a full lap cut or 1/16" gusset plate.
 2. For beam splice connections the number of screws shown is the total for each splice with 1/2 the screws on each side of the cut.
 3. The number of deck anchors is based on RAVL R Tapper allowable load data for 2,500 psi concrete and / or equal anchors may be used.
 The number shown is the total use 1/2 per side.
 4. Hollow splice connections can be made provided the connection is approved by the engineer.
 5. If a larger than minimum upright is used the number of screws is the same for each splice with 1/2 the screws on each side of the cut.
 6. The side wall upright shall have a minimum beam size as shown above, i.e., a 2" x 4" upright shall have a 2" x 3" beam.
 7. For minimum girt size read upright size as a beam and purlin size is minimum girt size. (i.e. 2" x 9" x 0.072" x 0.219" s.m.b. w/ 2" x 6" x 0.050" x 0.135" s.m.b. upright requires a 2" x 3" x 0.045" girt / chair rail.)
 8. All connections shall use a full lap cut.

Table 1.7 Minimum Size Screen Enclosure Knee Braces and Anchoring Required Aluminum 6063 T-6

Brace Length*	Extrusion	Anchoring System
0' - 2'-0"	2" x 2" x 0.044"	2" H-Channel With (3) #10 x 1/2" each leg of channel
To 3'-0"	2" x 3" x 0.045"	2" H-Channel With (3) #10 x 1/2" each leg of channel
Up to 6'-0"	2" x 4" x 0.044" x 0.100"	2" H-Channel With (4) #10 x 1/2" each leg of channel

*Knee brace length shall be the horizontal and vertical length @ a 45° angle from the center of the connection to the face of the beam or upright.
 Note:
 1. For required knee braces greater than 4'-6" contact engineer for specifications and details.
 2. Cantilever beam detail shall be used for transom wall to host structure attachment when knee brace length exceeds 6'-0".

Table 1.8 K-Bracing Fastening Schedule For 120 MPH "C" Exposure

Maximum Wall Width =	Number of #10 x 3/4" S.M.S. Required				
	Corner Post @ Top	Diagonals (K) per End	Intermediate Post @ Chair Rail	Corner Post @ Bottom	Plate to Sole Plate
20'-0"	2	2	4	2	2
30'-0"	2	2	4	2	2
40'-0"	3	4	6	2	2
50'-0"	4	5	8	3	3
60'-0"	6	7	12	3	3

* Use screw sizes specified in the table below.
 Use front wall width when determining number of s.m.s. for the side wall K-bracing.
 Use side wall width when determining number of s.m.s. for the front and / or back wall K-bracing.

Wind Zone, Exposure "C"	Screw Size
90-130 MPH	#10
130 MPH	#12
140 - 150 MPH	#14

Table 1.11 Maximum Overhang for Rafter / Truss Tails when Connected to Screen Roof

Wind Zone ("B" Exp.)	Wind Pressure (#/SF)	Rafter / Truss Tail #2 Span / bending (b) or deflection (d)				
		2x4	2x6	2x8	2x10	2x12
100-110	4	2'-2"	b 5'-4"	b 9'-3"	b 15'-0"	b 22'-3"
120	4	2'-2"	b 5'-4"	b 9'-3"	b 15'-0"	b 22'-3"
123	4.3	2'-0"	b 4'-11"	b 8'-7"	b 13'-11"	b 20'-8"
130	5	1'-9"	b 4'-3"	b 7'-5"	b 12'-0"	b 17'-10"
140	6	1'-5"	b 3'-7"	b 6'-2"	b 10'-0"	b 14'-10"
150	7	1'-3"	b 3'-0"	b 5'-3"	b 8'-7"	b 12'-9"
30' Max. Enclosure Span						
Wind Zone ("B" Exp.)	Wind Pressure (#/SF)	2x4	2x6	2x8	2x10	2x12
100-110	4	1'-5"	b 3'-7"	b 6'-2"	b 10'-0"	b 14'-10"
120	4	1'-5"	b 3'-7"	b 6'-2"	b 10'-0"	b 14'-10"
123	4.3	1'-4"	b 3'-4"	b 5'-9"	b 9'-4"	b 13'-10"
130	5	1'-2"	b 2'-10"	b 4'-11"	b 8'-0"	b 11'-10"
140	6	0'-11"	b 2'-4"	b 4'-1"	b 6'-8"	b 9'-11"
150	7	0'-10"	b 2'-0"	b 3'-6"	b 5'-9"	b 8'-6"
40' Max. Enclosure Span						
Wind Zone ("B" Exp.)	Wind Pressure (#/SF)	2x4	2x6	2x8	2x10	2x12
100-110	4	1'-1"	b 2'-8"	b 4'-7"	b 7'-6"	b 11'-1"
120	4	1'-1"	b 2'-8"	b 4'-7"	b 7'-6"	b 11'-1"
123	4.3	1'-0"	b 2'-6"	b 4'-4"	b 6'-11"	b 10'-4"
130	5	0'-10"	b 2'-2"	b 3'-8"	b 6'-0"	b 8'-11"
140	6	0'-9"	b 1'-9"	b 3'-1"	b 5'-0"	b 7'-5"
150	7	0'-7"	b 1'-6"	b 2'-8"	b 4'-4"	b 6'-4"

