



JEI Structural Engineering

Glazing Systems
Fast, Friendly, Affordable

Created October 13, 2020

Value Added Extra

For Client Use Only

Wind Load Charts w/ Unbraced Length Effects

Kawneer Trifab® 601T Storefront



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Instructions3

Kawneer 601T-CG-001 ADM15 15ft Span 3ft Lb5

Kawneer 601T-CG-001 ADM15 15ft Span 6ft Lb6

Kawneer 601T-CG-001 ADM15 15ft Span 10ft Lb7

Kawneer 601T-CG-013 ADM15 15ft Span 3ft Lb8

Kawneer 601T-CG-013 ADM15 15ft Span 6ft Lb9

Kawneer 601T-CG-013 ADM15 15ft Span 10ft Lb10

Kawneer 601T-CG-112 ADM15 15ft Span 3ft Lb11

Kawneer 601T-CG-112 ADM15 15ft Span 6ft Lb12

Kawneer 601T-CG-112 ADM15 15ft Span 10ft Lb13



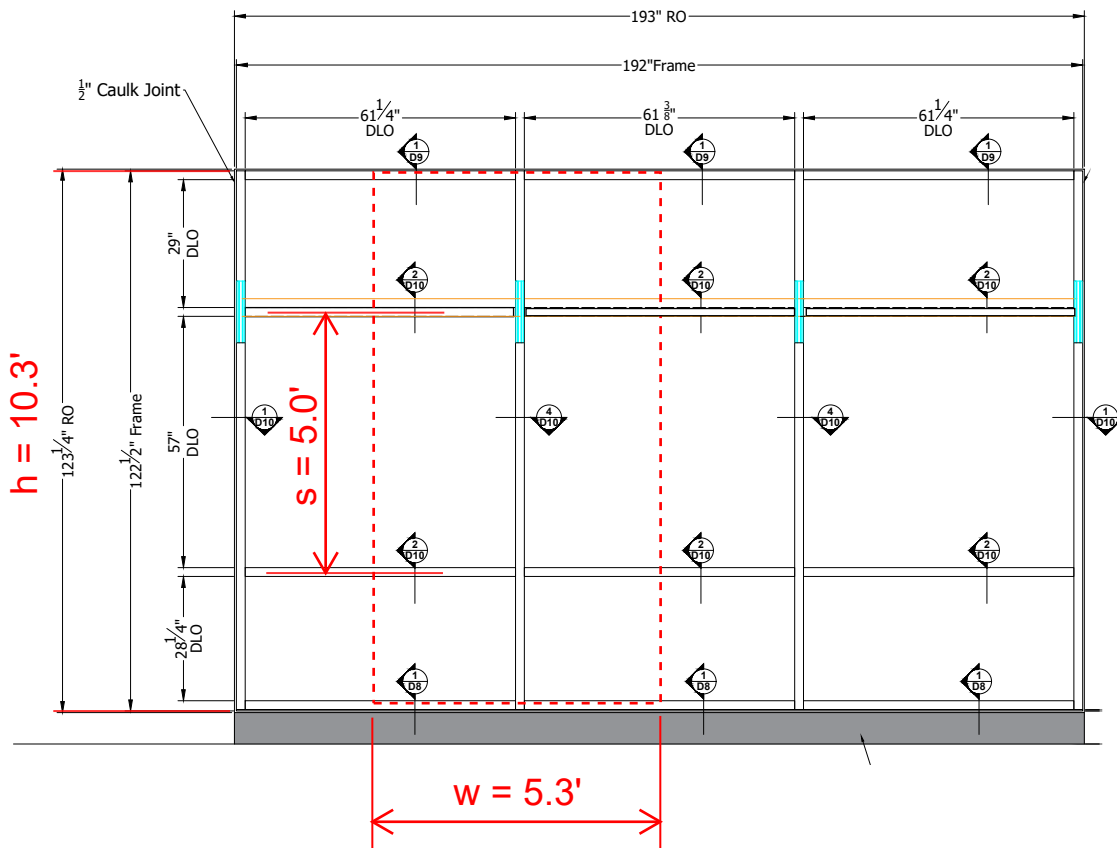
Step 1 - Make sure that max horizontal mullion spacing (s) is not more than chart maximum (12'-0" in this case.)

Step 2 - Enter the chart on the horizontal axis with your spacing or tributary width (w) of the vertical mullion.

Step 3 - Enter the chart on the vertical axis with the maximum span height (h) of the mullion.

Step 4 - Ensure that the intersection is below the design wind load indicated by colored line.

