

Lightweight Steel Framing Products



U. S. Steel Canada
A Subsidiary of United States Steel

The Advantage of Quality and Consistent Construction Products

U. S. Steel Canada provides strong, dependable structural steel grades for its line of lightweight steel framing products for residential, commercial, institutional, and industrial construction applications. U. S. Steel Canada continues to push the envelope and provide innovative steel products through advanced research and technology.

Lightweight Steel Framing Benefits

Recognized for years in the commercial construction industry, lightweight steel framing (LSF) offers a consistent, quality product with a number of significant advantages recognized by architects, contractors and builders. The variety of steel thicknesses and strengths available allow exciting design flexibility with longer floor spans for open areas and higher, straighter walls. Through the quality control inherent in the manufacturing of steel products, LSF provides the advantage of a consistent, accurate, dimensionally stable product where every piece is a good piece. Among its other advantages, LSF is non-combustible, inorganic resulting in improved indoor air quality and is rot and termite resistant. Hamilton Works supplies high-quality structural steel grades for residential and commercial LSF construction sectors that can be used in wall, floor, and roof truss systems.

Standard Steel Grades and Thicknesses

The North American steel stud industry has adopted a unique set of standard base steel thicknesses for lightweight steel framing components (i.e. studs and joists). These values are shown in the following table. The minimum metallic coating thickness values must also be taken into account.

GAUGE NUMBER*	MINIMUM BASE STEEL THICKNESS ⁽¹⁾		DESIGN THICKNESS ⁽³⁾		YIELD STRENGTH
	mils ⁽²⁾	mm ⁽³⁾	inches	mm ⁽³⁾	
25	18	0.457	0.0188	0.478	33
20-DRYWALL	30	0.762	0.0312	0.792	33
20-STRUCTURAL	33	0.838	0.0346	0.879	33
18	43	1.092	0.0451	1.146	33
16	54	1.372	0.0566	1.438	50
14	68	1.727	0.0713	1.811	50
12	97	2.464	0.1017	2.583	50

* GAUGE NUMBER SHOULD ONLY BE USED FOR REFERENCE ONLY.

(1) MINIMUM THICKNESS CANNOT BE LESS THAN 95% OF THE DESIGN THICKNESS, AND IS THE MINIMUM ALLOWABLE THICKNESS OF THE BASE STEEL DELIVERED TO THE JOBSITE.

(2) A "MIL" IS 1/1000 OF AN INCH (E.G. 30 MILS IS 0.030 INCHES)

(3) THE METRIC VALUES ARE DERIVED BY CONVERTING THE IMPERIAL VALUES.

Product Specifications

Sheet steel utilized for residential and commercial framing components must meet the requirements from the following Standard: "ASTM A653/A653M Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process". Metallic coatings can also range in thicknesses. The following table lists the minimum thickness of hot-dipped metallic coating. The thickness must be added to the minimum base sheet thickness when determining the delivered sheet thickness.

COATING DESIGNATION	MINIMUM THICKNESS (inches)	COATING DESIGNATION	MINIMUM THICKNESS (mm)
A01	0.0004	ZF001	0.010
A25	0.0007	ZF075	0.018
G01	0.0004	Z001	0.010
G60	0.0010	Z180	0.025
G90	0.0015	Z275	0.038

ALL LSF MEMBER SPECIFICATIONS ARE IN ACCORDANCE WITH THE STANDARD CSA S136: "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".



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