CANADIAN SHEET STEEL BUILDING INSTITUTE

LIGHTWEIGHT STEEL FRAMING

METRIC SECTION PROPERTIES

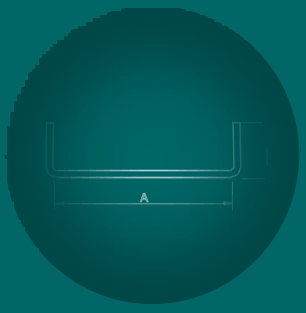
wall stud

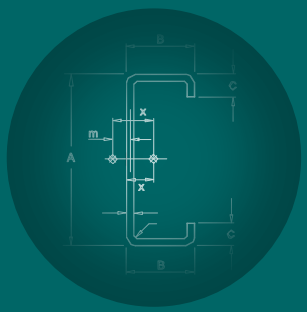
floor joist track

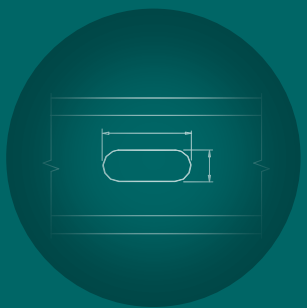
section &

bridging channel

properties







CSSBI 58A-2011

LIGHTWEIGHT STEEL FRAMING METRIC SECTION PROPERTIES

CSSBI 58A-2011

Prepared for:

Canadian Sheet Steel Building Institute

Prepared by:

T.W.J Trestain Structural Engineering

Canadian Sheet Steel Building Institute

TABLE OF CONTENTS

PREFACE

The material presented in this publication has been prepared for the general information of the reader. While the material is believed to be technically correct and in accordance with recognized good practice at the time of publication, it should not be used without first securing competent advice with respect to its suitability for any specific application. Neither the *Canadian Sheet Steel Building Institute* nor its Members warrant or assume liability for the suitability of the material for any general or particular use.

COMMENTARY

1. INTRODUCTION

The technical data in this publication is intended as an aid to the design professional and should not be used to replace the judgment of a qualified Engineer or Architect.

2. SECTION GEOMETRIES

2.1 Section geometries are identified by the product designation method described in Commentary 6.

2.2 Stud and joist lip lengths are as follows:

Section	Flange Width (mm)	Lip Length (mm)
S125	31.75	4.762
S162	41.28	12.70
S200	50.80	15.88
S250	63.50	15.88
S300	76.20	15.88

2.3 Stud, joist, track and bridging channel inside bend radii are as follows:

Design Thickness (mm)	Inside Bend Radius (mm)
0.879	1.941
1.146	1.808
1.438	2.156
1.811	2.715
2.583	3.874

3. STUD AND JOIST SECTION PROPERTIES TABLES

3.1 Structural properties are computed in accordance with CSA Standard S136-07, North American Specification for the Design of Cold-Formed Steel Structural Members with S136S2-10 (Supplement 2).

3.2 Steel shall meet the requirements of S136-07 and S136S2-10 (Supplement 2) with a minimum yield strength of 230 MPa for design thickness less than or equal to 1.146 mm and 345 MPa for design thickness greater than or equal to1.438 mm.

3.3 Section properties are computed on the basis of the design thicknesses shown in the tables. Design thicknesses are exclusive of coating.

3.4 Perforations are assumed to be located at mid-depth and spaced at a minimum of 610 mm o.c. The distance from the centreline of the last perforation to the end of a wall stud or joist is assumed to be 305 mm minimum.

3.5 The increase in yield strength from the cold work of forming is conservatively neglected.

3.6 The maximum unbraced length, L_u, which precludes lateral buckling in beams is calculated from the formulae in the Commentary on North American Specification for the Design of Cold-Formed Steel Structural Members, 2007 Edition, AISI S100-2007-C, published by the American Iron and Steel Institute (*Formulae C-C3.1.2.1-11, C-C3.1.2.1-12 & C-C3.1.2.1-14*). K_y, K_t and C_b are set equal to one.

3.7 Factored resistances include the following resistance factors:

Moment	ϕ_b	= 0.90 for local buckling and global buckling
	ϕ_b	= 0.85 for distortional buckling
Shear	ϕ_v	= 0.80
Web Crippling	ϕ_w	= 0.75 (See Item 3.9)

3.8 The deflection inertia, $I_{x(defl.)}$, includes the effects of local buckling at the stress level resulting from specified live loads (approximated by 0.6 x F_y). This inertia is only appropriate for checking serviceability limit states.

3.9 Web Crippling

3.9.1 Studs

For the web crippling capacity of steel stud flexural members with stud to track connections susceptible to web crippling, S136-07 refers to the North American Standard for Cold-Formed Steel Framing – Wall Stud Design, AISI S211-07.

The wall stud web crippling calculations assume the following:

- Track thickness equal to or greater than the stud thickness
- Both flanges of the stud attached to the track
- Studs not adjacent to wall openings or discontinuities in the track
- Minimum bearing length = 25.4 mm
- The distance from the centreline of the last perforation to the end of the stud = 305 mm minimum *(for R_c = 1 from S136-07, C3.4.2)*

3.9.2 Joists

Web crippling capacities are based on the provisions of S136-07 with the end one-flange loading fastened to support condition. A 88.9 mm minimum bearing length is assumed. The distance from the centreline of the last perforation to the end of the joist = 305 mm minimum *(for R_c = 1 from S136-07, C3.4.2)*

3.10 Distortional Buckling

3.10.1 Distortional buckling properties and factored resistances are based on the unperforated section.

3.10.2 Neither S136-07, Sections A – G, nor do these tables include provisions for the weak axis distortional buckling of studs or joists *(lips in compression)*. Where weak axis distortional buckling is a concern, additional calculation is required.

3.10.3 A new property $k_{\phi min}$ is provided which represents the threshold sheathing stiffness, k_ϕ, necessary to raise the distortional buckling moment or axial nominal resistance to its yield value.

4. TRACK AND BRIDGING CHANNEL SECTION PROPERTIES TABLES

4.1 The previous Commentary Items 3.1 – 3.3, 3.6 and 3.8 apply except that for bridging channels minimum yield strengths of 230 MPa and 345 MPa are provided for each thickness.

4.2 The actual inside to inside track depth is the nominal track depth given in the tables plus one inside bend radius. For bridging channels the actual outside to outside depth is the depth given in the tables.

4.3 The factored moment resistance, M_{rx}, is derived using effective section properties with the cold work of forming conservatively neglected. Factored shear and moment resistance, V_r and M_{rx}, include a 0.8 and 0.9 resistance factor respectively.

5. SYMBOLS

A	=	out to out depth of stud (mm) = out to out depth of bridging channel (mm) = nominal depth of track (mm)
Area	=	fully effective (unreduced for local buckling) area (mm^2)
B	=	out to out width of flange (mm)
C	=	out to out depth of lip stiffener (mm)
C_w	=	warping torsional constant (mm^6)
F_d	=	elastic distortional buckling stress (MPa)
F_y	=	minimum yield strength (MPa)
I_x	=	fully effective (unreduced for local buckling) moment of inertia about the major axis (mm^4)
I_x (defl.)	=	effective moment of inertia about the major axis for checking deflections with specified (unfactored) loads (mm^4)
I_y	=	fully effective (unreduced for local buckling) moment of inertia about the minor axis (mm^4)
J	=	St. Venant torsional constant (mm^4)
j	=	torsional-flexural buckling parameter for singly symmetric beam-columns (mm)
k_ϕ	=	rotational stiffness provided by a restraining element (kN)
$k_{\phi fe}$	=	elastic rotational stiffness provided by the flange to the flange/web juncture (kN)
$\tilde{k}_{\phi fg}$	=	geometric rotational stiffness demanded by the flange from the flange/web juncture (mm^2)
$k_{\varphi min}$	=	threshold sheathing stiffness necessary to raise the distortional buckling moment or axial load to its yield value (kN)
$k_{\varphi we}$	=	elastic rotational stiffness provided by the web to the flange/web juncture (kN)
$\tilde{k}_{\varphi wg}$	=	geometric rotational stiffness demanded by the web from the flange/web juncture (mm^2)
L_{cr}	=	distortional buckling critical unbraced length (mm)
m	=	distance from centreline of web to the shear centre (mm)
M_{rx}	=	fully braced factored moment resistance about the major axis with a resistance factor of 0.9 (kN.m)
M_{rx}_DB	=	distortional buckling factored moment resistance about the major axis with a resistance factor of 0.85 (kN.m)
M_{rx}_Fy	=	factored moment resistance at yield used in distortional buckling calculations and taken about the major axis with a resistance factor of 0.85 (kN.m)
M_{rx}_LB	=	fully braced local buckling moment resistance about the major axis with a resistance factor of 0.9 (kN.m)
M_{ry}_LB	=	fully braced local buckling factored moment resistance about the minor axis with the web in compression or with the lips in compression with a resistance factor of 0.9 (kN.m)
L_u	=	maximum unbraced length of flexural members which precludes lateral buckling (mm)

P_r = factored web crippling resistance with a resistance factor of 0.75 (kN)

P_r_DB = distortional buckling factored axial resistance with a resistance factor of 0.80 (kN)

P_r_Fy = factored axial resistance at yield used in distortional buckling calculations with a resistance factor of 0.80 (kN)

r_x = fully effective (unreduced for local buckling) radius of gyration about the major axis (mm)

r_y = fully effective (unreduced for local buckling) radius of gyration about the minor axis (mm)

S_f = fully effective (unreduced for local buckling) section modulus (mm^3)

t = design steel thickness exclusive of coating (mm)

V_r = factored shear resistance with a resistance factor of 0.80 (kN)

Weight = mass per metre based on uncoated, unperforated steel (kg/m)

x_{cg} = distance to centroid from back of web for the fully effective section (unreduced for local buckling) (mm)

x_o = distance from shear centre to centroid (mm)

Notes:

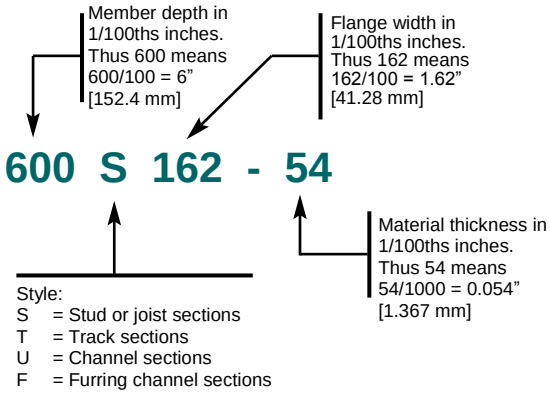
1. *For metric section properties, the units shown in the section property tables may be adjusted by E+03 or E+06 which means the section property values are to be multiplied by 1,000 or 1,000,000 respectively.*

2. *All distortional buckling properties and resistances are based on the unperforated section unreduced for local buckling.*

6. PRODUCT IDENTIFICATION

The cold-formed steel framing manufacturers use a common designator system for their products. The designator is a four part code which identifies depth, flange width, member type and material thickness expressed in Imperial units.

