



March 17, 2011

SSMA Framing Member Compliance with the 2006 and 2009 International Codes

To Whom It May Concern:

The Steel Stud Manufacturers Association (SSMA) maintains an International Code Council Evaluation Service (ICC-ES) Legacy Report, number 4943P, which is currently posted on both the SSMA and ICC-ES websites. The latest report (revision date December, 2008 – as listed at the bottom of page 1 of the report) is valid for earlier versions of the code, but has not been updated for the 2006 or 2009 International Codes. SSMA is in the process of updating our report to a full Evaluation Service Report. We have received a draft report back from ICC-ES; however, the report is not complete, and will likely not be issued until the latter part of this year.

In the interim, the SSMA is pleased to state that based on section 2210 of the 2006 and 2009 International Building Codes (IBC), the referenced documents include standard, C-shaped, steel framing members as code approved products. Because SSMA members manufacture C-shaped stud and track products, and these products are compliant with the requirements of the American Iron and Steel Institute (AISI) referenced standards, additional evaluation of the product is not needed, and SSMA products manufactured within the currently established and audited SSMA Quality Control procedure meet the requirements of the 2006 code. An outside Evaluation Service Report is, therefore, no longer needed.

Note this is not the case for all steel framing: some members use enhancements such as high yield strength, specially placed ribs and embossments, and other elements to produce proprietary members that may use thinner steel than the standard SSMA shapes. However, all SSMA products listed in our catalog are based on the FULL thickness and standard American Iron and Steel Institute (AISI) specified yield strengths for code compliance. There is certainly a need for these products (that rely on higher yield and thinner material) to be thoroughly evaluated for code compliance, and we support companies such as ICC-ES that evaluate these innovative products. However, just as no evaluation report is required for a standard, graded, 2 x 4 dimensional lumber piece, there is no evaluation report requirement for a standard, full-thickness, SSMA stud or joist product.

Since some in the building construction community are still asking for Evaluation Service Reports, SSMA will continue to maintain our report and press for an update as soon as possible. Concurrently, the SSMA has implemented a nationwide product certification program, to help ensure code compliance for all manufacturers of SSMA steel framing products. When specifying or ordering structural cold-formed steel framing, make sure you ask for products marked “CERTIFIED” under the SSMA Code Compliance Certification program.

If there is a concern by the entity reviewing your submittals about code-approved load and span tables, consider the information attached to this letter.

Thank you for your interest in steel framing for construction, and in SSMA products in particular. For additional technical data and information, as well as details about our Code Compliance Certification programs and how our products help you meet green building and LEED requirements, visit us at www.ssma.com. The SSMA online Technical Library also contains our current ICC-ES Legacy Report, our City of Los Angeles Research Report (current through October of 2009), SSMA Technical Notes, and free, downloadable steel framing details in both AutoCAD and Adobe Acrobat format.

Sincerely,
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Code Referenced Documents and Span Tables for SSMA and AISI “Standard” cold-formed steel (CFS) Framing Products

Several specifiers and code enforcement officials have questioned where in the code standard SSMA shapes are called out, and how they can be assured that submitted span and load tables meet approved code requirements. This document should help answer some of those questions. For specific questions about a manufacturer’s products or services, or for proprietary (non-standard) products, consult the manufacturer, listed at www.ssma.com/ssmadir.aspx.

Nonstructural Drywall Framing (up to 30 mil):

For 18, 27, and 30 mil thick material, the 2006 and 2009 International Building Code (IBC) section 2508 and table 2508.1 reference ASTM C754 for steel framing for installation of gypsum construction.

ASTM C754 is entitled *Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products*. Tables 3, 4, and 5 from this document include span tables for 18, 30, and 33 mil products respectively. Due to copyright restrictions, those tables are not reproduced here, but C754 may be downloaded from ASTM at www.astm.org. There is a \$45 charge for this download.

Structural Framing

For structural members, AISI D100-08 *Cold-Formed Steel Design Manual*, includes beam and column tables (similar to the one shown below) as well as example problems showing how to calculate properties and use the tabulated values. This is similar in format to the American Institute of Steel Construction (AISC) *Manual of Steel Construction* used for structural steel shapes. Although not available as a download, the Manual is available [here](#) from the Steel Framing Alliance store. The manual alone is \$99; with the AISI *Specification* and commentary (S100 and S100C – total of 3 books) \$170. These documents are not yet available as PDF downloads. Note that members of Steel Framing Alliance (SFA) or Cold-Formed Steel Engineers Institute (CFSEI) receive 25% off all AISI publications.

SECTION 2508 GYPSUM CONSTRUCTION	
2508.1 General. Gypsum board and gypsum plaster construction shall be of the materials listed in Tables 2506.2 and 2507.2. These materials shall be assembled and installed in compliance with the appropriate standards listed in Tables 2508.1 and 2511.1.1, and Chapter 35.	
TABLE 2508.1 INSTALLATION OF GYPSUM CONSTRUCTION	
MATERIAL	STANDARD
Gypsum board	GA-216; ASTM C 840
Gypsum sheathing	ASTM C 1280
Gypsum veneer base	ASTM C 844
Interior lathing and furring	ASTM C 841
Steel framing for gypsum boards	ASTM C 754; C 1007

2009 INTERNATIONAL BUILDING CODE®


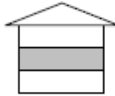
III-32 Column Design for Use with the 2007 North American Cold-Formed Steel Specification

