

Explanation of Standard Loading Tables

All steel joists, other than those having a nailing strip attached, manufactured by Member Companies, are made in accordance with the Standard Loading Table for Open Web Steel Joists as given in Simplified Practice Recommendation No. R94-30 of the Bureau of Standards of the United States Department of Commerce.

Joists longer than those shown in table are not manufactured.

Joists shorter than shown in table are made when, for any reason, it is not practical to use shallow joists for shorter spans. In computing the carrying capacity of shorter joists, the end reaction should be divided by one-half of the span to determine the safe load per linear foot.

The Steel Joist Institute designation is composed of two or three figures, the first figure or first two figures being the depth in inches and the last figure designating the chord sections. The larger numbers designate larger

chord sections. These chord sections vary in properties according to the manufacturer, but in each case the area, radius of gyration and unsupported length (in the case of struts) is such as to result in a resisting moment equal to that required in table when designated in accordance with the American Institute of Steel Construction standards and the provisions of the accompanying specifications.

The web systems of joists vary in details according to the manufacturer, but in each case are safe for the designated maximum end reaction, and the web system is designed to support a uniformly distributed load equal to twice the maximum end reaction.

The depth as given in inches is the overall depth with a permissible variation of not over one-quarter ($\frac{1}{4}$ ") inch, which variation is necessary due to manufacturing processes.

The properties of the joists made by Member Companies will be found on the following pages.

Properties and Allowable Total Loads in Pounds per Linear Foot of STEEL JOIST INSTITUTE STANDARD Open Web Nailer Type Steel Joists						
<i>Am. Inst. of Steel Cons. Stresses.</i>			<i>Adopted by Steel Joist Inst., Aug. 15, 1934.</i>			
Steel Joist Institute Designation	80W	100W	120W	121W	141W	161W
Nominal Depth, Inches	8	10	12	12	14	16
Resisting Moment Inch Pounds	46,500	56,000	73,000	120,000	137,000	148,000
Maximum End Reaction Pounds	1550	1900	2000	2300	2300	3100
Span 4 Feet	775					
5	620					
6	516					
7	443					
8	388					
9	344					
10	310	373				
11	256	309				
12	215	259				
13	183	221	288			
14	158	190	248			
15	138	166	216			
16	121	146	190			385
17		129	168			341
18		115	150	247		305
19		103	135	222		273
20		93	122	200	228	247
21			110	181	207	224
22			101	165	189	204
23			92	151	173	187
24			85	139	159	171
25					146	158
26					135	146
27					125	135
28					117	126
29						117
30						110
31						103
32						96

Note: Values above horizontal lines are governed by maximum end reaction.