Example: 600S162-54



Notes:

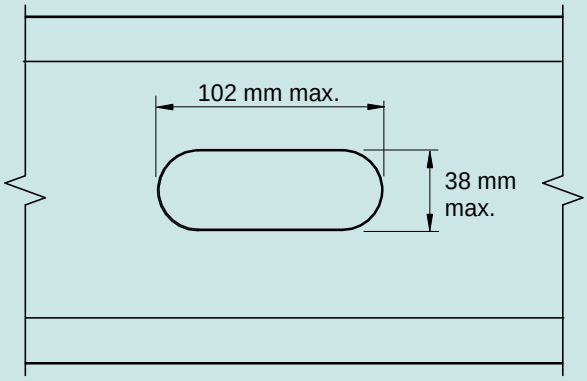
1. *Material thickness is given as the minimum thickness exclusive of coatings and represents 95% of the design thickness. See S136-07 Section A2.4.*

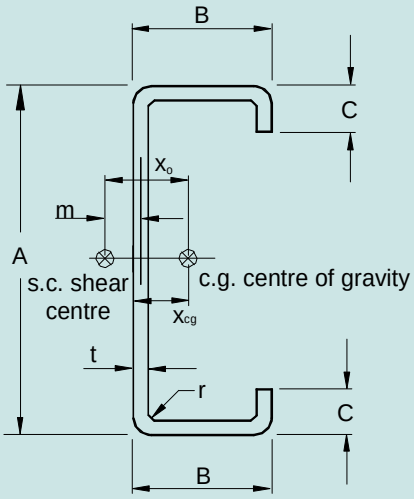
2. *For those sections available in two different yield strengths, the yield strength use in the design, if greater than 230 MPa, needs to be identified (i.e. 600S162-54 (345 MPa)). In any case, it is good practice to always show the yield strength and eliminate any potential ambiguity.*

3. *For track "T", sections, member depth is a nominal inside to inside dimension plus one inside radius. Other dimensions are out to out.*

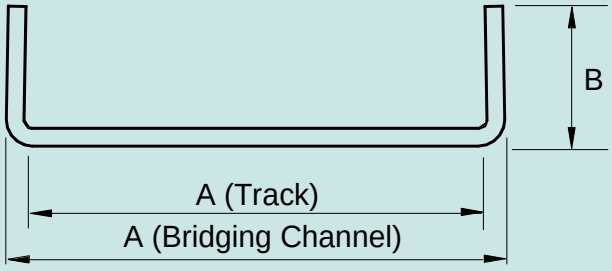
4. *This product designator is independent of units. For example 600S162-54 (345 MPa) applies whether imperial or metric units are used.*

Stud and Joist Section Dimensions





Track and Bridging Channel Section Dimensions



Stud Section Properties

Stud Designation	DIMENSIONS				UNPERFORATED PROPERTIES										
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Lip C (mm)	Weight (kg/m)	Yield F_y (MPa)	Area (E+03 mm^2)	x_{cg} (mm)	m (mm)	x_o (mm)	C_w (E+06 mm^6)	J (mm^4)	j (mm)	r_x (mm)	r_y (mm)
362S125-33	0.879	92.08	31.75	4.76	1.09	230	0.138	7.78	12.2	19.5	25.2	35.6	53.7	35.6	10.5
362S125-43	1.146	92.08	31.75	4.76	1.41	230	0.179	7.80	12.0	19.3	31.6	78.4	53.7	35.4	10.4
362S125-54	1.438	92.08	31.75	4.76	1.74	345	0.222	7.77	11.8	18.9	38.1	153	54.5	35.2	10.2
362S162-33	0.879	92.08	41.28	12.7	1.33	230	0.169	13.6	20.0	33.2	79.7	43.5	53.7	36.8	15.6
362S162-43	1.146	92.08	41.28	12.7	1.72	230	0.219	13.6	19.9	32.9	101	95.9	53.5	36.7	15.5
362S162-54	1.438	92.08	41.28	12.7	2.14	345	0.272	13.6	19.7	32.6	123	188	53.6	36.5	15.4
362S162-68	1.811	92.08	41.28	12.7	2.65	345	0.338	13.6	19.4	32.1	148	369	53.7	36.3	15.1
362S162-97	2.583	92.08	41.28	12.7	3.67	345	0.467	13.5	18.9	31.1	194	1040	54.2	35.8	14.7
400S125-33	0.879	101.6	31.75	4.76	1.15	230	0.147	7.37	11.8	18.7	31.6	37.8	60.0	38.8	10.3
400S125-43	1.146	101.6	31.75	4.76	1.49	230	0.190	7.39	11.6	18.5	39.7	83.2	60.0	38.6	10.2
400S125-54	1.438	101.6	31.75	4.76	1.85	345	0.236	7.36	11.5	18.1	47.9	162	61.1	38.4	10.0
400S162-33	0.879	101.6	41.28	12.7	1.39	230	0.177	13.0	19.5	32.1	97.4	45.7	57.3	40.3	15.5
400S162-43	1.146	101.6	41.28	12.7	1.81	230	0.230	13.0	19.3	31.8	123	101	57.1	40.2	15.4
400S162-54	1.438	101.6	41.28	12.7	2.24	345	0.286	13.0	19.2	31.4	150	197	57.2	40.0	15.2
400S162-68	1.811	101.6	41.28	12.7	2.79	345	0.355	13.0	18.9	31.0	182	388	57.5	39.7	15.0
400S162-97	2.583	101.6	41.28	12.7	3.86	345	0.492	12.9	18.4	30.0	239	1090	58.3	39.2	14.5
600S125-33	0.879	152.4	31.75	4.76	1.50	230	0.191	5.75	10.1	15.4	80.6	49.3	106	55.4	9.5
600S125-43	1.146	152.4	31.75	4.76	1.95	230	0.248	5.79	10.0	15.2	102	109	107	55.2	9.4
600S125-54	1.438	152.4	31.75	4.76	2.42	345	0.309	5.79	9.8	14.9	123	213	110	54.9	9.2
600S162-33	0.879	152.4	41.28	12.7	1.74	230	0.222	10.5	17.2	27.2	231	57.2	85.0	58.0	14.8
600S162-43	1.146	152.4	41.28	12.7	2.26	230	0.288	10.5	17.0	27.0	294	126	85.0	57.8	14.6
600S162-54	1.438	152.4	41.28	12.7	2.82	345	0.359	10.5	16.9	26.6	359	247	85.8	57.6	14.5
600S162-68	1.811	152.4	41.28	12.7	3.51	345	0.447	10.5	16.6	26.2	437	489	87.2	57.3	14.2
600S162-97	2.583	152.4	41.28	12.7	4.89	345	0.623	10.4	16.2	25.3	578	1390	90.3	56.6	13.8
600S200-33	0.879	152.4	50.80	15.9	1.92	230	0.244	14.6	22.9	37.0	428	62.9	82.6	59.4	18.9
600S200-43	1.146	152.4	50.80	15.9	2.49	230	0.317	14.6	22.7	36.7	546	139	82.4	59.3	18.8
600S200-54	1.438	152.4	50.80	15.9	3.10	345	0.395	14.6	22.5	36.4	669	272	82.8	59.1	18.6
600S200-68	1.811	152.4	50.80	15.9	3.87	345	0.493	14.5	22.3	35.9	818	539	83.4	58.8	18.4
600S200-97	2.583	152.4	50.80	15.9	5.40	345	0.689	14.5	21.8	35.0	1100	1530	84.9	58.2	17.9
800S162-43	1.146	203.2	41.28	12.7	2.72	230	0.347	8.84	15.3	23.5	557	152	128	74.6	13.9
800S162-54	1.438	203.2	41.28	12.7	3.39	345	0.432	8.85	15.1	23.2	682	298	130	74.3	13.7
800S162-68	1.811	203.2	41.28	12.7	4.23	345	0.539	8.85	14.9	22.8	831	589	132	74.0	13.5
800S162-97	2.583	203.2	41.28	12.7	5.92	345	0.754	8.86	14.4	22.0	1100	1680	139	73.2	13.0
800S200-43	1.146	203.2	50.80	15.9	2.95	230	0.376	12.4	20.6	32.4	1020	164	115	76.7	18.0
800S200-54	1.438	203.2	50.80	15.9	3.68	345	0.468	12.4	20.4	32.1	1250	323	116	76.4	17.8
800S200-68	1.811	203.2	50.80	15.9	4.59	345	0.585	12.4	20.2	31.7	1530	640	117	76.1	17.6
800S200-97	2.583	203.2	50.80	15.9	6.43	345	0.820	12.4	19.7	30.8	2060	1820	121	75.4	17.1

