



Designation: C955 – 17

Standard Specification for Cold-Formed Steel Structural Framing Members¹

This standard is issued under the fixed designation C955; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope*

1.1 This specification covers cold-formed steel structural framing members (with a base steel thickness of not less than 0.0329 in. (0.836 mm)) in load-bearing (transverse and axial) construction assemblies. Steel of lesser thickness shall be permitted in additional engineered products.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- [A653/A653M Specification for Steel Sheet, Zinc-Coated \(Galvanized\) or Zinc-Iron Alloy-Coated \(Galvannealed\) by the Hot-Dip Process](#)
- [A792/A792M Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process](#)
- [A875/A875M Specification for Steel Sheet, Zinc-5 % Aluminum Alloy-Coated by the Hot-Dip Process](#)
- [A1003/A1003M Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members](#)
- [C11 Terminology Relating to Gypsum and Related Building Materials and Systems](#)

2.2 AISI Standard:³

- [S100 North American Specification for the Design of Cold-Formed Steel Structural Members](#)
- [S240 North American Standard for Cold-Formed Steel Structural Framing—2015 Edition](#)

3. Terminology

3.1 Definitions:

3.1.1 Definitions shall be in accordance with Terminology C11.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *members, n*—studs, runners, tracks, bracing, bridging, accessories, or other items manufactured in accordance with this specification.

3.2.2 *structural member, n*—a member in a steel framed system in which the loading exceeds any of the following conditions: a transverse load of 20 lbf/ft (290 N/m) of member length, or an axial load, exclusive of sheathing, of 200 lbf (890 N) per member.

4. Materials and Manufacture

4.1 Members shall be manufactured from steel meeting the requirements of Specification [A1003/A1003M](#).

4.2 The minimum steel thickness (base steel) shall be not less than 0.0329 in. (0.84 mm).

4.3 Individual measurements before the application of protective coating shall be not less than 95 % of the specified design thickness.

4.4 Members shall have a protective coating in accordance with [Table 1](#), CP 60 minimum.

4.5 Edges of members shall be manufactured to minimize burrs and sharp edges.

4.6 Factory punch-outs, when provided, shall be located along the centerline of the webs of members and shall have center-to-center spacing of not less than 24 in. (610 mm). Web punch-outs maximum width shall be the lesser of 0.5 times the member depth, d , or 2½ in. (64 mm). Web punch-out length shall not exceed 4½ in. (114 mm). Minimum distance between the end of the member and the near edge of the web punch-out

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Iron and Steel Institute (AISI), 1140 Connecticut Ave., NW, Suite 705, Washington, DC 20036, <http://www.steel.org>.

*A Summary of Changes section appears at the end of this standard

TABLE 1 Coating Designations

Coating Classification	Coating Designator	Minimum Coating Requirements			
		Zinc-Coated ^A oz/ft ² (g/m ²)	Zinc Iron ^B oz/ft ² (g/m ²)	55 % Al-Zinc ^C oz/ft ² (g/m ²)	Zinc-5 % ^D oz/ft ² (g/m ²)
Metallic Coated	CP 60	G60 (Z 180)	A60 (ZF 180)	AZ 50 (AZM 150)	GF 30 (ZGF 90)
Painted Metallic	CP 90	G90 (Z 275)	Not Applicable	AZ 50 (AZM 150)	GF 45 (ZGF 135)
	PM	The metallic coated substrate shall meet the requirements of metallic coated. In addition, the paint film shall have a minimum thickness of 0.5 mil (0.013 mm) per side (primer plus topcoat) with a minimum primer thickness of 0.1 mil (0.002 mm) per side. ^E			

^A Zinc-coated steel sheet as described in Specification **A653/A653M**.

^B Zinc-iron alloy-coated steel sheet as described in Specification **A653/A653M**.

^C 55 % Aluminum-zinc alloy-coated steel sheet as described in Specification **A792/A792M**.

^D Zinc-5 % aluminum alloy-coated steel sheet as described in Specification **A875/A875M**.

^E In accordance with the requirements of Specification **A1003/A1003M**.

shall be 10 in. (254 mm). The size of the factory punch-outs shall not exceed the size used in design and the center-to-center spacing shall not be less than that used in design.

4.7 The properties and strength of members shall be computed in accordance with the AISI S100.

5. Dimensions and Permissible Variations

5.1 Data for calculating design performance shall be supplied by the manufacturer.

5.2 The width of the surface to which the sheathing board is attached shall be not less than 1¼ in. (32 mm).

5.3 Runners (track) shall be formed in a U-shaped configuration, having a depth compatible with that of the studs of the same nominal size.

5.4 Minimum height of runner (track) flanges shall be 1¼ in. (32 mm).

5.5 Members shall be manufactured within the limits as shown in **Table 2** and **Fig. 1**.

5.6 Bracing and bridging shall have configuration and steel thickness to provide secondary support for the studs in accordance with the AISI S100.

TABLE 2 Manufacturing Tolerances

Dimension ^A	Item Checked	Structural Studs, in. (mm)		Structural Track, in. (mm)
A	length	+ 1/8 (3.18)		+ 1/2 (12.7)
		- 3/32 (2.38)		- 1/4 (6.35)
B ^B	web width	+ 1/32 (0.79)		+ 1/32 (0.79)
		- 1/32 (0.79)		+ 1/8 (3.18)
C	flare overbend	+ 1/16 (1.59)		+ 0 (0)
		- 1/16 (1.59)		- 3/32 (2.38)
D	hole center width	+ 1/16 (1.59)		n/a
		- 1/16 (1.59)		
E	hole center along length	+ 1/2 (12.7)		n/a
		- 1/2 (12.7)		
F	crown	+ 1/16 (1.59)		+ 1/16 (1.59)
		- 1/16 (1.59)		- 1/16 (1.59)
G ^C	camber	1/8 (3.2) max per 10 ft		1/32 per ft (0.79)
				1/2 max (12.7)
H ^C	bow	1/8 (3.2) max per 10 ft		1/32 per ft (0.79)
				1/2 max (12.7)
I	twist	1/32 per ft (0.79)		1/32 per ft (0.79)
		1/2 max (12.7)		1/2 max (12.7)
J	flange width	+ 1/8 (3.18)		+ 1/4 (6.35)
		- 1/16 (1.59)		- 1/16 (1.59)
K	stiffening lip length	+ 1/8 (3.18)		n/a
		- 1/32 (0.79)		

^A All measurements shall be taken not less than 1 ft (305 mm) from the end.

^B Outside dimension for stud; inside for track.

^C 1/8 in. (3 mm) max per 10 ft (3000 mm) represents L/960 maximum for overall camber and bow. Thus a 20-ft (6000-mm) long member would have 1/4 in. (6 mm) permissible maximum; a 5-ft (1500-mm) long member would have 1/16 in. (1.5 mm) permissible maximum.