Note:
 1. For overhangs with spans that exceed those listed above site specific engineering is required.
 If truss bottom cord extends more than 24" over the wall site specific engineering is required.
 2. To convert from exposure "B" spans to "C" or "D" exposure spans see multipliers and example Table 1B on page 3.
 Example:
 For a pool enclosure with 30' max. beam span, in a 123 MPH wind zone, "B" exposure. For 2 x 6 rafter / truss the max overhang from the wall of the host structure to the sub-fascia is 3'-4".

Table 1.9.1 Allowable Beam Spans Eagle Metal Distributors, Inc. Aluminum Alloy 6061 T-6

For 130 MPH Wind Zones, Exposure "B" and Latitudes North of 30°-30'-00" North (Jacksonville, FL)
 Uniform Load = 15 #/SF, a Point Load of 300 #/SF over (1) linear ft. is also considered

Hollow Sections	Tributary Load Width "W" = Beam Spacing				
	3'-0"	4'-0"	5'-0"	6'-0"	8'-0"
2" x 2" x 0.043"	5'-9" Pd	5'-9" Pd	5'-9" Pd	5'-9" Pd	5'-9" Pd
3" x 2" x 0.045"	6'-9" Pb	6'-9" Pb	6'-9" Pb	6'-9" Pb	6'-9" Pb
3" x 2" x 0.070"	8'-3" Pd	8'-2" Ud	7'-7" Ud	7'-2" Ud	6'-6" Ud
2" x 3" x 0.045"	12'-1" Ud	11'-0" Ud	10'-3" Ud	9'-7" Ud	8'-8" Ud
2" x 4" x 0.050"	13'-2" Ud	11'-11" Ud	11'-2" Ud	10'-5" Ud	8'-9" Ud
2" x 5" x 0.060"	16'-10" Ud	15'-3" Ud	14'-2" Ud	13'-4" Ud	10'-4" Ud

Self Mating Sections	Tributary Load Width "W" = Beam Spacing				
	3'-0"	4'-0"	5'-0"	6'-0"	8'-0"
2" x 4" x 0.045" x 0.088"	15'-8" Ud	14'-2" Ud	12'-11" Ud	11'-10" Ud	10'-2" Ud
2" x 5" x 0.050" x 0.116"	17'-8" Ud	16'-1" Ud	14'-7" Ud	13'-3" Ud	11'-5" Ud
2" x 6" x 0.050" x 0.120"	20'-10" Ud	18'-4" Ud	16'-4" Ud	14'-11" Ud	12'-10" Ud
2" x 7" x 0.055" x 0.120"	23'-6" Ud	20'-3" Ud	18'-1" Ud	16'-5" Ud	14'-2" Ud
2" x 8" x 0.070" x 0.224"	29'-2" Ud	26'-6" Ud	24'-8" Ud	23'-2" Ud	20'-6" Ud
2" x 9" x 0.070" x 0.204"	31'-8" Ud	28'-10" Ud	26'-9" Ud	24'-8" Ud	21'-3" Ud
2" x 9" x 0.082" x 0.326"	34'-2" Ud	31'-1" Ud	28'-10" Ud	27'-2" Ud	23'-2" Ud
2" x 10" x 0.090" x 0.374"	39'-10" Ud	36'-2" Ud	33'-7" Ud	31'-7" Ud	27'-7" Ud