Stud Designation	UNPERFORATED PROPERTIES									PERFORATED PROPERTIES				
	M_{rx_LB} (kN.m)	L_u (mm)	M_{ry_LB} web.comp (kN.m)	M_{ry_LB} lips.comp (kN.m)	Shear V_r (kN)	Web Cripp. P_r (kN)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (E+03 mm^3)	M_{rx_LB} (kN.m)	M_{ry_LB} web.comp (kN.m)	M_{ry_LB} lips.comp (kN.m)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
362S125-33	0.697	724	0.126	0.130	5.82	1.41	0.175	0.0153	3.80	0.610	0.117	0.122	2.97	0.172
362S125-43	0.972	721	0.164	0.165	9.89	2.36	0.225	0.0193	4.89	0.902	0.152	0.154	3.84	0.223
362S125-54	1.76	580	0.296	0.298	19.2	5.33	0.275	0.0230	5.98	1.63	0.275	0.277	5.78	0.273
362S162-33	0.979	1080	0.288	0.306	5.82	1.41	0.229	0.0413	4.98	0.898	0.268	0.286	2.97	0.229
362S162-43	1.31	1080	0.380	0.391	9.89	2.36	0.295	0.0528	6.42	1.25	0.354	0.365	3.84	0.295
362S162-54	2.38	872	0.703	0.720	19.2	5.33	0.363	0.0642	7.89	2.25	0.654	0.671	5.78	0.363
362S162-68	3.00	872	0.866	0.868	24.9	7.91	0.445	0.0774	9.66	2.92	0.805	0.806	5.71	0.445
362S162-97	4.03	876	1.12	1.12	33.8	10.7	0.597	0.101	13.0	3.95	1.04	1.04	4.98	0.597
400S125-33	0.801	721	0.127	0.132	5.54	1.40	0.221	0.0157	4.35	0.681	0.118	0.125	3.38	0.217
400S125-43	1.11	717	0.164	0.167	9.89	2.34	0.284	0.0198	5.59	1.01	0.154	0.158	4.60	0.281
400S125-54	2.02	576	0.298	0.301	19.2	5.28	0.348	0.0236	6.85	1.83	0.278	0.284	6.96	0.345
400S162-33	1.12	1070	0.289	0.310	5.54	1.40	0.288	0.0427	5.67	1.00	0.270	0.293	3.38	0.288
400S162-43	1.50	1070	0.382	0.396	9.89	2.34	0.371	0.0546	7.31	1.40	0.356	0.374	4.60	0.371
400S162-54	2.71	865	0.706	0.728	19.2	5.28	0.457	0.0664	8.99	2.53	0.659	0.687	6.96	0.457
400S162-68	3.42	864	0.871	0.878	27.7	7.85	0.560	0.0801	11.0	3.30	0.815	0.826	7.72	0.560
400S162-97	4.61	864	1.14	1.14	37.9	10.6	0.755	0.104	14.9	4.54	1.07	1.07	6.87	0.755
600S125-33	1.24	700	0.128	0.137	3.63	1.31	0.587	0.0173	7.70	1.24	0.120	0.133	3.63	0.560
600S125-43	1.86	694	0.167	0.173	8.04	2.22	0.756	0.0219	9.92	1.86	0.157	0.169	7.05	0.747
600S125-54	3.42	557	0.302	0.312	16.0	5.05	0.931	0.0261	12.2	3.42	0.285	0.304	11.1	0.922
600S162-33	1.94	1040	0.292	0.322	3.63	1.31	0.746	0.0484	9.79	1.94	0.273	0.313	3.63	0.746
600S162-43	2.59	1040	0.387	0.411	8.04	2.22	0.964	0.0618	12.6	2.59	0.362	0.401	7.05	0.964
600S162-54	4.71	838	0.715	0.758	16.0	5.05	1.19	0.0752	15.6	4.71	0.671	0.738	11.1	1.19
600S162-68	5.97	833	0.887	0.914	30.4	7.55	1.47	0.0907	19.3	5.97	0.837	0.889	16.4	1.47
600S162-97	8.13	825	1.19	1.19	59.6	10.2	2.00	0.118	26.2	8.13	1.13	1.15	21.7	2.00
600S200-33	2.08	1310	0.439	0.473	3.63	1.31	0.864	0.0871	11.3	2.08	0.411	0.459	3.63	0.850
600S200-43	2.93	1310	0.585	0.632	8.04	2.22	1.12	0.112	14.7	2.93	0.547	0.613	7.05	1.12
600S200-54	5.16	1060	1.09	1.17	16.0	5.05	1.38	0.137	18.1	5.16	1.02	1.14	11.1	1.38
600S200-68	6.80	1050	1.37	1.43	30.4	7.55	1.71	0.167	22.4	6.80	1.28	1.38	16.4	1.71
600S200-97	9.51	1050	1.88	1.89	59.6	10.2	2.34	0.221	30.7	9.51	1.78	1.83	21.7	2.34
800S162-43	3.42	1010	0.389	0.420	5.97	1.44	1.93	0.0666	19.0	3.42	0.365	0.414	5.97	1.87
800S162-54	6.24	816	0.720	0.775	11.9	3.35	2.39	0.0810	23.5	6.24	0.675	0.763	11.9	2.32
800S162-68	8.46	809	0.894	0.936	24.0	5.15	2.95	0.0978	29.0	8.46	0.844	0.921	19.1	2.94
800S162-97	12.3	797	1.20	1.22	61.9	9.93	4.04	0.127	39.8	12.3	1.15	1.20	33.8	4.04
800S200-43	4.33	1280	0.588	0.648	5.97	1.44	2.21	0.121	21.7	4.33	0.550	0.637	5.97	2.21
800S200-54	7.61	1030	1.10	1.20	11.9	3.35	2.74	0.149	26.9	7.61	1.02	1.18	11.9	2.74
800S200-68	10.1	1030	1.38	1.46	24.0	5.15	3.39	0.181	33.4	10.1	1.29	1.44	19.1	3.39
800S200-97	14.2	1020	1.90	1.94	61.9	9.93	4.66	0.240	45.9	14.2	1.81	1.90	33.8	4.66

CSSBI LIGHTWEIGHT STEEL FRAMING MANUFACTURER MEMBERS:

BAILEY METAL PRODUCTS
EB METAL
IMPERIAL MANUFACTURING GROUP
STEELFORM BUILDING PRODUCTS
TREBOR BUILDING PRODUCTS LTD.

Stud Section Properties

Stud Designation	BEAM DISTORTIONAL BUCKLING PROPERTIES								
	M_{rx_Fv} (kN.m)	M_{rx_DB} (kN.m)	L_{cr} (mm)	$k_{\phi fe}$ (kN)	$\tilde{k}_{\phi fq}$ (mm^2)	$k_{\phi we}$ (kN)	$\tilde{k}_{\phi wq}$ (mm^2)	$k_{\phi min}$ (kN)	F_d (MPa)
362S125-33	0.736	0.588	172	0.613	4.10	0.538	0.618	1.22	244
362S125-43	0.945	0.855	150	1.49	6.81	1.28	1.04	1.17	353
362S125-54	1.75	1.55	134	3.21	10.3	2.74	1.60	3.15	498
362S162-33	0.964	0.870	398	0.469	2.45	0.434	0.125	0.388	351
362S162-43	1.24	1.22	345	1.08	4.14	0.979	0.214	0.131	472
362S162-54	2.31	2.18	305	2.22	6.50	1.97	0.342	1.01	613
362S162-68	2.83	2.83	268	4.68	10.2	4.05	0.552	0.00	808
362S162-97	3.80	3.80	219	15.0	20.4	12.4	1.16	0.00	1270
400S125-33	0.841	0.657	177	0.563	3.89	0.506	0.780	1.28	229
400S125-43	1.08	0.960	154	1.37	6.46	1.22	1.31	1.31	333
400S125-54	2.01	1.74	138	2.95	9.80	2.62	2.01	3.42	472
400S162-33	1.10	0.972	408	0.427	2.33	0.397	0.159	0.425	332
400S162-43	1.41	1.37	354	0.985	3.94	0.897	0.273	0.236	446
400S162-54	2.64	2.44	313	2.03	6.18	1.81	0.435	1.19	581
400S162-68	3.23	3.23	275	4.28	9.74	3.73	0.701	0.00	768
400S162-97	4.35	4.35	225	13.8	19.4	11.5	1.46	0.00	1210
600S125-33	1.49	1.01	197	0.394	3.12	0.415	2.00	1.77	158
600S125-43	1.92	1.52	173	0.954	5.12	1.04	3.32	2.25	236
600S125-54	3.58	2.78	156	2.03	7.64	2.31	5.07	5.34	341
600S162-33	1.89	1.52	452	0.293	1.90	0.278	0.429	0.599	245
600S162-43	2.45	2.17	392	0.680	3.22	0.638	0.734	0.666	334
600S162-54	4.58	3.88	346	1.41	5.04	1.31	1.16	2.00	439
600S162-68	5.64	5.25	305	3.00	7.93	2.76	1.86	1.70	587
600S162-97	7.68	7.68	250	9.74	15.8	8.87	3.83	0.00	950
600S200-33	2.19	1.73	595	0.280	2.09	0.265	0.251	0.629	233
600S200-43	2.83	2.47	517	0.643	3.54	0.600	0.431	0.751	313
600S200-54	5.31	4.39	458	1.32	5.56	1.21	0.684	2.22	406
600S200-68	6.56	5.93	404	2.77	8.78	2.50	1.10	2.25	533
600S200-97	8.98	8.98	331	8.80	17.60	7.74	2.27	0.00	831
800S162-43	3.67	2.94	422	0.523	2.78	0.515	1.47	1.09	245
800S162-54	6.89	5.26	373	1.09	4.35	1.08	2.31	2.90	325
800S162-68	8.51	7.23	329	2.32	6.83	2.31	3.67	3.36	441
800S162-97	11.7	11.5	270	7.56	13.5	7.72	7.48	0.666	729
800S200-43	4.20	3.36	556	0.493	3.06	0.471	0.869	1.01	245
800S200-54	7.89	5.99	492	1.02	4.81	0.963	1.38	2.73	320
800S200-68	9.77	8.19	434	2.14	7.59	2.01	2.20	3.30	424
800S200-97	13.5	13.0	357	6.85	15.2	6.40	4.51	1.75	672