Example





Wind Load Chart including Unbraced Length Effects

Kawneer 162-001 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 12'-0" ^①

IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

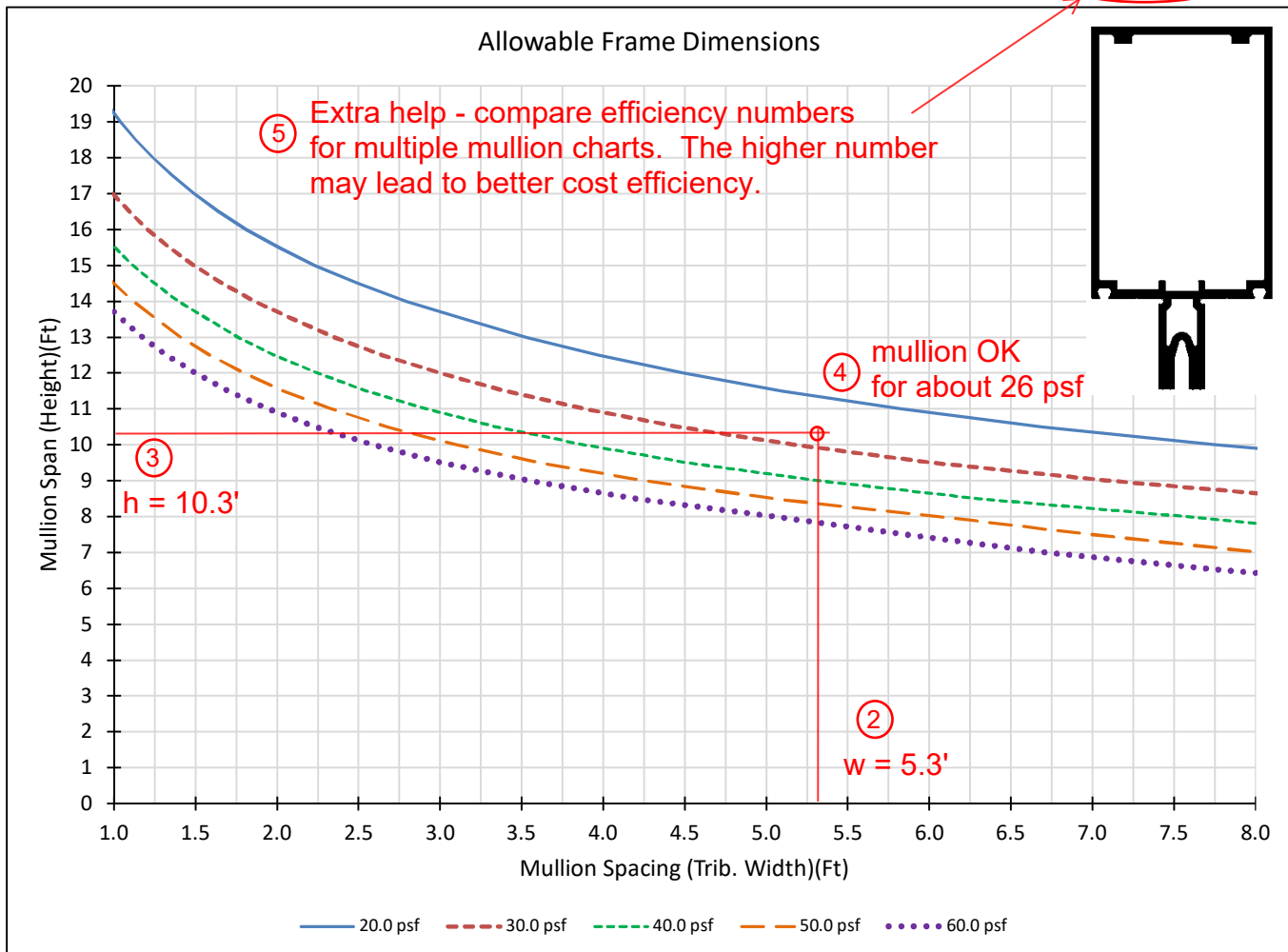
s = 5'

E =	10100 ksi	A =	1.787 in ²
I _{x, alum} =	5.036 in ⁴	Z _{x, alum} =	2.649 in
S _{x, alum} =	1.993 in ³	wt =	2.147 lb/ft
Reinforcing:	No Reinforcing		
I _{x, steel} =	0.000 in ⁴	S _{x, steel} =	0.000 in ³
I _{combined} =	5.036 in ⁴		

Curves are based on deflection limits of L/175 for $\leq 13'6"$ or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

JEI Efficiency Number (Higher is better)	Horizontal Spacing (ft)	2.5 ft	5.0 ft	10.0 ft
	Efficiency Number:	1172	1172	1172





Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-001 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 3'-0"

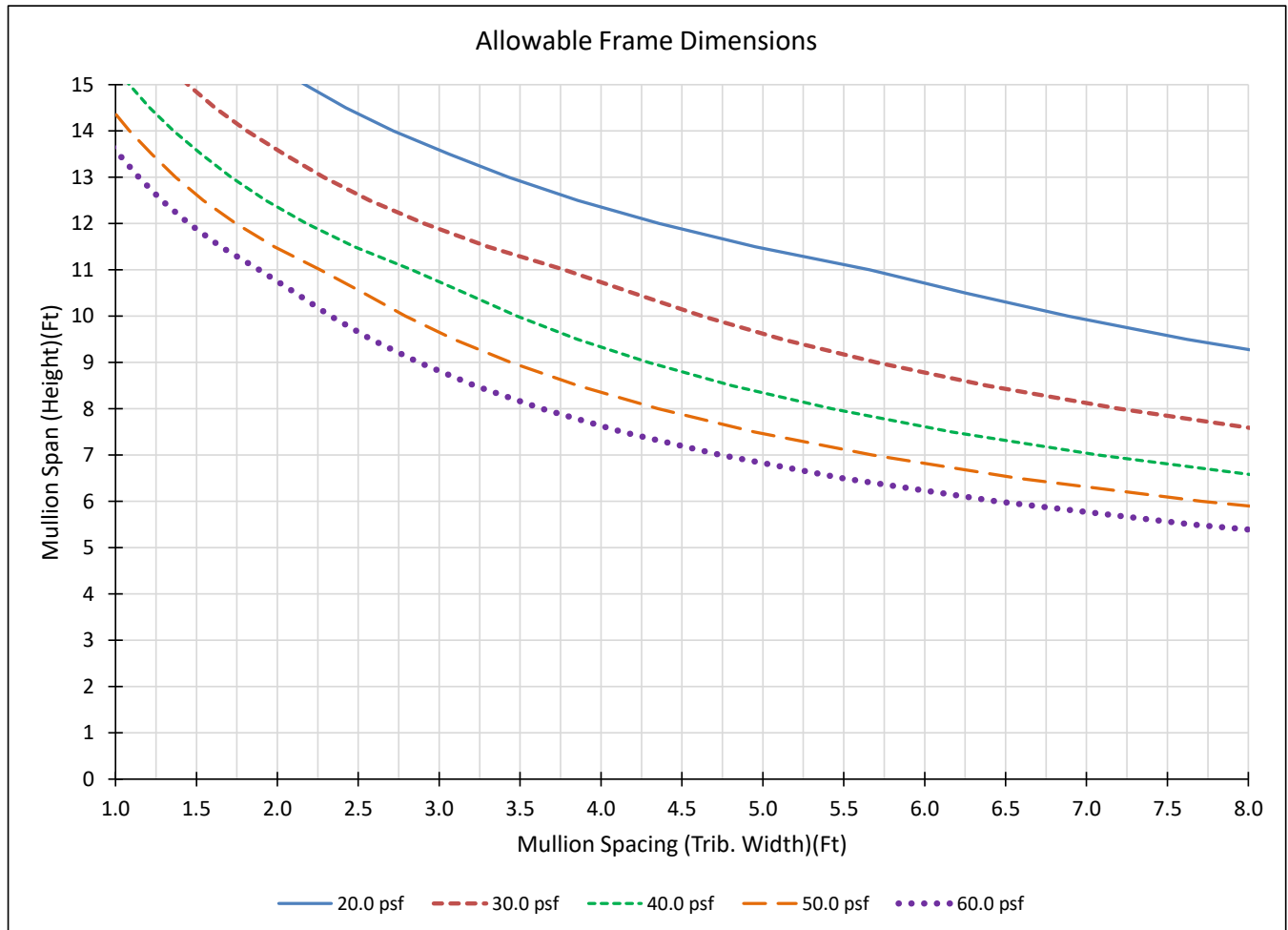
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E = 10100 ksi A = 1.312 in²
 $I_{x, \text{alum}} = 5.438 \text{ in}^4$ $Z_{x, \text{alum}} = 2.303 \text{ in}$
 $S_{x, \text{alum}} = 1.719 \text{ in}^3$ wt = 1.576 lb/ft
 Reinforcing: No Reinforcing
 $I_{x, \text{steel}} = 0.000 \text{ in}^4$ $S_{x, \text{steel}} = 0.000 \text{ in}^3$
 $I_{\text{combined}} = 4.894 \text{ in}^4$

