GRATING PACIFIC

HEAVY DUTY GRIP STRUT® — GENERAL LOAD INFORMATION

GENERAL INFORMATION

Heavy Duty Grip Strut® safety grating walkways and planks are available in three thicknesses of steel; walkways have one standard siderail height, planks have four. In each category, walkways come in three widths, planks in five. Begin sizing, for maximum economy, with widest practical grating for the job (shallowest siderails and thinnest gauge); if this does not meet required load capacity, first consider deeper siderails, then heavier gauge, and finally narrower grating width, if necessary.

Flexural load tables have been calculated according to design load limiting criteria, and if not illustrated in this catalog they can be obtained from our technical services.

"Strut Load Tables" show flexural strength and deflection of individual grating surface struts relative to siderails. Since these are maximum values in the elastic range, lesser loads and deflections can be proportioned from them.

Design load assumptions differ according to load type: (1) uniform, (2) concentrated (see Figures 1, 2 and 3 below for explanation of load application). Concentrated load capacities generally vary with span, siderail height and material thickness, irrespective of grating width, although large differences in grating width cause concentrated loads to be distributed somewhat differently into siderails.

Siderail strength usually controls, but with shorter spans, deeper siderails, and/or wider grating surfaces, flexural strength of individual struts may control. In sizing walkways or planks with strength as a design criterion, be sure to check Heavy Duty Grip Strut safety grating for both: (1) strength of walkways/plank siderails, (2) strength of individual struts in grating surface. With deflection as a design criterion, loads may be limited by either: strength of individual surface struts, or total deflection of one siderail at mid-span plus a surface strut at mid-width of walkway or plank (sum of siderail deflection plus strut deflection).

All load tables show maximum loads, based upon actual load tests performed at the Pinckneyville (IL) plant, and determined in accordance with AISI "Specification for the Design of Cold- Formed Steel Structural Members", 1980 Edition, using minimum yield strength of 33 ksi for steel, 23 ksi for aluminum. Loads are designated:

(U) for uniform, in./ft.2
(C) for concentrated, in./lb.
(D) for corresponding deflections, in inches

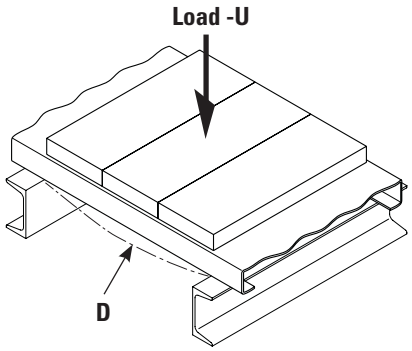

Figure 1

Uniform load (U)
applications to all walkways/planks:
Maximum load (lb./ft.2) permitted by flexural stress in siderail or grating strut, whichever is lower, applied to entire grating area (full-width by clear-span) between supports.

Deflection (D) in all walkways/planks:
Deflection (in.) corresponding to maximum load (U) or (C) permitted by flexural stress in siderail or grating strut, whichever is lower, applied as defined in Figures 1, 2, or 3.

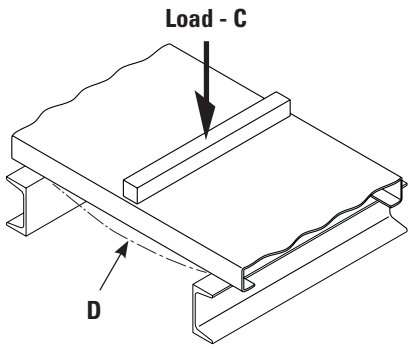

Figure 2

Concentrated load (C)
applications to all walkways/planks:
Maximum load (lb.) permitted by flexural stress in siderail or grating strut, whichever is lower, applied transversely to total width of grating at mid-span and assumed to be carried equally by both siderails.

Deflection (D) in all walkways/planks:
Deflection (in.) corresponding to maximum load (U) or (C) permitted by flexural stress in siderail or grating strut, whichever is lower, applied as defined in Figures 1, 2, or 3.

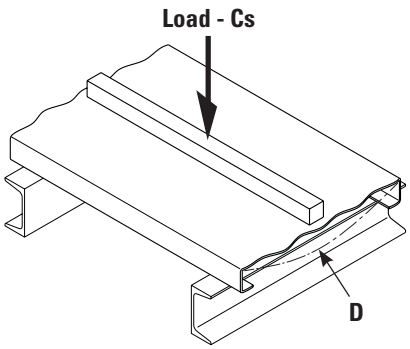

Figure 3

Concentrated load (Cs)
applications to grating surface struts of all walkways/planks:
Maximum load (lb./ft.) permitted by flexural stress in grating strut, applied longitudinally to a 1-foot length of grating at mid-width.

Deflection (Ds) in all walkways/planks
Deflection (in.) corresponding to maximum concentrated strut load (Cs) permitted by flexural stress in grating strut, applied longitudinally to a 1-foot length of grating at mid-width.