Stud Designation	COLUMN DISTORTIONAL BUCKLING PROPERTIES								
	P_{r_Fv} (kN)	P_{r_DB} (kN)	L_{cr} (mm)	$k_{\phi fe}$ (kN)	$\tilde{k}_{\phi fq}$ (mm^2)	$k_{\phi we}$ (kN)	$\tilde{k}_{\phi wq}$ (mm^2)	$k_{\phi min}$ (kN)	F_d (MPa)
362S125-33	25.2	13.7	190	0.444	3.36	0.274	3.12	3.97	111
362S125-43	32.6	20.8	165	1.10	5.62	0.607	5.38	6.25	155
362S125-54	61.2	37.1	147	2.41	8.58	1.20	8.53	15.1	211
362S162-33	30.8	23.2	441	0.321	2.00	0.274	0.581	1.27	231
362S162-43	39.9	33.5	382	0.745	3.38	0.607	1.01	1.82	308
362S162-54	75.1	59.4	338	1.55	5.31	1.20	1.62	4.84	396
362S162-68	93.2	80.9	297	3.28	8.37	2.40	2.64	6.37	516
362S162-97	129	125	243	10.7	16.7	6.96	5.63	6.78	792
400S125-33	26.7	13.2	195	0.410	3.20	0.248	3.99	4.54	91.5
400S125-43	34.6	20.2	169	1.02	5.35	0.550	6.89	7.27	128
400S125-54	65.0	36.0	151	2.24	8.17	1.09	10.9	17.6	174
400S162-33	32.3	23.2	452	0.293	1.90	0.248	0.743	1.37	205
400S162-43	41.9	33.7	392	0.682	3.22	0.550	1.29	2.03	273
400S162-54	78.8	59.6	346	1.42	5.05	1.09	2.07	5.30	352
400S162-68	97.9	81.7	304	3.02	7.96	2.17	3.37	7.23	458
400S162-97	136	128	249	9.89	15.9	6.31	7.20	9.11	701
600S125-33	34.8	10.3	216	0.297	2.61	0.166	11.0	9.37	34.0
600S125-43	45.2	16.0	187	0.749	4.36	0.367	19.0	15.8	47.8
600S125-54	85.1	28.4	167	1.67	6.67	0.725	30.1	37.8	65.1
600S162-33	40.4	21.1	500	0.202	1.55	0.166	2.05	2.24	102
600S162-43	52.5	31.5	433	0.474	2.63	0.367	3.55	3.63	136
600S162-54	99.0	54.9	383	0.994	4.12	0.725	5.71	9.05	175
600S162-68	123	77.3	337	2.14	6.50	1.45	9.30	13.7	227
600S162-97	172	129	275	7.13	13.0	4.21	19.9	24.6	345
600S200-33	44.5	25.5	659	0.192	1.71	0.166	1.18	1.73	124
600S200-43	57.8	37.8	572	0.443	2.89	0.367	2.04	2.75	164
600S200-54	109	66.0	507	0.917	4.54	0.725	3.26	6.91	210
600S200-68	136	92.3	447	1.94	7.18	1.45	5.29	10.3	272
600S200-97	190	152	366	6.28	14.4	4.21	11.2	17.6	409
800S162-43	63.1	26.7	466	0.368	2.28	0.275	7.29	6.27	67.2
800S162-54	119	46.3	411	0.777	3.57	0.544	11.7	15.4	86.4
800S162-68	149	66.1	362	1.68	5.63	1.09	19.1	24.3	112
800S162-97	208	114	296	5.69	11.2	3.15	40.8	48.1	170
800S200-43	68.4	34.0	615	0.341	2.50	0.275	4.18	4.21	92.2
800S200-54	129	59.0	544	0.710	3.93	0.544	6.70	10.4	118
800S200-68	161	83.7	480	1.51	6.22	1.09	10.9	16.1	152
800S200-97	226	142	393	4.95	12.5	3.15	23.0	30.8	228

CSSBI LIGHTWEIGHT STEEL FRAMING MANUFACTURER MEMBERS:

BAILEY METAL PRODUCTS EB METAL IMPERIAL MANUFACTURING GROUP STEELFORM BUILDING PRODUCTS TREBOR BUILDING PRODUCTS LTD.

Joist Section Properties

	DIMENSIONS				UNPERFORATED PROPERTIES										
Joist Designation	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Lip C (mm)	Weight (kg/m)	Yield F_y (MPa)	Area (E+03 mm^2)	x_{cg} (mm)	m (mm)	x_o (mm)	C_w (E+06 mm^6)	J (mm^4)	j (mm)	r_x (mm)	r_y (mm)
600S162-43	1.146	152.4	41.28	12.7	2.26	230	0.288	10.5	17.0	27.0	294	126	85.0	57.8	14.6
600S162-54	1.438	152.4	41.28	12.7	2.82	345	0.359	10.5	16.9	26.6	359	247	85.8	57.6	14.5
600S162-68	1.811	152.4	41.28	12.7	3.51	345	0.447	10.5	16.6	26.2	437	489	87.2	57.3	14.2
600S162-97	2.583	152.4	41.28	12.7	4.89	345	0.623	10.4	16.2	25.3	578	1390	90.3	56.6	13.8
600S200-43	1.146	152.4	50.80	15.9	2.49	230	0.317	14.6	22.7	36.7	546	139	82.4	59.3	18.8
600S200-54	1.438	152.4	50.80	15.9	3.10	345	0.395	14.6	22.5	36.4	669	272	82.8	59.1	18.6
600S200-68	1.811	152.4	50.80	15.9	3.87	345	0.493	14.5	22.3	35.9	818	539	83.4	58.8	18.4
600S200-97	2.583	152.4	50.80	15.9	5.40	345	0.689	14.5	21.8	35.0	1100	1530	84.9	58.2	17.9
800S162-43	1.146	203.2	41.28	12.7	2.72	230	0.347	8.84	15.3	23.5	557	152	128	74.6	13.9
800S162-54	1.438	203.2	41.28	12.7	3.39	345	0.432	8.85	15.1	23.2	682	298	130	74.3	13.7
800S162-68	1.811	203.2	41.28	12.7	4.23	345	0.539	8.85	14.9	22.8	831	589	132	74.0	13.5
800S162-97	2.583	203.2	41.28	12.7	5.92	345	0.754	8.86	14.4	22.0	1100	1680	139	73.2	13.0
800S200-43	1.146	203.2	50.80	15.9	2.95	230	0.376	12.4	20.6	32.4	1020	164	115	76.7	18.0
800S200-54	1.438	203.2	50.80	15.9	3.68	345	0.468	12.4	20.4	32.1	1250	323	116	76.4	17.8
800S200-68	1.811	203.2	50.80	15.9	4.59	345	0.585	12.4	20.2	31.7	1530	640	117	76.1	17.6
800S200-97	2.583	203.2	50.80	15.9	6.43	345	0.820	12.4	19.7	30.8	2060	1820	121	75.4	17.1
800S250-43	1.146	203.2	63.50	15.9	3.18	230	0.405	16.6	26.5	42.5	1710	177	112	78.7	22.7
800S250-54	1.438	203.2	63.50	15.9	3.96	345	0.505	16.6	26.3	42.2	2110	348	112	78.4	22.5
800S250-68	1.811	203.2	63.50	15.9	4.95	345	0.631	16.6	26.1	41.7	2590	690	113	78.2	22.3
800S250-97	2.583	203.2	63.50	15.9	6.95	345	0.885	16.5	25.6	40.8	3520	1970	115	77.5	21.8
1000S162-54	1.438	254.0	41.28	12.7	3.96	345	0.505	7.67	13.7	20.6	1130	348	189	90.6	13.0
1000S162-68	1.811	254.0	41.28	12.7	4.95	345	0.631	7.69	13.5	20.3	1380	690	193	90.2	12.8
1000S162-97	2.583	254.0	41.28	12.7	6.95	345	0.885	7.73	13.1	19.5	1830	1970	204	89.3	12.3
1000S200-54	1.438	254.0	50.80	15.9	4.25	345	0.542	10.8	18.7	28.8	2060	373	161	93.1	17.0
1000S200-68	1.811	254.0	50.80	15.9	5.31	345	0.677	10.8	18.5	28.4	2520	740	164	92.8	16.8
1000S200-97	2.583	254.0	50.80	15.9	7.46	345	0.951	10.8	18.1	27.6	3400	2120	170	92.0	16.4
1000S250-54	1.438	254.0	63.50	15.9	4.54	345	0.578	14.6	24.3	38.2	3470	398	147	95.5	21.7
1000S250-68	1.811	254.0	63.50	15.9	5.68	345	0.723	14.6	24.1	37.8	4270	791	149	95.2	21.5
1000S250-97	2.583	254.0	63.50	15.9	7.98	345	1.02	14.5	23.7	36.9	5810	2260	153	94.5	21.0
1000S300-54	1.438	254.0	76.20	15.9	4.82	345	0.615	18.7	30.1	48.1	5340	423	142	97.6	26.3
1000S300-68	1.811	254.0	76.20	15.9	6.04	345	0.769	18.6	29.9	47.6	6590	841	143	97.3	26.1
1000S300-97	2.583	254.0	76.20	15.9	8.49	345	1.08	18.6	29.4	46.7	9010	2410	146	96.7	25.6
1200S162-68	1.811	304.8	41.28	12.7	5.68	345	0.723	6.83	12.3	18.3	2080	791	269	106	12.1
1200S162-97	2.583	304.8	41.28	12.7	7.98	345	1.02	6.90	11.9	17.5	2770	2260	285	105	11.7
1200S200-68	1.811	304.8	50.80	15.9	6.04	345	0.769	9.65	17.1	25.8	3810	841	222	109	16.1
1200S200-97	2.583	304.8	50.80	15.9	8.49	345	1.08	9.69	16.7	25.1	5140	2410	231	108	15.6
1200S250-68	1.811	304.8	63.50	15.9	6.40	345	0.815	13.0	22.5	34.6	6450	891	195	112	20.7
1200S250-97	2.583	304.8	63.50	15.9	9.01	345	1.15	13.0	22.0	33.8	8790	2550	201	111	20.2
1200S300-68	1.811	304.8	76.20	15.9	6.76	345	0.861	16.7	28.0	43.8	9970	941	181	114	25.3
1200S300-97	2.583	304.8	76.20	15.9	9.52	345	1.21	16.7	27.5	43.0	13700	2700	185	114	24.8
1400S162-68	1.811	355.6	41.28	12.7	6.40	345	0.815	6.16	11.4	16.6	2940	891	361	122	11.6
1400S162-97	2.583	355.6	41.28	12.7	9.01	345	1.15	6.26	11.0	16.0	3930	2550	382	121	11.1
1400S200-68	1.811	355.6	50.80	15.9	6.76	345	0.861	8.72	15.9	23.7	5390	941	292	125	15.5
1400S200-97	2.583	355.6	50.80	15.9	9.52	345	1.21	8.78	15.5	23.0	7290	2700	305	124	15.0
1400S250-68	1.811	355.6	63.50	15.9	7.12	345	0.907	11.8	21.0	31.9	9160	992	251	128	19.9
1400S250-97	2.583	355.6	63.50	15.9	10.0	345	1.28	11.8	20.6	31.1	12500	2840	260	127	19.4
1400S300-68	1.811	355.6	76.20	15.9	7.48	345	0.953	15.2	26.4	40.7	14200	1040	227	131	24.5
1400S300-97	2.583	355.6	76.20	15.9	10.6	345	1.34	15.2	25.9	39.8	19400	2990	233	130	24.0