Curves are based on deflection limits of L/175 for L ≤ 13'6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

JEI Efficiency Number (Higher is better)	Horizontal Mullion Spacing (ft):	2.5 ft	5.0 ft	10.0 ft
	Efficiency Number:	1117	1008	577



Using this chart: Plot the mullion height (span) and the intended mullion spacing. If mullion spacing is uneven, add the DLO width on each side of the mullion and divide by 2. Plotted points below a given curve are acceptable for that design pressure (PSF). Plotted points above a given curve will require a heavier mullion or reinforcing for that design pressure (PSF).

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Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-001 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 6'-0"

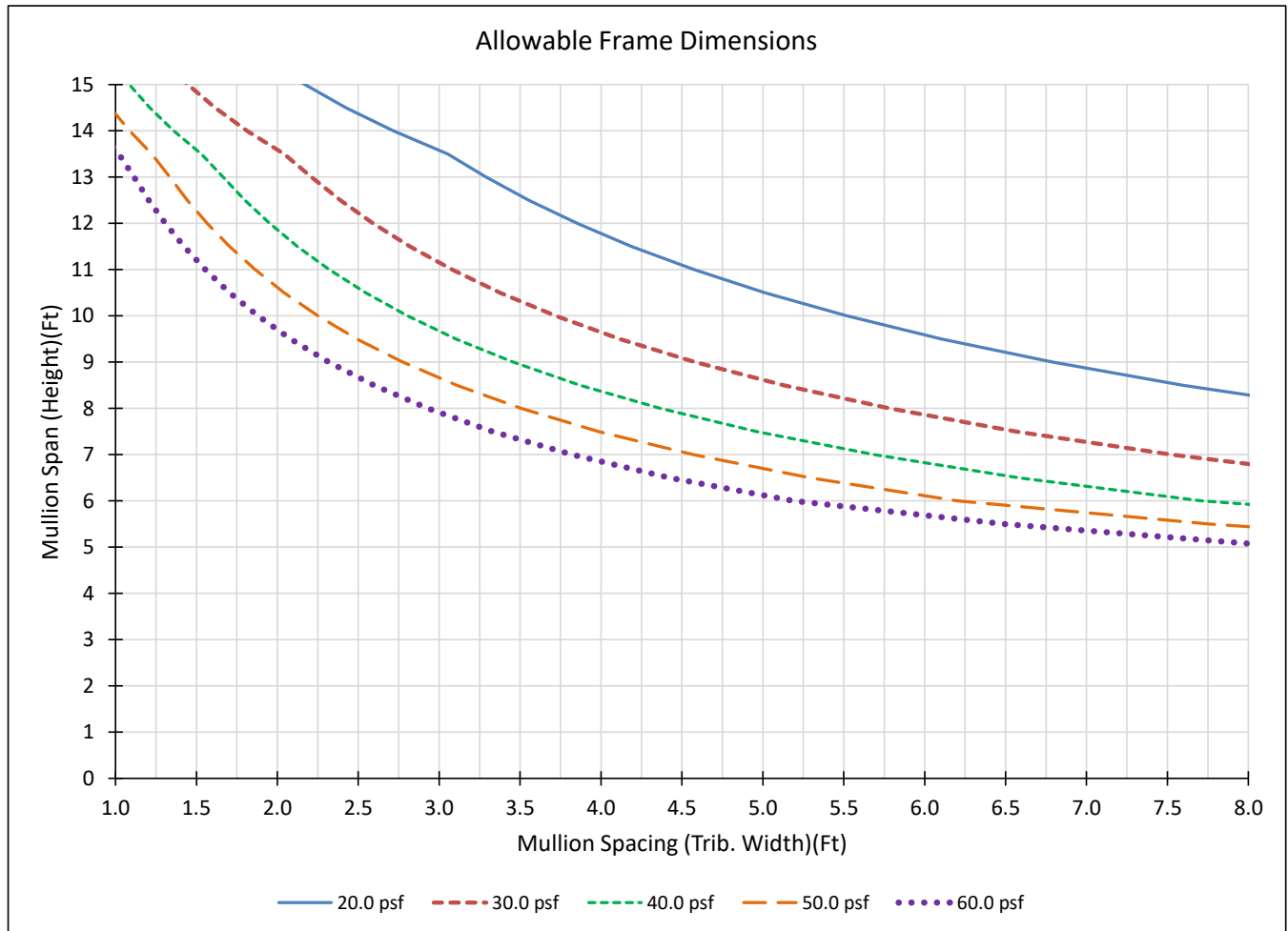
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E = 10100 ksi A = 1.312 in²
 $I_{x, \text{alum}}$ = 5.438 in⁴ $Z_{x, \text{alum}}$ = 2.303 in
 $S_{x, \text{alum}}$ = 1.719 in³ wt = 1.576 lb/ft
 Reinforcing: No Reinforcing
 $I_{x, \text{steel}}$ = 0.000 in⁴ $S_{x, \text{steel}}$ = 0.000 in³
 I_{combined} = 4.894 in⁴

Curves are based on deflection limits of L/175 for L ≤ 13'-6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

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Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-001 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 10'-0"

