Aluminum Decking Load Table

Table 1 below outlines the result of the structural analysis of the
Aluminum Decking sections.

The first column labeled "Column 1" indicates the maximum load based
on the allowable bending stress for the aluminum section calculated for
that span. Beneath the maximum load is the calculated deflection for
the maximum load.

The second column labeled "Column 2" indicates the maximum load
allowed based on the maximum deflection of Span divided by 240
(L/240) for that span. Beneath the maximum allowable load is the
amount of deflection in inches (L/240).

The third column labeled "Column 3" indicates the maximum load
allowed based on the maximum deflection of Span divided by 360
(L/360) for that span. Beneath the maximum allowable load is the
amount of deflection in inches (L/360).

| Table 1 ----- Aluminum Decking Load Table						
Allowable Live Loads in Pounds per Square Foot (psf)						
Span (inches)	Column 1 Max. Load (psf) Deflection (inches)		Column 2 Max. Load (psf) Deflection = L/240		Column 3 Max. Load (psf) Deflection = L/360	
16	394 0.049 L/323	psf inches	394** 0.067 =L/240	psf inches	354 0.044 =L/360	psf inches
24	175 0.250 L/215	psf inches	157 0.100 =L/240	psf inches	105 0.067 =L/360	psf inches
32	98 0.198 L/162	psf inches	66 0.133 =L/240	psf inches	44 0.089 =L/360	psf inches
36	78 0.250 L/144	psf inches	47 0.150 =L/240	psf inches	31 0.100 =L/360	psf inches
42	57 0.341 L/124	psf inches	29 0.175 =L/240	psf inches	20 0.117 =L/360	psf inches
** Limited by Bending Stress						

Structural Analysis of Aluminum Decking

Background

The aluminum decking analyzed in this report is manufactured using T6-6063 Aluminum. The sections are 1.00" deep by 6.50" wide, with a tongue and groove interlock system to provide a finished width of 6" per section. The structural information in this report is based on calculations made using deck spans from 16" to 42" (center to center). The sections were analyzed using bending moments and deflections over a minimum of three continuous spans. The results are found in Table 1 of this report.

Section Properties

Cross Section Area: $A = 0.772$ sq.in.
Section Modulus: $S = 0.035$ In.^3
Modulus of Elasticity: $E = 10 \times 10^6$ in.^4
Allowable Bending Stress: $Fb = 12,000$ psi

Deck Section
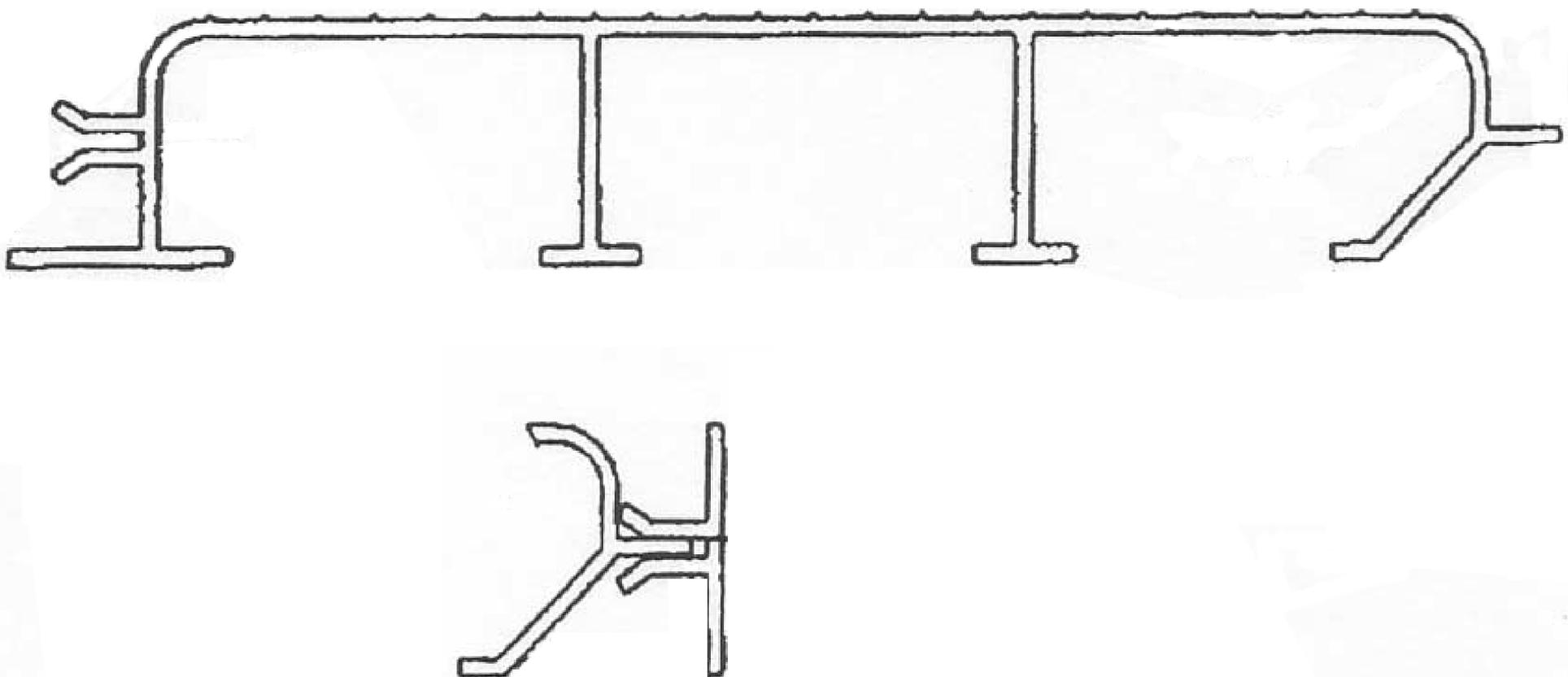
Recommendations for Applications

Based on the calculations I recommend that the Aluminum Decking can be used for both commercial and residential application for floor decking over either wood framing or metal framing members.

For commercial decks I recommend spans with a uniform live load of 100 PSF or greater. Therefore use spans of 24" or less for commercial floors.

For residential exterior decks I recommend spans with a uniform live load capacity of 60 PSF or greater and a maximum deflection of L/240. Therefore use spans of 32" or less for residential exterior floor decks.
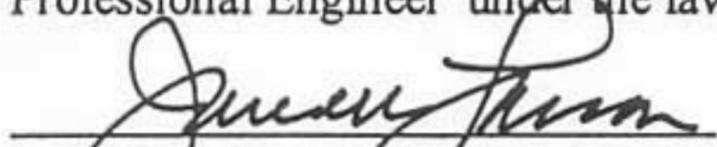
For residential interior decks I recommend spans with a uniform live load capacity of 40 PSF or greater and a maximum deflection of L/240. Therefore use spans of 36" or less for residential interior floor decks.

Summary

In summation, I recommend the use of this aluminum decking for both Commercial and Residential applications, based on the span recommendation listed above.

Certification

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

_____ Jared K. Larson

Date: ____7/14/03____ Reg. No. 15847