CSSBI LIGHTWEIGHT STEEL FRAMING MANUFACTURER MEMBERS:

BAILEY METAL PRODUCTS EB METAL IMPERIAL MANUFACTURING GROUP STEELFORM BUILDING PRODUCTS TREBOR BUILDING PRODUCTS LTD.

Joist Section Properties

	UNPERFORATED PROPERTIES									PERFORATED PROPERTIES				
Joist Designation	M_{rx-LB} (kN.m)	L_u (mm)	M_{ry-LB} web.comp (kN.m)	M_{ry-LB} lips.comp (kN.m)	Shear V_r (kN)	Web Cripp P_r (kN)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (E+03 mm^3)	M_{rx-LB} (kN.m)	M_{ry-LB} web.comp (kN.m)	M_{ry-LB} lips.comp (kN.m)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
600S162-43	2.59	1040	0.387	0.411	8.04	2.33	0.964	0.0618	12.6	2.59	0.362	0.401	7.05	0.964
600S162-54	4.71	838	0.715	0.758	16.0	5.31	1.19	0.0752	15.6	4.71	0.671	0.738	11.1	1.19
600S162-68	5.97	833	0.887	0.914	30.4	7.98	1.47	0.0907	19.3	5.97	0.837	0.889	16.4	1.47
600S162-97	8.13	825	1.19	1.19	59.6	14.9	2.00	0.118	26.2	8.13	1.13	1.15	21.7	2.00
600S200-43	2.93	1310	0.585	0.632	8.04	2.33	1.12	0.112	14.7	2.93	0.547	0.613	7.05	1.12
600S200-54	5.16	1060	1.09	1.17	16.0	5.31	1.38	0.137	18.1	5.16	1.02	1.14	11.1	1.38
600S200-68	6.80	1050	1.37	1.43	30.4	7.98	1.71	0.167	22.4	6.80	1.28	1.38	16.4	1.71
600S200-97	9.51	1050	1.88	1.89	59.6	14.9	2.34	0.221	30.7	9.51	1.78	1.83	21.7	2.34
800S162-43	3.42	1010	0.389	0.420	5.97	2.22	1.93	0.0666	19.0	3.42	0.365	0.414	5.97	1.87
800S162-54	6.24	816	0.720	0.775	11.9	5.09	2.39	0.0810	23.5	6.24	0.675	0.763	11.9	2.32
800S162-68	8.46	809	0.894	0.936	24.0	7.69	2.95	0.0978	29.0	8.46	0.844	0.921	19.1	2.94
800S162-97	12.3	797	1.20	1.22	61.9	14.5	4.04	0.127	39.8	12.3	1.15	1.20	33.8	4.04
800S200-43	4.33	1280	0.588	0.684	5.97	2.22	2.21	0.121	21.7	4.33	0.550	0.637	5.97	2.21
800S200-54	7.61	1030	1.10	1.20	11.9	5.09	2.74	0.149	26.9	7.61	1.02	1.18	11.9	2.74
800S200-68	10.1	1030	1.38	1.46	24.0	7.69	3.39	0.181	33.4	10.1	1.29	1.44	19.1	3.39
800S200-97	14.2	1020	1.90	1.94	61.9	14.5	4.66	0.240	45.9	14.2	1.81	1.90	33.8	4.66
800S250-43	4.40	1560	0.812	0.909	5.97	2.22	2.50	0.208	24.6	4.40	0.758	0.891	5.97	2.49
800S250-54	7.75	1260	1.52	1.69	11.9	5.09	3.11	0.256	30.6	7.75	1.42	1.66	11.9	2.98
800S250-68	10.5	1260	1.93	2.07	24.0	7.69	3.85	0.313	37.9	10.5	1.80	2.03	19.1	3.80
800S250-97	15.6	1250	2.70	2.78	61.9	14.5	5.32	0.420	52.4	15.6	2.55	2.72	33.8	5.32
1000S162-54	7.99	794	0.722	0.786	9.44	4.90	4.14	0.0851	32.6	7.99	0.677	0.778	9.44	3.87
1000S162-68	11.0	787	0.899	0.949	19.0	7.45	5.13	0.103	40.4	11.0	0.848	0.940	19.0	4.96
1000S162-97	16.6	772	1.21	1.24	56.0	14.1	7.06	0.134	55.6	16.6	1.16	1.22	40.8	7.06
1000S200-54	8.66	1010	1.10	1.22	9.44	4.90	4.69	0.157	37.0	8.66	1.03	1.21	9.44	4.43
1000S200-68	12.3	1000	1.38	1.49	19.0	7.45	5.83	0.192	45.9	12.3	1.30	1.47	19.0	5.66
1000S200-97	19.0	991	1.91	1.97	56.0	14.1	8.05	0.254	63.4	19.0	1.82	1.95	40.8	8.05
1000S250-54	9.55	1250	1.52	1.72	9.44	4.90	5.28	0.272	41.5	9.55	1.42	1.70	9.44	5.08
1000S250-68	14.1	1240	1.93	2.11	19.0	7.45	6.56	0.333	51.6	14.1	1.81	2.08	19.0	6.47
1000S250-97	21.4	1230	2.72	2.83	56.0	14.1	9.09	0.447	71.5	21.4	2.57	2.79	40.8	9.09
1000S300-54	9.67	1470	2.00	2.30	9.44	4.90	5.86	0.426	46.1	9.67	1.86	2.26	9.44	5.33
1000S300-68	14.2	1470	2.55	2.82	19.0	7.45	7.29	0.524	57.4	14.2	2.38	2.78	19.0	6.93
1000S300-97	22.9	1460	3.64	3.82	56.0	14.1	10.1	0.709	79.7	22.9	3.41	3.76	40.8	9.95
1200S162-68	13.4	766	0.901	0.959	15.7	7.22	8.12	0.106	53.3	13.4	0.850	0.952	15.7	7.60
1200S162-97	20.8	749	1.22	1.25	46.3	13.7	11.2	0.139	73.7	20.8	1.16	1.24	42.1	11.1
1200S200-68	15.1	983	1.39	1.50	15.7	7.22	9.14	0.200	59.9	15.1	1.30	1.49	15.7	8.62
1200S200-97	23.7	968	1.92	2.00	46.3	13.7	12.7	0.265	83.1	23.7	1.83	1.98	42.1	12.5
1200S250-68	15.3	1220	1.94	2.14	15.7	7.22	10.2	0.348	66.9	15.3	1.81	2.12	15.7	9.53
1200S250-97	25.6	1210	2.74	2.87	46.3	13.7	14.2	0.467	92.9	25.6	2.58	2.84	42.1	14.0
1200S300-68	16.9	1450	2.56	2.87	15.7	7.22	11.2	0.550	73.8	16.9	2.39	2.84	15.7	10.7
1200S300-97	29.6	1440	3.65	3.88	46.3	13.7	15.7	0.744	103	29.6	3.43	3.84	42.1	15.4
1400S162-68	15.9	745	0.903	0.966	13.4	7.02	12.1	0.109	67.8	15.9	0.852	0.961	13.4	10.9
1400S162-97	25.0	728	1.22	1.26	39.4	13.4	16.7	0.142	93.9	25.0	1.17	1.25	39.4	16.1
1400S200-68	17.8	962	1.39	1.52	13.4	7.02	13.4	0.206	75.6	17.8	1.31	1.51	13.4	12.3
1400S200-97	28.4	946	1.93	2.02	39.4	13.4	18.7	0.273	105	28.4	1.83	2.00	39.4	18.1
1400S250-68	18.0	1200	1.94	2.16	13.4	7.02	14.9	0.360	83.7	18.0	1.82	2.15	13.4	13.5
1400S250-97	30.5	1190	2.75	2.90	39.4	13.4	20.7	0.484	116	30.5	2.59	2.88	39.4	20.1
1400S300-68	18.6	1430	2.57	2.90	13.4	7.02	16.3	0.570	91.8	18.6	2.39	2.88	13.4	14.3
1400S300-97	32.4	1420	3.67	3.93	39.4	13.4	22.8	0.772	128	32.4	3.44	3.89	39.4	21.7