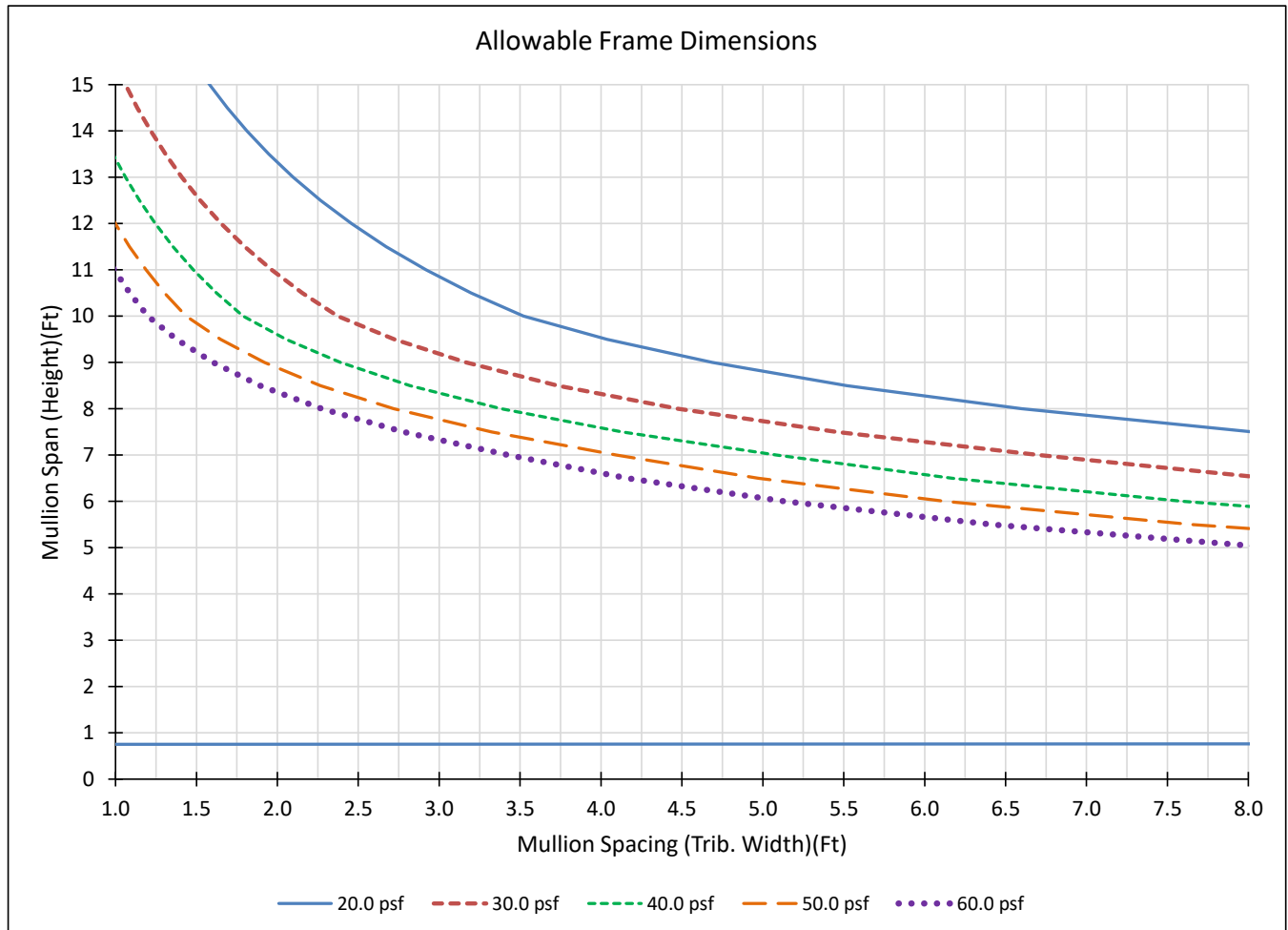
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E = 10100 ksi A = 1.312 in²
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 $S_{x, \text{alum}}$ = 1.719 in³ wt = 1.576 lb/ft
 Reinforcing: No Reinforcing
 $I_{x, \text{steel}}$ = 0.000 in⁴ $S_{x, \text{steel}}$ = 0.000 in³
 I_{combined} = 4.894 in⁴

Curves are based on deflection limits of L/175 for L ≤ 13'-6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

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	Efficiency Number:	1117	1008	577



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Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-013 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 3'-0"