Note:
 1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. The structures designed using this section shall be limited to a maximum combined span and upright height of 50' and a maximum upright height of 16'. Structures larger than these limits shall have site specific engineering.
 3. Span is measured from center of beam and upright connection to fascia or wall connection.
 4. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
 5. Tables are based on a maximum wall height of 16' including a 4' max. mansard or gable. Other conditions may offer better spans w/ enclosure site specific engineering.
 6. Spans may be interpolated.
 7. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on page 1-ii.

Table 1.9.2 Allowable Purlin Spans Eagle Metal Distributors, Inc. Aluminum Alloy 6061 T-6

For 130 MPH Wind Zones, Exposure "B" and Latitudes North of 30°-30'-00" North (Jacksonville, FL)
 Uniform Load = 15 #/SF, a Point Load of 300 #/SF over (1) linear ft. is also considered

A. Sections Fastened With Clips

Hollow Sections	Tributary Load Width "W" = Purlin Spacing				
	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"
2" x 2" x 0.043"	5'-9" Pd	5'-9" Pd	5'-9" Pd	5'-9" Pd	5'-9" Pd
3" x 2" x 0.045"	6'-9" Pb	6'-9" Pb	6'-9" Pb	6'-9" Pb	6'-9" Pb
3" x 2" x 0.070"	8'-3" Pd	8'-2" Ud	7'-10" Ud	7'-7" Ud	7'-2" Ud
2" x 3" x 0.045"	11'-6" Ud	11'-0" Ud	10'-7" Ud	10'-3" Ud	9'-11" Ud
2" x 4" x 0.050"	12'-6" Ud	11'-11" Ud	11'-6" Ud	11'-2" Ud	10'-5" Ud
2" x 5" x 0.060"	15'-11" Ud	15'-3" Ud	14'-8" Ud	14'-2" Ud	13'-9" Ud

B. Sections Fastened Through Beam Webs Into Screw Bosses

Hollow Sections	Tributary Load Width "W" = Purlin Spacing				
	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"
2" x 2" x 0.043"	7'-5" Pb	7'-4" Pb	6'-10" Pb	6'-5" Pb	6'-1" Pb
3" x 2" x 0.045"	7'-11" Pb	7'-4" Pb	6'-10" Pb	6'-5" Pb	6'-1" Pb
3" x 2" x 0.070"	11'-4" Pb	10'-7" Pb	9'-11" Pb	9'-6" Pb	8'-7" Pb
2" x 3" x 0.045"	11'-1" Pb	10'-4" Pb	9'-8" Pb	9'-1" Pb	8'-7" Pb
2" x 4" x 0.050"	14'-2" Pb	13'-2" Pb	12'-4" Pb	11'-7" Pb	10'-5" Pb
2" x 5" x 0.060"	18'-7" Pb	17'-3" Pb	16'-2" Pb	15'-3" Pb	13'-10" Pb

Note:
 1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
 2. Span is measured from center of beam and upright connection to fascia or wall connection.
 3. Tables are based on a maximum wall height of 16' including a 4' max. mansard or gable. Other conditions may offer better spans w/ enclosure site specific engineering.
 4. Spans may be interpolated.
 5. 2" x 4" & 2" x 5" Hollow Girts shall be connected w/ an internal or external 1-1/2" x 1-1/2" x 0.044" angle.
 6. To convert spans to "C" and "D" exposure categories see exposure multipliers and example on page 1-ii.
 CHECK TABLE 1.6 FOR MINIMUM PURLIN SIZE FOR BEAMS.

RAISED SEALED COPIES REQUIRED FOR ENGINEERING TO BE VALID FOR PERMITTING IF USING THESE EAGLE 6061 TABLES, PLEASE REFER TO PAGE 1 FOR INSTRUCTIONS ON IDENTIFICATION AND CERTIFICATION OF EAGLE METALS 6061 ALLOY.



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