Joist Section Properties

Joist Designation	BEAM DISTORTIONAL BUCKLING PROPERTIES								
	M_{rx_Fv} (kN.m)	M_{rx_DB} (kN.m)	L_{cr} (mm)	$k_{\phi fe}$ (kN)	$\tilde{k}_{\phi fq}$ (mm^2)	$k_{\phi we}$ (kN)	$\tilde{k}_{\phi wq}$ (mm^2)	$k_{\phi min}$ (kN)	F_d (MPa)
600S162-43	2.45	2.17	392	0.680	3.22	0.638	0.734	0.666	334
600S162-54	4.58	3.88	346	1.41	5.04	1.31	1.16	2.00	439
600S162-68	5.64	5.25	305	3.00	7.93	2.76	1.86	1.70	587
600S162-97	7.68	7.68	250	9.74	15.8	8.87	3.83	0.00	950
600S200-43	2.83	2.47	517	0.643	3.54	0.600	0.431	0.751	313
600S200-54	5.31	4.39	458	1.32	5.56	1.21	0.684	2.22	406
600S200-68	6.56	5.93	404	2.77	8.78	2.50	1.10	2.25	533
600S200-97	8.98	8.98	331	8.80	17.6	7.74	2.27	0.00	831
800S162-43	3.67	2.94	422	0.523	2.78	0.515	1.47	1.09	245
800S162-54	6.89	5.26	373	1.09	4.35	1.08	2.31	2.90	325
800S162-68	8.51	7.23	329	2.32	6.83	2.31	3.67	3.36	441
800S162-97	11.7	11.5	270	7.56	13.5	7.72	7.48	0.666	729
800S200-43	4.20	3.36	556	0.493	3.06	0.471	0.869	1.01	245
800S200-54	7.89	5.99	492	1.02	4.81	0.963	1.38	2.73	320
800S200-68	9.77	8.19	434	2.14	7.59	2.01	2.20	3.30	424
800S200-97	13.5	13.0	357	6.85	15.2	6.40	4.51	1.75	672
800S250-43	4.77	3.54	634	0.486	4.08	0.457	0.675	1.45	198
800S250-54	8.96	6.27	562	1.00	6.42	0.928	1.07	3.77	257
800S250-68	11.1	8.62	496	2.10	10.2	1.92	1.71	5.01	339
800S250-97	15.4	13.8	408	6.69	20.5	5.99	3.51	5.56	529
1000S162-54	9.56	6.47	395	0.890	3.87	0.948	3.91	4.08	236
1000S162-68	11.8	9.03	349	1.90	6.05	2.07	6.18	5.34	325
1000S162-97	16.3	14.8	289	6.14	11.8	7.15	12.5	5.20	547
1000S200-54	10.8	7.47	521	0.829	4.29	0.819	2.35	3.41	248
1000S200-68	13.4	10.3	460	1.75	6.77	1.74	3.73	4.51	332
1000S200-97	18.6	16.8	379	5.62	13.5	5.66	7.61	4.78	535
1000S250-54	12.2	7.88	595	0.816	5.74	0.779	1.84	4.17	211
1000S250-68	15.1	10.9	525	1.72	9.07	1.63	2.92	5.78	279
1000S250-97	21.0	17.8	433	5.51	18.2	5.20	5.96	7.70	443
1000S300-54	13.5	8.12	661	0.807	7.42	0.755	1.50	5.22	175
1000S300-68	16.8	11.3	585	1.70	11.7	1.57	2.39	7.50	231
1000S300-97	23.4	18.5	482	5.42	23.7	4.92	4.88	11.4	362
1200S162-68	15.6	10.60	368	1.59	5.45	1.93	9.39	7.77	238
1200S162-97	21.6	17.8	306	5.10	10.5	6.82	18.8	10.4	407
1200S200-68	17.6	12.3	482	1.48	6.15	1.56	5.73	6.00	256
1200S200-97	24.3	20.3	398	4.76	12.2	5.23	11.6	8.13	420
1200S250-68	19.6	13.1	550	1.46	8.26	1.45	4.50	6.81	228
1200S250-97	27.2	21.7	454	4.69	16.5	4.72	9.13	10.1	366
1200S300-68	21.6	13.6	612	1.44	10.7	1.38	3.70	8.14	196
1200S300-97	30.1	22.6	506	4.62	21.5	4.40	7.50	13.1	311
1400S162-68	19.9	12.0	386	1.37	4.95	1.85	13.3	10.7	176
1400S162-97	27.5	20.5	325	4.28	9.34	6.61	26.4	16.3	304
1400S200-68	22.1	14.0	503	1.29	5.66	1.45	8.21	7.82	197
1400S200-97	30.8	23.6	417	4.11	11.1	4.95	16.5	12.0	328
1400S250-68	24.5	15.0	573	1.27	7.62	1.32	6.47	8.13	184
1400S250-97	34.1	25.3	474	4.07	15.2	4.41	13.0	13.0	300
1400S300-68	26.9	15.7	637	1.25	9.89	1.25	5.33	9.08	164
1400S300-97	37.5	26.5	527	4.03	19.8	4.06	10.8	15.2	264

Joist Section Properties

Joist Designation	COLUMN DISTORTIONAL BUCKLING PROPERTIES								
	P_{r_Fv} (kN)	P_{r_DB} (kN)	L_{cr} (mm)	$k_{\phi fe}$ (kN)	$\tilde{k}_{\phi fq}$ (mm^2)	$k_{\phi we}$ (kN)	$\tilde{k}_{\phi wq}$ (mm^2)	$k_{\phi min}$ (kN)	F_d (MPa)
600S162-43	52.5	31.5	433	0.474	2.63	0.367	3.55	3.63	136
600S162-54	99.0	54.9	383	0.994	4.12	0.725	5.71	9.05	175
600S162-68	123	77.3	337	2.14	6.50	1.45	9.30	13.7	227
600S162-97	172	129	275	7.13	13.0	4.21	19.9	24.6	345
600S200-43	57.8	37.8	572	0.443	2.89	0.367	2.04	2.75	164
600S200-54	109	66.0	507	0.917	4.54	0.725	3.26	6.91	210
600S200-68	136	92.3	447	1.94	7.18	1.45	5.29	10.3	272
600S200-97	190	152	366	6.28	14.4	4.21	11.20	17.6	409
800S162-43	63.1	26.7	466	0.368	2.28	0.275	7.29	6.27	67.2
800S162-54	119	46.3	411	0.777	3.57	0.544	11.7	15.4	86.4
800S162-68	149	66.1	362	1.68	5.63	1.09	19.1	24.3	112
800S162-97	208	114	296	5.69	11.2	3.15	40.8	48.1	170
800S200-43	68.4	34.0	615	0.341	2.50	0.275	4.18	4.21	92.2
800S200-54	129	59.0	544	0.710	3.93	0.544	6.70	10.4	118
800S200-68	161	83.7	480	1.51	6.22	1.09	10.9	16.1	152
800S200-97	226	142	393	4.95	12.5	3.15	23.0	30.8	228
800S250-43	73.7	36.8	702	0.336	3.34	0.275	3.21	4.12	93.3
800S250-54	139	64.0	622	0.696	5.25	0.544	5.14	10.1	119
800S250-68	174	90.8	549	1.48	8.31	1.09	8.31	15.6	154
800S250-97	244	155	451	4.80	16.8	3.15	17.5	29.6	232
1000S162-54	139	38.3	435	0.644	3.20	0.435	20.5	24.8	45.6
1000S162-68	174	55.2	383	1.40	5.04	0.869	33.3	39.8	59.2
1000S162-97	244	96.9	313	4.79	10.1	2.52	71.2	81.7	90.0
1000S200-54	149	50.6	576	0.583	3.52	0.435	11.7	15.6	66.9
1000S200-68	187	72.5	507	1.25	5.56	0.869	19.0	24.7	86.3
1000S200-97	262	125	416	4.13	11.2	2.52	40.2	49.7	129
1000S250-54	159	56.9	657	0.571	4.70	0.435	8.97	14.0	73.6
1000S250-68	199	81.4	580	1.22	7.44	0.869	14.5	22.0	95.1
1000S250-97	280	141	477	3.99	15.0	2.52	30.6	43.5	143
1000S300-54	169	61.1	731	0.563	6.06	0.435	7.24	13.6	75.0
1000S300-68	212	87.5	646	1.20	9.62	0.869	11.7	21.3	96.9
1000S300-97	298	152	532	3.90	19.4	2.52	24.6	41.8	146
1200S162-68	199	46.5	401	1.21	4.60	0.725	52.6	60.7	33.9
1200S162-97	280	82.6	327	4.17	9.18	2.10	112.	127	51.6
1200S200-68	212	62.2	531	1.07	5.08	0.725	29.9	36.5	51.3
1200S200-97	298	109	435	3.57	10.2	2.10	63.5	75.0	77.0
1200S250-68	225	71.5	607	1.04	6.79	0.725	22.9	30.7	59.5
1200S250-97	317	125	499	3.44	13.7	2.10	48.3	62.4	89.5
1200S300-68	237	78.7	676	1.02	8.78	0.725	18.4	28.1	64.2
1200S300-97	335	138	557	3.36	17.8	2.10	38.8	56.4	96.6
1400S162-68	225	39.7	416	1.07	4.26	0.621	77.3	87.6	20.8
1400S162-97	317	71.2	340	3.72	8.50	1.80	165.	185	31.8
1400S200-68	237	53.7	552	0.941	4.70	0.621	44.0	51.8	32.1
1400S200-97	335	95.0	452	3.16	9.45	1.80	93.3	108	48.3
1400S250-68	250	62.6	631	0.915	6.28	0.621	33.7	42.2	38.4
1400S250-97	353	111	519	3.04	12.7	1.80	71.0	86.8	57.9
1400S300-68	263	70.0	703	0.897	8.13	0.621	27.1	37.1	43.1
1400S300-97	371	124	579	2.97	16.4	1.80	57.0	75.7	64.9