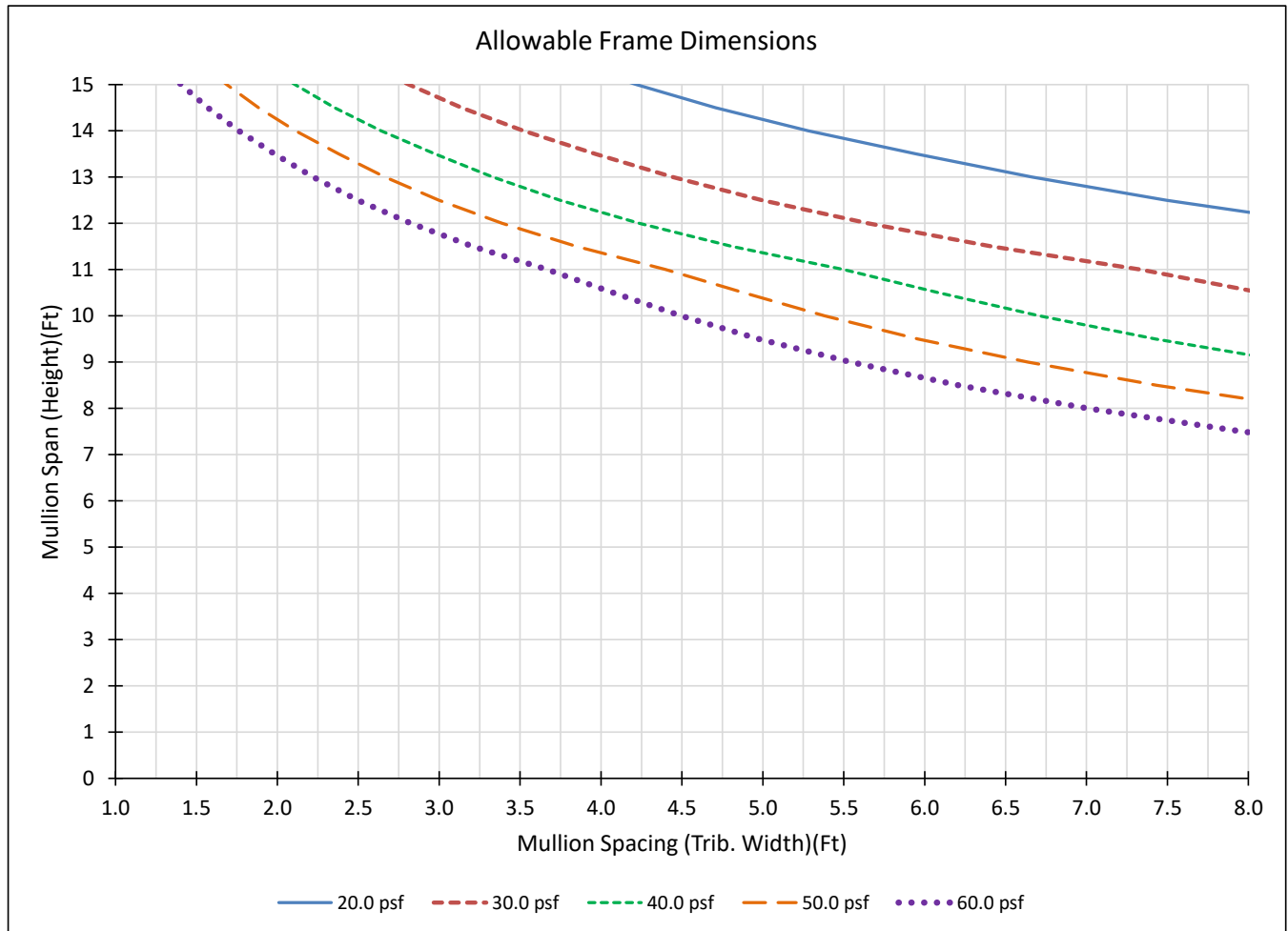
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E =	10100 ksi	A =	1.956 in ²
I _{x, alum} =	10.568 in ⁴	Z _{x, alum} =	4.115 in
S _{x, alum} =	3.414 in ³	wt =	2.350 lb/ft
Reinforcing:	No Reinforcing		
I _{x, steel} =	0.000 in ⁴	S _{x, steel} =	0.000 in ³
I _{combined} =	9.511 in ⁴		

Curves are based on deflection limits of L/175 for L ≤ 13'6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

JEI Efficiency Number (Higher is better)	Horizontal Mullion Spacing (ft):	2.5 ft	5.0 ft	10.0 ft
	Efficiency Number:	1520	1194	763



Using this chart: Plot the mullion height (span) and the intended mullion spacing. If mullion spacing is uneven, add the DLO width on each side of the mullion and divide by 2. Plotted points below a given curve are acceptable for that design pressure (PSF). Plotted points above a given curve will require a heavier mullion or reinforcing for that design pressure (PSF).

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Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-013 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 6'-0"

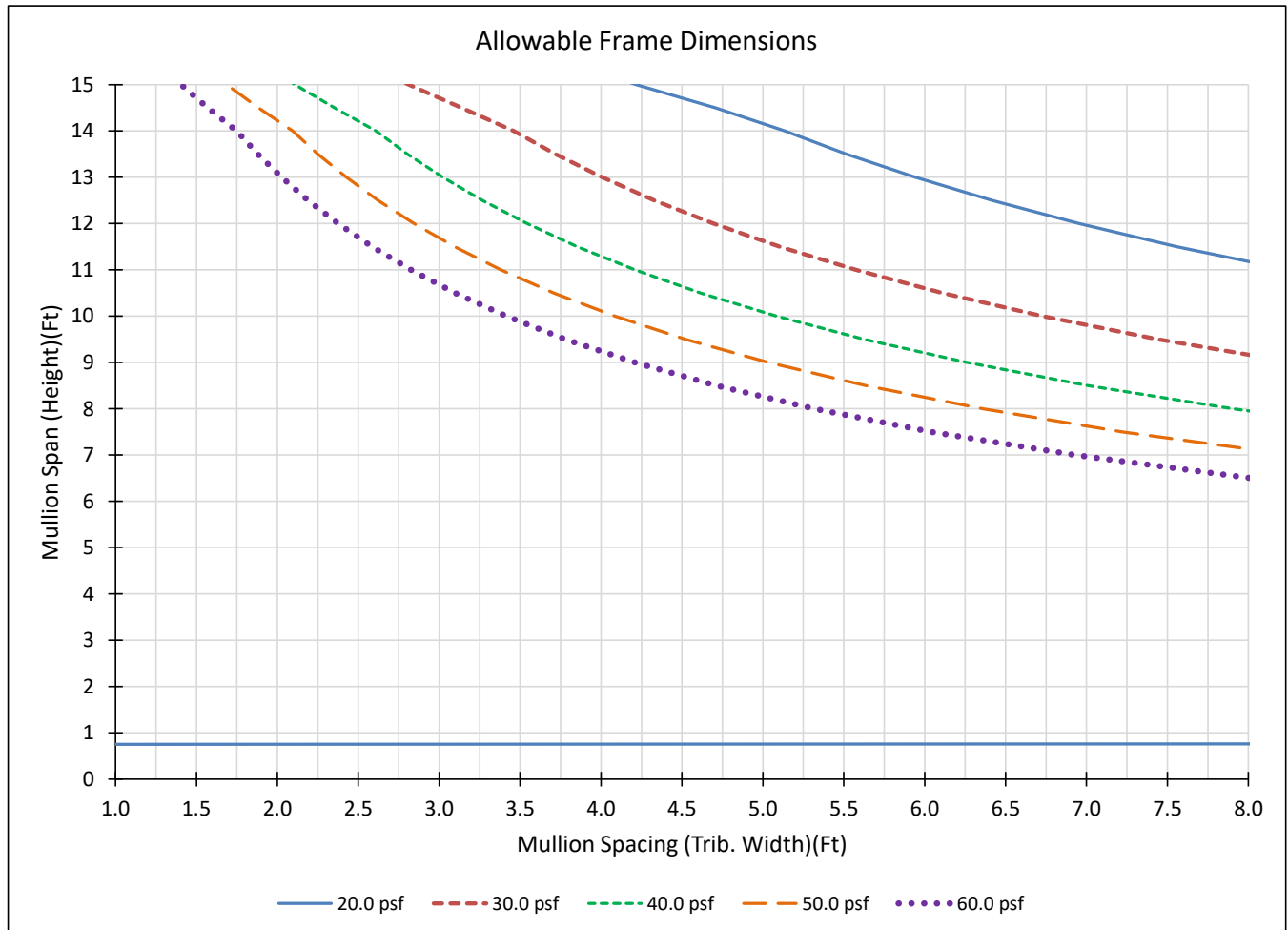
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E = 10100 ksi A = 1.956 in²
 $I_{x, \text{alum}} = 10.568 \text{ in}^4$ $Z_{x, \text{alum}} = 4.115 \text{ in}$
 $S_{x, \text{alum}} = 3.414 \text{ in}^3$ wt = 2.350 lb/ft
 Reinforcing: No Reinforcing
 $I_{x, \text{steel}} = 0.000 \text{ in}^4$ $S_{x, \text{steel}} = 0.000 \text{ in}^3$
 $I_{\text{combined}} = 9.511 \text{ in}^4$