Table III - 8		Nominal Axial Strength, P_n , kips ^{1,2}									
		SSMA Studs					C-Sections With Lips				
		$F_y = 33$ ksi					$F_y = 50$ ksi				
Section	KL _x , ft.	Bracing (KL _y = KL _x)					Bracing (KL _y = KL _x)				
		Cont.	1/4 Pt.	1/3 Pt.	1/2 Pt.	None	Cont.	1/4 Pt.	1/3 Pt.	1/2 Pt.	None
362S162-54	2.0	10.5	10.5	10.4	10.3	9.65	14.6	14.5	14.5	14.3	13.4
	3.0	10.3	10.3	10.2	9.95	8.60	14.4	14.2	14.1	13.8	11.2
	5.0	9.88	9.88	9.83	9.73	9.07	14.2	14.0	13.9	13.6	10.9
	6.0	9.72	9.72	9.67	9.57	8.91	14.1	13.9	13.8	13.5	10.8
	8.0	8.77	8.36	7.96	6.78	3.11	11.6	10.8	10.0	7.86	3.11
	9.0	8.33	7.85	7.38	6.02	2.61	10.7	9.80	8.94	6.64	2.61
362S162-43	11.0	7.39	6.76	6.15	4.58		8.94	7.82	6.85	4.60	
	12.0	6.89	6.16	5.52	3.94		8.05	6.87	5.83	3.94	
	2.0	8.09	8.06	8.04	7.95	7.43					
	4.0	7.80	7.71	7.61	7.28	5.64					
	5.0	7.60	7.46	7.31	6.82	4.64					
	7.0	7.08	6.82	6.56	5.76	2.88					



Residential Framing

Both the 2009 IBC and International Residential Code (IRC) reference AISI S230: *Standard for Cold-Formed Steel Framing – Prescriptive Method for One- and Two Family Dwellings* for construction of homes and townhouses. This document has tables for wall, floor and roof framing, and references the standard SSMA shapes in all tables. Standard shapes for the United States and Mexico are listed in AISI S201: *Standard for Cold-Formed Steel Framing – Product Data*. Although this does not show span and load tables, it shows standard sizes for the members. Manufacturing tolerances for members are also listed in ASTM C645 (non-structural) and C955 (structural). Like the installation standards, these ASTM standards are referenced in chapter 25 of the IBC.

		AISI S230-07											
		Table E3-10a Stud Thickness -Foot Wide Building Supporting One Floor, Roof & Ceiling^{1,2,3} F_y = 33 ksi 											
	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
		8-Foot Studs				9-Foot Studs				10-Foot Studs			
		Ground Snow Load (psf)											
		20	30	50	70	20	30	50	70	20	30	50	70
16	32	33	33	43	43	33	33	43	43	43	43	43	54
	24	43	43	54	68	43	43	54	68	54	54	54	68
16	32	33	33	33	43	33	33	33	43	33	33	33	43
	24	43	43	54	54	43	43	43	54	43	43	43	54
16	350S162	33	33	43	43	33	33	43	43	43	43	43	54
	24	43	43	54	68	43	43	54	68	54	54	54	68
16	550S162	33	33	33	43	33	33	33	43	33	33	33	43
	24	43	43	54	54	43	43	43	54	43	43	43	54
90 mph		33	33	43	43	33	33	43	43	43	43	43	54

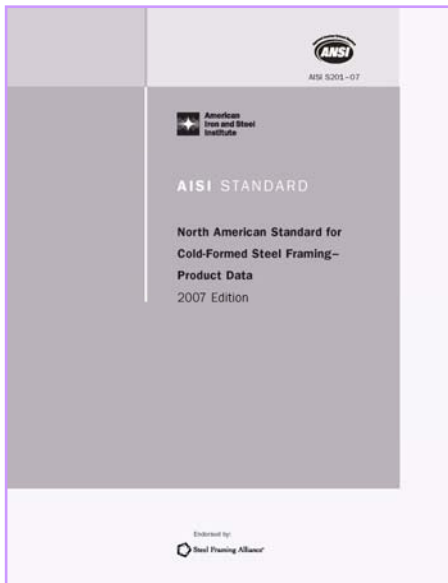
		North American Standard For Cold Formed Steel Framing - Product Data - 2006											3
		<h2>MATERIALS</h2> <h3>1 Material Specification</h3> <p>Structural and non-structural members shall be cold-formed to shape from sheet steel in compliance with the requirements of ASTM A1003/A1003M, but limited to the following material types and grades:</p> <ul style="list-style-type: none"> (a) Type H (high ductility), Structural Grade 33 [230] or Structural Grade 50 [340] (b) Type L (low ductility), Structural Grade 33 [230] or Structural Grade 50 [340] (c) Type NS, Nonstructural Grade 33 [230] <h3>2 Base Steel Thickness</h3> <p>Structural and non-structural members shall be cold-formed to shape from sheet steel with a minimum base steel thickness listed in Table B2-1. Member thickness shall be referenced to the corresponding designation thickness.</p>											

Table B2-1
Standard Thicknesses

Designation Thickness	Minimum Base Steel Thickness		Design Thickness	
	(inch)	(mm)	(inch)	(mm)
18	0.0179	0.455	0.0188	0.478
27	0.0269	0.683	0.0283	0.719
30	0.0296	0.752	0.0312	0.792
33	0.0329	0.836	0.0346	0.879
43	0.0428	1.087	0.0451	1.146