Track Section Properties

Track Designation	DIMENSIONS			Weight	Yield	Area	x_{cg}	x_o	C_w	J	j
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	(kg/m)	F_y (MPa)	(E+03 mm^2)	(mm)	(mm)	(E+06 mm^6)	(mm^4)	(mm)
362T125-33	0.879	94	32	1.07	230	0.137	6.75	16.7	20.3	35.2	53.1
362T125-43	1.146	94	32	1.40	230	0.178	6.84	16.6	26.3	77.8	53.2
362T125-54	1.438	94	32	1.75	345	0.223	6.93	16.5	33.1	154	53.5
362T125-68	1.811	95	32	2.21	345	0.281	7.05	16.3	41.9	307	54.0
362T125-97	2.583	96	32	3.14	345	0.400	7.30	15.9	60.6	891	55.0
362T150-33	0.879	94	38	1.16	230	0.148	8.88	21.7	33.2	38.1	52.7
362T150-43	1.146	94	38	1.51	230	0.192	8.96	21.6	43.1	84.2	52.8
362T150-54	1.438	94	38	1.90	345	0.241	9.05	21.4	54.3	166	53.0
362T150-68	1.811	95	38	2.39	345	0.304	9.16	21.2	69.1	332	53.3
362T150-97	2.583	96	38	3.40	345	0.433	9.39	20.8	100	964	54.0
362T200-33	0.879	94	51	1.34	230	0.170	13.5	32.3	72.3	43.8	56.7
362T200-43	1.146	94	51	1.74	230	0.222	13.6	32.1	93.9	96.9	56.7
362T200-54	1.438	94	51	2.18	345	0.278	13.7	32.0	119	192	56.8
362T200-68	1.811	95	51	2.75	345	0.350	13.8	31.8	151	383	56.9
362T200-97	2.583	96	51	3.92	345	0.499	14.0	31.3	222	1110	57.2
400T125-33	0.879	104	32	1.14	230	0.145	6.39	16.0	25.4	37.3	59.6
400T125-43	1.146	103	32	1.48	230	0.189	6.47	15.9	32.8	82.6	59.8
400T125-54	1.438	104	32	1.86	345	0.237	6.57	15.8	41.3	163	60.2
400T125-68	1.811	104	32	2.34	345	0.298	6.69	15.6	52.2	326	60.8
400T125-97	2.583	105	32	3.34	345	0.425	6.95	15.2	75.1	945	62.0
400T150-33	0.879	104	38	1.23	230	0.156	8.43	20.9	41.5	40.2	58.0
400T150-43	1.146	103	38	1.60	230	0.203	8.51	20.7	53.8	89.0	58.0
400T150-54	1.438	104	38	2.00	345	0.255	8.60	20.6	67.8	176	58.3
400T150-68	1.811	104	38	2.52	345	0.321	8.71	20.4	86.0	351	58.7
400T150-97	2.583	105	38	3.59	345	0.458	8.96	20.0	124	1020	59.6
400T200-33	0.879	104	51	1.40	230	0.178	12.9	31.2	90.3	46.0	60.3
400T200-43	1.146	103	51	1.82	230	0.233	13.0	31.1	117	102	60.3
400T200-54	1.438	104	51	2.29	345	0.292	13.1	30.9	148	201	60.4
400T200-68	1.811	104	51	2.88	345	0.367	13.2	30.7	188	402	60.6
400T200-97	2.583	105	51	4.11	345	0.523	13.4	30.3	275	1160	61.1

Track Designation	r_x (mm)	r_y (mm)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (E+03 mm^3)	M_{rx} (kN.m)	L_u (mm)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
362T125-33	36.5	9.58	0.182	0.0125	3.81	0.584	653	5.82	0.158
362T125-43	36.6	9.53	0.238	0.0162	4.95	0.822	654	9.89	0.219
362T125-54	36.7	9.48	0.301	0.0201	6.20	1.59	531	19.2	0.279
362T125-68	36.9	9.41	0.383	0.0249	7.79	2.17	534	26.8	0.375
362T125-97	37.4	9.26	0.559	0.0343	11.1	3.43	543	37.7	0.559
362T150-33	37.5	11.9	0.207	0.0208	4.33	0.605	785	5.82	0.170
362T150-43	37.5	11.8	0.271	0.0268	5.63	0.856	787	9.89	0.236
362T150-54	37.7	11.8	0.343	0.0333	7.06	1.65	639	19.2	0.302
362T150-68	37.9	11.7	0.437	0.0415	8.88	2.28	643	26.8	0.409
362T150-97	38.4	11.5	0.639	0.0576	12.6	3.73	655	37.7	0.639
362T200-33	38.9	16.4	0.258	0.0456	5.38	0.638	1040	5.82	0.191
362T200-43	39.0	16.3	0.336	0.0591	6.99	0.907	1040	9.89	0.266
362T200-54	39.2	16.3	0.426	0.0736	8.78	1.76	849	19.2	0.341
362T200-68	39.4	16.2	0.544	0.0919	11.1	2.44	855	26.8	0.466
362T200-97	40.0	16.1	0.798	0.129	15.8	4.08	870	37.7	0.756
400T125-33	39.7	9.42	0.228	0.0129	4.34	0.674	650	5.34	0.200
400T125-43	39.7	9.37	0.298	0.0166	5.64	0.945	651	9.89	0.275
400T125-54	39.9	9.31	0.376	0.0206	7.06	1.82	528	19.2	0.351
400T125-68	40.1	9.24	0.479	0.0255	8.87	2.48	530	29.6	0.469
400T125-97	40.5	9.10	0.697	0.0352	12.6	3.91	537	41.8	0.697
400T150-33	40.7	11.7	0.259	0.0213	4.92	0.699	784	5.34	0.214
400T150-43	40.7	11.6	0.338	0.0276	6.39	0.984	785	9.89	0.296
400T150-54	40.9	11.6	0.427	0.0342	8.01	1.90	637	19.2	0.378
400T150-68	41.1	11.5	0.544	0.0426	10.1	2.61	641	29.6	0.510
400T150-97	41.6	11.4	0.792	0.0591	14.3	4.23	650	41.8	0.792
400T200-33	42.3	16.2	0.320	0.0470	6.07	0.737	1040	5.34	0.239
400T200-43	42.4	16.2	0.417	0.0608	7.89	1.04	1040	9.89	0.333
400T200-54	42.5	16.1	0.528	0.0758	9.90	2.02	849	19.2	0.426
400T200-68	42.8	16.0	0.673	0.0946	12.5	2.79	854	29.6	0.579
400T200-97	43.4	15.9	0.984	0.132	17.8	4.63	867	41.8	0.933

CSSBI LIGHTWEIGHT STEEL FRAMING MANUFACTURER MEMBERS:

BAILEY METAL PRODUCTS EB METAL IMPERIAL MANUFACTURING GROUP STEELFORM BUILDING PRODUCTS TREBOR BUILDING PRODUCTS LTD.

Track Section Properties

Track Designation	DIMENSIONS			Weight	Yield	Area	x_{cg}	x_o	C_w	J	j
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	(kg/m)	F_y (MPa)	(E+03 mm^2)	(mm)	(mm)	(E+06 mm^6)	(mm^4)	(mm)
600T125-33	0.879	154	32	1.49	230	0.190	4.99	13.1	63.8	48.8	107
600T125-43	1.146	154	32	1.94	230	0.247	5.08	13.0	82.4	108	108
600T125-54	1.438	155	32	2.43	345	0.310	5.19	12.9	103	214	109
600T125-68	1.811	155	32	3.06	345	0.390	5.33	12.8	130	427	110
600T125-97	2.583	156	32	4.37	345	0.556	5.62	12.5	184	1240	112
600T150-33	0.879	154	38	1.58	230	0.201	6.65	17.4	105	51.7	96.5
600T150-43	1.146	154	38	2.05	230	0.262	6.74	17.3	135	114	96.8
600T150-54	1.438	155	38	2.58	345	0.328	6.84	17.1	170	226	97.4
600T150-68	1.811	155	38	3.24	345	0.413	6.98	17.0	214	452	98.3
600T150-97	2.583	156	38	4.62	345	0.589	7.25	16.7	305	1310	100
600T200-33	0.879	154	51	1.75	230	0.223	10.4	26.6	227	57.4	87.4
600T200-43	1.146	154	51	2.28	230	0.291	10.5	26.5	295	127	87.5
600T200-54	1.438	155	51	2.86	345	0.365	10.6	26.4	371	251	87.9
600T200-68	1.811	155	51	3.60	345	0.459	10.7	26.2	469	502	88.4
600T200-97	2.583	156	51	5.14	345	0.655	11.0	25.8	674	1460	89.5
800T125-43	1.146	205	32	2.40	230	0.305	4.22	11.1	158	134	177
800T125-54	1.438	205	32	3.01	345	0.383	4.34	11.0	197	264	178
800T125-68	1.811	206	32	3.79	345	0.482	4.48	10.8	247	527	180
800T125-97	2.583	207	32	5.40	345	0.687	4.79	10.6	348	1530	183
800T150-43	1.146	205	38	2.51	230	0.320	5.62	14.8	261	140	153
800T150-54	1.438	205	38	3.15	345	0.401	5.73	14.7	326	276	154
800T150-68	1.811	206	38	3.97	345	0.505	5.87	14.6	410	552	155
800T150-97	2.583	207	38	5.65	345	0.720	6.16	14.3	581	1600	158
800T200-43	1.146	205	51	2.74	230	0.349	8.86	23.2	570	153	128
800T200-54	1.438	205	51	3.44	345	0.438	8.96	23.1	715	302	129
800T200-68	1.811	206	51	4.33	345	0.551	9.09	22.9	901	603	130
800T200-97	2.583	207	51	6.17	345	0.786	9.36	22.6	1290	1750	131