Curves are based on deflection limits of L/175 for L ≤ 13'6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

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Wind Load Chart including Unbraced Length Effects

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Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 10'-0"

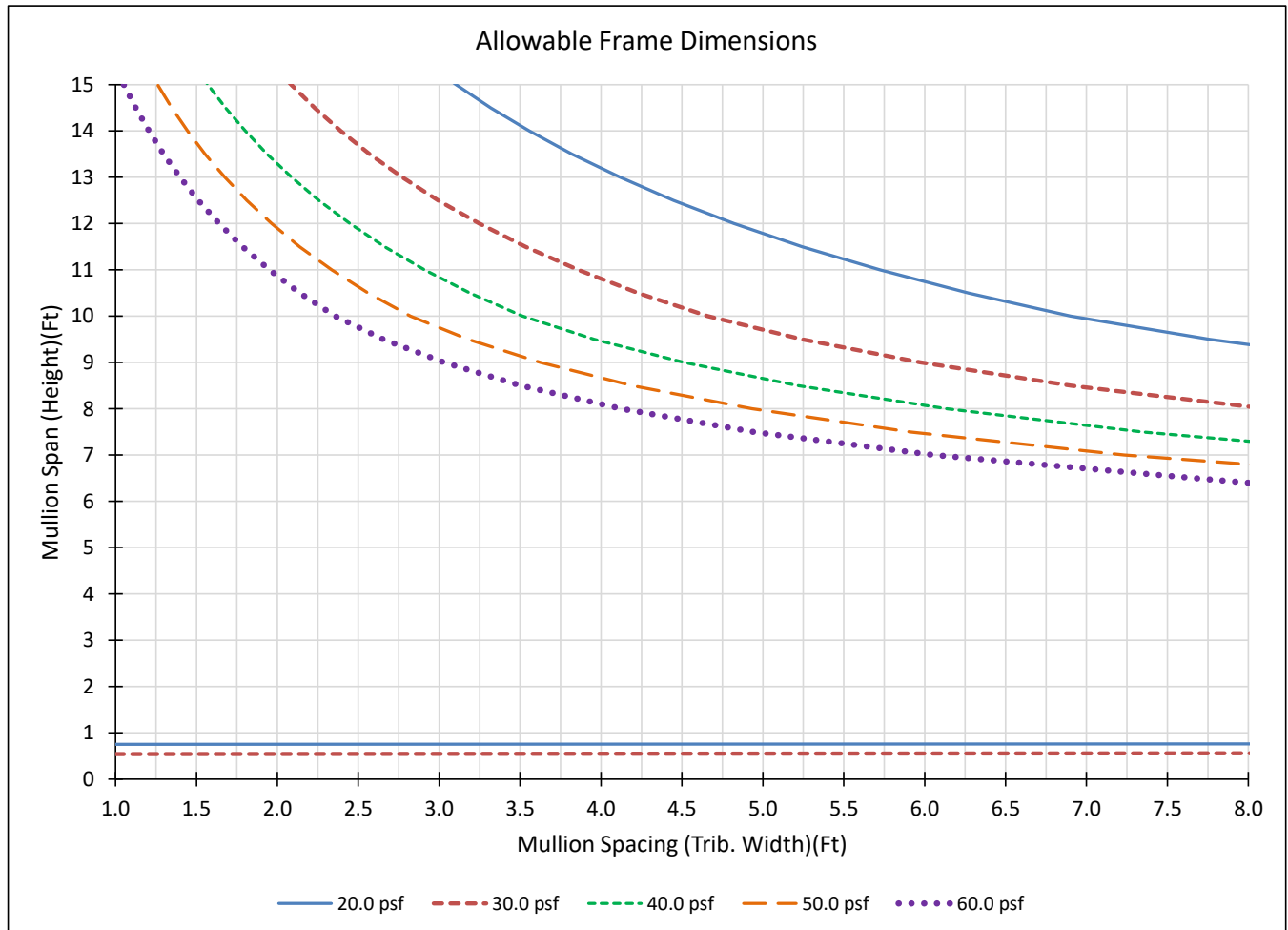
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Wind Load Chart including Unbraced Length Effects

Kawneer 601T-CG-112 6063-T6 Aluminum

Maximum Horizontal Mullion Center Line Spacing (Unbraced Length) = 3'-0"

