IMPORTANT INFORMATION & GENERAL NOTES

Limited Warranty

Simpson Strong-Tie Company Inc. warrants catalog products to be free from defects in material or manufacturing. Simpson Strong-Tie Company Inc. products are further warranted for adequacy of design when used in accordance with design limits in this catalog, and properly specified and installed. This warranty does not apply to uses not in compliance with specific applications and installation procedures set forth in this catalog, or to non-catalog or modified products, or to deterioration due to environmental conditions.

Simpson Strong-Tie® connectors are designed to enable structures to resist the movement, stress, and loading that results from natural events such as earthquakes and high velocity winds. Properly-installed Simpson Strong-Tie connectors will perform in accordance with the specifications set forth in the applicable Simpson catalog. Additional performance limitations for specific products may be listed on the applicable catalog pages.

Due to the particular characteristics of the natural event, the specific design and location of the structure, the building materials used, the quality of construction, and the condition of the soils involved, damage may nonetheless result to a structure and its contents even if the loads resulting from the natural event do not exceed Simpson catalog specifications and Simpson Strong-Tie connectors are properly installed in accordance with applicable building codes.

All warranty obligations of Simpson Strong-Tie Company Inc. shall be limited, at the discretion of Simpson Strong-Tie Company Inc., to repair or replacement of the defective part. These remedies shall constitute Simpson Strong-Tie Company Inc.'s sole obligation and sole remedy of purchaser under this warranty. In no event will Simpson Strong-Tie Company Inc. be responsible for incidental, consequential, or special loss or damage, however caused.

This warranty is expressly in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose, all such other warranties being hereby expressly excluded. This warranty may change periodically—consult our website *www.strongtie.com* for current information.

This catalog reflects changes in the allowable loads and configurations of some Simpson Strong-Tie Company Inc. products. This catalog is effective until December 31, 2009, and supersedes all information in all earlier publications, including catalogs, brochures, fliers, technical bulletins, etc. Use this edition as a current reference. Information on allowable loads and configurations may be updated periodically *(see www.strongtie.com for the latest information)*. After December 31, 2009, contact Simpson Strong-Tie for current product information.

Allowable loads in this catalog are for the described specific applications of properly-installed products. Product modifications, improper loading or installation procedures, or deviations from recommended applications will affect connector allowable load-carrying capacities. Connectors are steel and will corrode and lose load-carrying capacity if exposed to ocean salt air, corrosive fire-retardant chemicals, fertilizers, pressure treated lumber, or other substances or environments that adversely affect steel.

Terms & Conditions of Sale

PRODUCT USE
Products in this catalog are designed and manufactured for the specific purposes shown, and should not be used with other connectors not approved by a qualified designer. Modifications to products or changes in installation procedures should only be made by a qualified designer. The performance of such modified products or altered installation procedures is the sole responsibility of the designer.

INDEMNITY
Customers or designers modifying products or installation procedures, or designing non-catalog products for fabrication by Simpson Strong-Tie Company Inc. shall, regardless of specific instructions to the user, indemnify, defend, and hold harmless Simpson Strong-Tie Company Inc. for any and all claimed loss or damage occasioned in whole or in part by non-catalog or modified products.

NON-CATALOG AND MODIFIED PRODUCTS
Consult Simpson Strong-Tie Company Inc. for applications for which there is no catalog product, or for connectors for use in hostile environments, with excessive wood shrinkage, or with abnormal loading or erection requirements.

Non-catalog products must be designed by the customer and will be fabricated by Simpson Strong-Tie in accordance with customer specifications.

Simpson Strong-Tie cannot and does not make any representations regarding the suitability of use or load-carrying capacities of non-catalog products. Simpson Strong-Tie provides no warranty, express or implied, on non-catalog products. F.O.B. Shipping Point unless otherwise specified.

CONVERSION CHARTS

US Standard Steel Gauge Equivalents in Nominal Dimensions

Min. Thkn's[3]	Design Thkn's	Ref. Ga[2]	Thickness of Steel Sheets[4] (in)		
mils	in		Uncoated Steel	Galvanized Steel (G90)	ZMAX® (G185)
229[5]	0.2405	3	0.239	—	—
171[5]	0.1795	7	0.179	0.186	—
118	0.1240	10	0.134	0.138	0.140
111[5]	0.1163	11	0.120	0.123	0.125
97	0.1017	12	0.105	0.108	0.110
68	0.0713	14	0.075	0.078	0.080
54	0.0566	16	0.060	0.063	0.065
43	0.0451	18	0.048	0.052	0.054
33	0.0346	20	0.036	0.040	0.042
27	0.0283	22	0.030	0.033	0.035

1. Steel thickness may vary according to industry mill standards.
2. Gauge numbers shown are for reference only.
3. Minimum allowed base metal thickness delivered to the job site in mils (0.001"). Example: 33 mils = 0.0329". Represents 95% of the design thickness.
4. Approximate thickness.
5. Thickness based on Simpson's specifications. Others are based on AISI General Provisions Standard.

Roof Slope Conversion

Rise/Run	Slope
1/12	5˚
2/12	10˚
3/12	14˚
4/12	18˚
5/12	23˚
6/12	27˚
7/12	30˚
8/12	34˚
9/12	37˚
10/12	40˚
11/12	42˚
12/12	45˚

Bolt Diameter

in	mm
⅜	9.5
½	12.7
⅝	15.9
¾	19.1
⅞	22.2
1	25.4

Metric Conversion

Imperial	Metric
1 in	25.40 mm
1 ft	0.3048 m
1 lb	4.448N
1 Kip	4.448 kN
1 psi	6895 Pa

mm = millimeter
m = meter
N = newton
kN = kilonewton
Pa = pascal