

**MATERIAL SPECIFICATIONS and GENERAL INFORMATION**

**CHANNEL**

- General** – Flex-Strut channels are manufactured by Roll-forming strip steel into channel configurations.
- Material** – Hot-Roll, Green and Hot dip galvanized..... ASTM A1011 (*Meets the physical requirements of Grade 33*)  
 Pre-Galvanized..... ASTM A-653 (*Meets the physical requirements of Grade 33*)  
 Stainless Steel (Type 316 or 304)..... ASTM A240  
 Aluminum ..... 6005-T5 (*Exceeds 6063-T6 Strength*)
- Design** – Design tables are based on AISI “Cold Formed Steel Design Manual”.
- Welding** – Channel combinations are made by spot welding or plug welding. Weld spacing is three inches (3”) on center
- Finishes** – Channels are available in Plain (PL), Pre-galvanized (PG)(G90 per ASTM A653(0.90oz/sq ft; 0.77 mil thickness and Green (GR). Some channels are available in Aluminum (AL), Stainless Steel (ST4 or ST6), Hot-Dip Galvanized After Fabrication (HD)(Per ASTM A123 Grade 85(3.3mil thickness)), Gold (GD)(Per ASTM B633 Type II SC2 with yellow chromate (0.30 mil thickness)), fiberglass, and PVC coated. Custom colors are available upon request.

**LOAD REDUCTIONS**

Values in load tables assume simply supported, solid steel channel with uniform loading.  
 Reduction factors for other conditions can be seen in the table below.

<b>CONDITIONS</b>	<b>REDUCTION FACTOR</b>
Short Slot (SS) and Holes (H)	0.85
Slotted (SL)	0.90
Knock-out (KO)	0.95
Center Point Load (Published Allowable Stress Values)	0.50
Center Point Load (Published Allowable Deflection Values)	0.80
Slotted, Back to Back Channel (Table values marked with *)	0.75
Aluminum Strut w/ Uniform Load (Published Allowable Stress Values)	0.60
Aluminum Strut w/ Uniform Load (Published Allow. Deflection Values)	0.33
Aluminum Strut w/ Center Point Load (Published Allowable Stress Values)	0.30
Aluminum Strut w/ Center Point Load (Published Allowable Deflection Values)	0.26

\*NOTE: Load reductions can be combined for multiple reduction conditions Ex: FS-200SS AL @ 120.00”  
 (Allowable Uniform load (1/240 deflection) = 120\*.85\*.33=34lbs

**CHANNEL NUTS**

- General** – Flex-Strut channel nuts are stamped from steel bar and case hardened after forming and tapping.
- Material** – Steel bar used to manufacture Channel nuts conforms to ASTM A1011.
- Finish** – Electro-galvanized (E/G) zinc per ASTM B-633 (Type III SC1 (0.2 mil thickness)). Aluminum (ASTM B221, Type 6063-T5), Stainless Steel (ASTM B783 (Type 316N2-33) or ASTM A276) and Fiberglass nuts are available in some sizes.

**FITTINGS**

- General** – Flex-Strut fittings are manufactured by punching and cold forming steel for specific channel connection applications. Typical fittings are ¼” thick and 1-5/8” wide. Typical holes are 9/16” diameter, 1-7/8” on center and 13/16” from ends.
- Material** – Steel bar used to manufacture fittings conforms to ASTM A575 or ASTM A1011 GR 33
- Finish** – Electro-galvanized (E/G) zinc per ASTM B-633 (Type III SC1 (0.2 mil thickness)). Some fittings available in Aluminum (5052-H32), Stainless Steel (ASTM A276) and Fiberglass.

**LOAD DATA**

Allowable channel beam and column loads shown in the following tables were developed per the NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007 Edition (ASD Method).