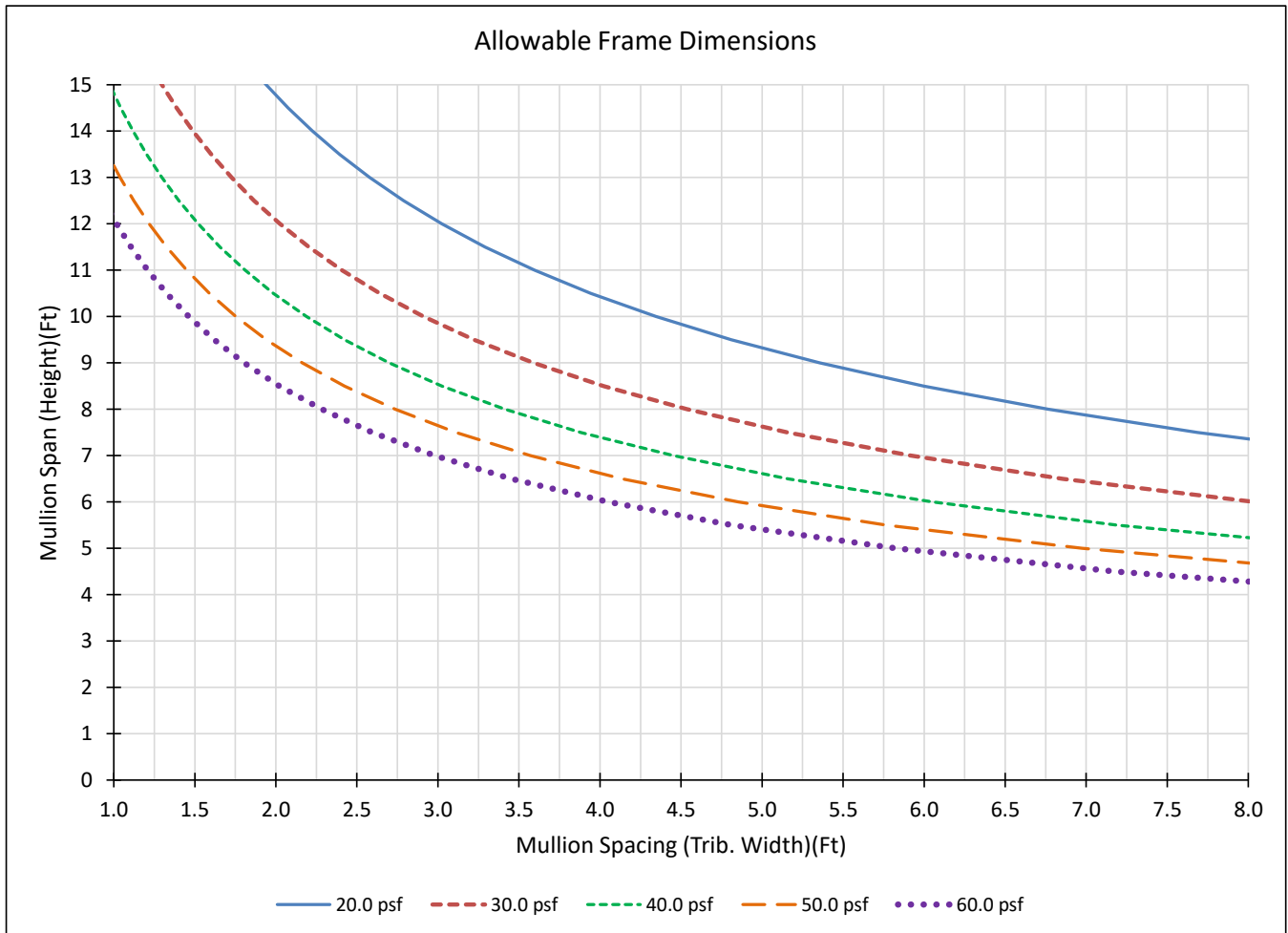
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

E = 10100 ksi A = 1.244 in²
 $I_{x, \text{alum}} = 5.503 \text{ in}^4$ $Z_{x, \text{alum}} = 2.256 \text{ in}$
 $S_{x, \text{alum}} = 1.729 \text{ in}^3$ wt = 1.494 lb/ft
 Reinforcing: No Reinforcing
 $I_{x, \text{steel}} = 0.000 \text{ in}^4$ $S_{x, \text{steel}} = 0.000 \text{ in}^3$
 $I_{\text{combined}} = 4.953 \text{ in}^4$

Curves are based on deflection limits of L/175 for L ≤ 13'-6" or L/240 + 1/4" for L > 13'-6" and limiting stress (moment) according to Chapters B, C & F of the listed Aluminum Design Manual version.

If mullion span < max horizontal spacing, horizontals are not required.

JEI Efficiency Number (Higher is better)	Horizontal Mullion Spacing (ft):	2.5 ft	5.0 ft	10.0 ft
	Efficiency Number:	738	628	241



Using this chart: Plot the mullion height (span) and the intended mullion spacing. If mullion spacing is uneven, add the DLO width on each side of the mullion and divide by 2. Plotted points below a given curve are acceptable for that design pressure (PSF). Plotted points above a given curve will require a heavier mullion or reinforcing for that design pressure (PSF).