Track Designation	r_x (mm)	r_y (mm)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (mm^3)	M_{rx} (kN.m)	L_u (mm)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
600T125-33	56.0	8.61	0.594	0.0141	7.62	0.996	630	3.54	0.500
600T125-43	56.0	8.57	0.775	0.0181	9.90	1.55	629	7.82	0.715
600T125-54	56.1	8.52	0.976	0.0225	12.4	3.01	510	15.5	0.912
600T125-68	56.3	8.45	1.24	0.0279	15.6	4.36	509	30.4	1.21
600T125-97	56.6	8.32	1.78	0.0385	22.1	6.85	510	61.9	1.78
600T150-33	57.4	10.8	0.662	0.0236	8.48	1.02	768	3.54	0.527
600T150-43	57.4	10.8	0.862	0.0304	11.0	1.59	768	7.82	0.760
600T150-54	57.5	10.7	1.09	0.0378	13.8	3.10	623	15.5	0.970
600T150-68	57.7	10.7	1.38	0.0470	17.4	4.53	623	30.4	1.30
600T150-97	58.1	10.5	1.99	0.0652	24.6	7.34	625	61.9	1.99
600T200-33	59.7	15.3	0.796	0.0526	10.2	1.12	1040	3.54	0.623
600T200-43	59.8	15.3	1.04	0.0680	13.3	1.89	1040	7.82	0.857
600T200-54	59.9	15.2	1.31	0.0847	16.6	3.65	844	15.5	1.09
600T200-68	60.1	15.2	1.66	0.106	20.9	4.94	845	30.4	1.46
600T200-97	60.6	15.0	2.40	0.148	29.8	7.97	850	61.9	2.29
800T125-43	71.7	7.91	1.57	0.0191	15.1	2.15	605	5.85	1.39
800T125-54	71.8	7.86	1.98	0.0237	19.0	4.19	490	11.6	1.77
800T125-68	71.9	7.80	2.50	0.0294	23.8	6.18	489	23.2	2.43
800T125-97	72.2	7.68	3.59	0.0405	33.8	10.5	487	61.9	3.59
800T150-43	73.4	10.0	1.72	0.0322	16.6	2.20	745	5.85	1.46
800T150-54	73.5	9.99	2.17	0.0400	20.8	4.29	604	11.6	1.87
800T150-68	73.7	9.92	2.74	0.0498	26.2	6.38	603	23.2	2.58
800T150-97	74.0	9.79	3.95	0.0691	37.2	11.1	603	61.9	3.95
800T200-43	76.4	14.4	2.03	0.0728	19.6	2.27	1020	5.85	1.59
800T200-54	76.5	14.4	2.56	0.0907	24.6	4.43	830	11.6	2.03
800T200-68	76.7	14.3	3.24	0.113	30.9	6.66	830	23.2	2.83
800T200-97	77.1	14.2	4.67	0.158	44.0	11.9	831	61.9	4.48

Track Section Properties

Track Designation	DIMENSIONS			Weight	Yield	Area	x_{cg}	x_o	C_w	J	j
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	(kg/m)	F_y (MPa)	(E+03 mm^2)	(mm)	(mm)	(E+06 mm^6)	(mm^4)	(mm)
1000T125-54	1.438	256	32	3.58	345	0.456	3.76	9.6	326	314	268
1000T125-68	1.811	257	32	4.51	345	0.574	3.91	9.4	407	628	271
1000T125-97	2.583	258	32	6.43	345	0.819	4.23	9.2	570	1820	275
1000T150-54	1.438	256	38	3.72	345	0.474	4.96	12.9	541	327	228
1000T150-68	1.811	257	38	4.69	345	0.597	5.11	12.8	677	653	230
1000T150-97	2.583	258	38	6.68	345	0.852	5.41	12.6	955	1890	234
1000T200-54	1.438	256	51	4.01	345	0.511	7.78	20.5	1190	352	183
1000T200-68	1.811	257	51	5.05	345	0.643	7.92	20.4	1500	703	184
1000T200-97	2.583	258	51	7.20	345	0.917	8.21	20.1	2130	2040	187
1200T125-68	1.811	308	32	5.23	345	0.666	3.50	8.4	610	728	383
1200T125-97	2.583	309	32	7.46	345	0.950	3.82	8.2	852	2110	388
1200T150-68	1.811	308	38	5.41	345	0.689	4.55	11.4	1020	754	323
1200T150-97	2.583	309	38	7.71	345	0.983	4.86	11.2	1430	2190	327
1200T200-68	1.811	308	51	5.77	345	0.735	7.04	18.4	2260	804	252
1200T200-97	2.583	309	51	8.23	345	1.05	7.34	18.1	3210	2330	255
1400T125-68	1.811	358	32	5.95	345	0.758	3.18	7.5	856	829	515
1400T125-97	2.583	359	32	8.49	345	1.08	3.52	7.3	1190	2400	522
1400T150-68	1.811	358	38	6.13	345	0.781	4.12	10.3	1440	854	432
1400T150-97	2.583	359	38	8.74	345	1.11	4.44	10.1	2010	2480	438
1400T200-68	1.811	358	51	6.49	345	0.827	6.36	16.8	3210	904	332
1400T200-97	2.583	359	51	9.26	345	1.18	6.67	16.5	4530	2620	337

Track Designation	r_x (mm)	r_y (mm)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (E+03 mm^3)	M_{rx} (kN.m)	L_u (mm)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
1000T125-54	87.2	7.33	3.47	0.0245	26.8	5.36	471	9.25	2.97
1000T125-68	87.3	7.27	4.38	0.0304	33.6	8.00	469	18.5	4.10
1000T125-97	87.6	7.16	6.28	0.0420	47.7	14.0	466	54.0	6.28
1000T150-54	89.2	9.37	3.77	0.0416	29.1	5.48	585	9.25	3.11
1000T150-68	89.3	9.31	4.76	0.0517	36.6	8.24	583	18.5	4.33
1000T150-97	89.6	9.18	6.83	0.0718	51.9	14.8	581	54.0	6.83
1000T200-54	92.6	13.6	4.38	0.0950	33.8	5.64	813	9.25	3.34
1000T200-68	92.7	13.6	5.53	0.118	42.5	8.56	812	18.5	4.70
1000T200-97	93.1	13.4	7.94	0.166	60.4	15.7	811	54.0	7.65
1200T125-68	103	6.83	7.00	0.0311	45.0	9.83	451	15.4	6.29
1200T125-97	103	6.73	10.0	0.0430	63.9	17.5	447	44.9	9.81
1200T150-68	105	8.78	7.55	0.0531	48.6	10.1	564	15.4	6.60
1200T150-97	105	8.67	10.8	0.0738	68.9	18.4	561	44.9	10.6
1200T200-68	108	12.9	8.65	0.122	55.6	10.5	793	15.4	7.11
1200T200-97	109	12.8	12.4	0.171	79.1	19.4	791	44.9	11.7
1400T125-68	118	6.46	10.5	0.0317	58.0	11.6	434	13.2	9.00
1400T125-97	118	6.37	15.0	0.0438	82.2	21.0	430	38.4	14.2
1400T150-68	120	8.33	11.2	0.0542	62.1	12.0	546	13.2	9.41
1400T150-97	120	8.22	16.1	0.0753	88.1	22.0	543	38.4	15.3
1400T200-68	124	12.3	12.7	0.126	70.3	12.4	774	13.2	10.1
1400T200-97	124	12.2	18.2	0.175	99.9	23.2	771	38.4	16.8

Bridging Channel Section Properties

	DIMENSIONS										
Bridging Channel Designation	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Weight (kg/m)	Yield F_y (MPa)	Area (E+03 mm^2)	x_{cg} (mm)	x_o (mm)	C_w (E+06 mm^6)	J (mm^4)	j (mm)
75U50-54	1.438	19	13	0.441	230	0.0562	4.42	8.51	0.051	38.7	11.7
75U50-54	1.438	19	13	0.441	345	0.0562	4.42	8.51	0.051	38.7	11.7
150U50-43	1.146	38	13	0.532	230	0.0678	3.07	6.52	0.234	29.6	20.3
150U50-43	1.146	38	13	0.532	345	0.0678	3.07	6.52	0.234	29.6	20.3
150U50-54	1.438	38	13	0.656	230	0.0836	3.21	6.46	0.279	57.6	20.0
150U50-54	1.438	38	13	0.656	345	0.0836	3.21	6.46	0.279	57.6	20.0
150U75-54	1.438	38	19	0.800	230	0.102	5.48	11.6	0.868	70.2	21.1
150U75-54	1.438	38	19	0.800	345	0.102	5.48	11.6	0.868	70.2	21.1

Bridging Channel Designation	r_x (mm)	r_y (mm)	I_x (E+06 mm^4)	I_y (E+06 mm^4)	S_f (E+03 mm^3)	M_{rx} (kN.m)	L_u (mm)	Shear V_r (kN)	I_x defl. (E+06 mm^4)
75U50-54	7.34	3.96	0.00303	0.000883	0.318	0.0651	400	1.86	0.00303
75U50-54	7.34	3.96	0.00303	0.000883	0.318	0.0986	286	2.82	0.00303
150U50-43	14.1	3.73	0.0135	0.000943	0.707	0.145	280	4.03	0.0135
150U50-43	14.1	3.73	0.0135	0.000943	0.707	0.219	221	6.10	0.0135
150U50-54	13.9	3.69	0.0162	0.00114	0.852	0.174	294	4.85	0.0162
150U50-54	13.9	3.69	0.0162	0.00114	0.852	0.264	228	7.35	0.0162
150U75-54	14.8	5.95	0.0224	0.00361	1.17	0.240	437	4.85	0.0224
150U75-54	14.8	5.95	0.0224	0.00361	1.17	0.359	341	7.35	0.0224

Canadian Sheet Steel
Building Institute

•

652 Bishop Street North
Unit 2A
Cambridge, ON
N3H 4V6

•

Tel 519-650-1285
Fax 519-650-8081
www.cssbi.ca

•

CSSBI 58A-2011

CSSBI Lightweight Steel Framing Manufacturer Members:

Bailey Metal Products

EB Metal

Imperial Manufacturing Group

Steelform Building Products

Trebor Building Products Ltd.