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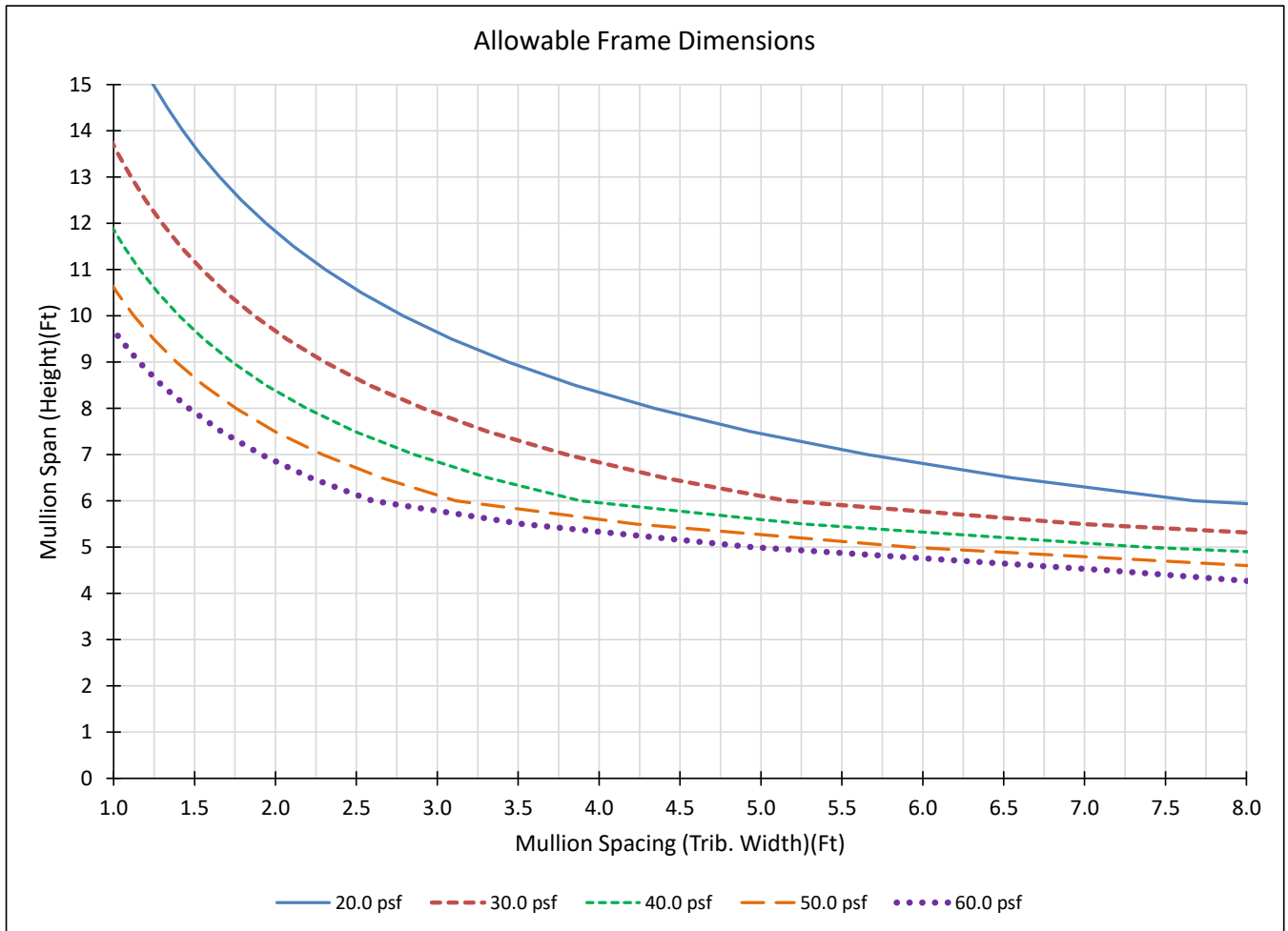
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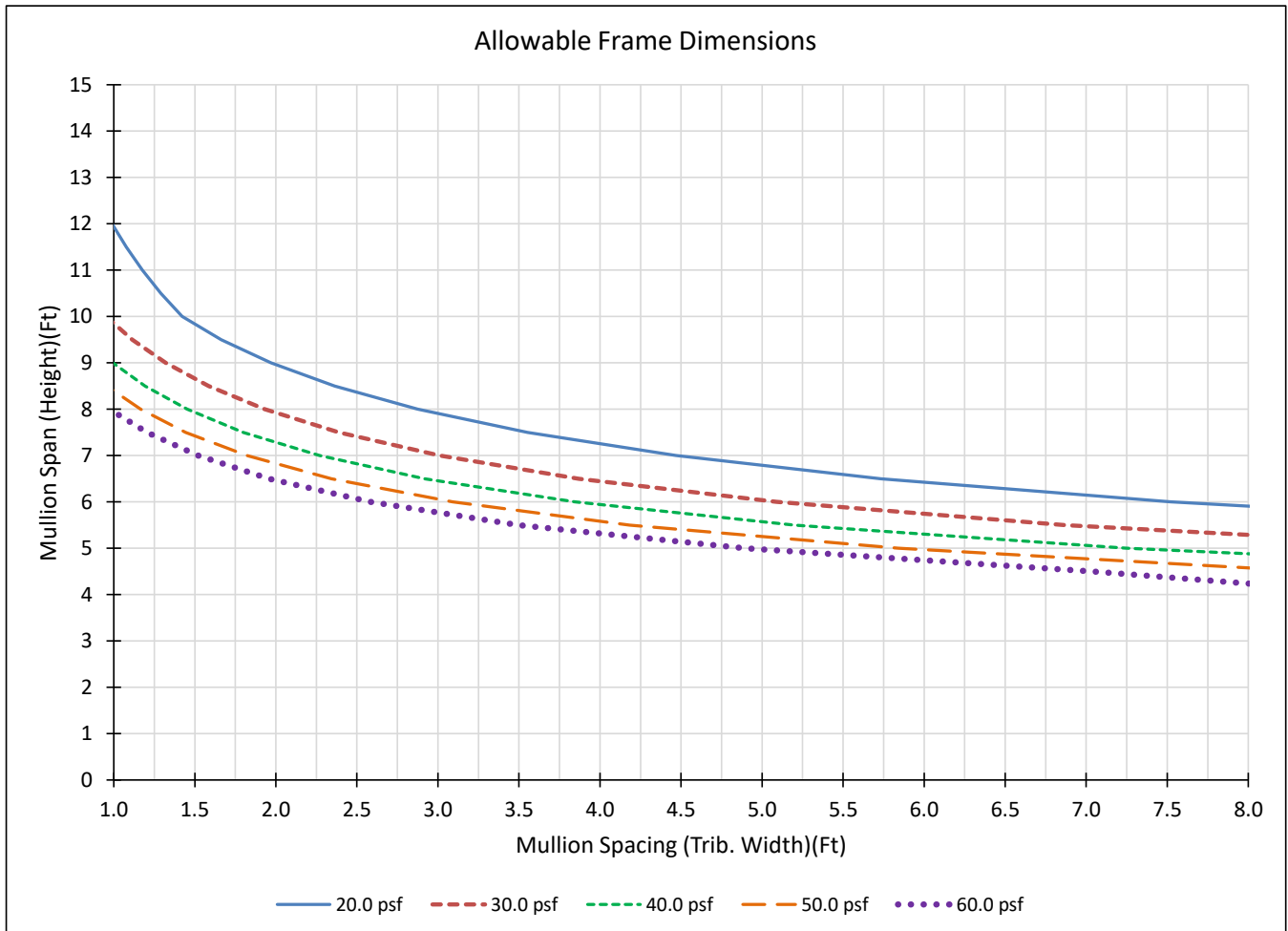
IBC 2015 - ASCE7-10 ASD - 2015 Aluminum Design Manual

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 Reinforcing: **No Reinforcing**
 $I_{x, \text{steel}}$ = 0.000 in⁴ $S_{x, \text{steel}}$ = 0.000 in³
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