

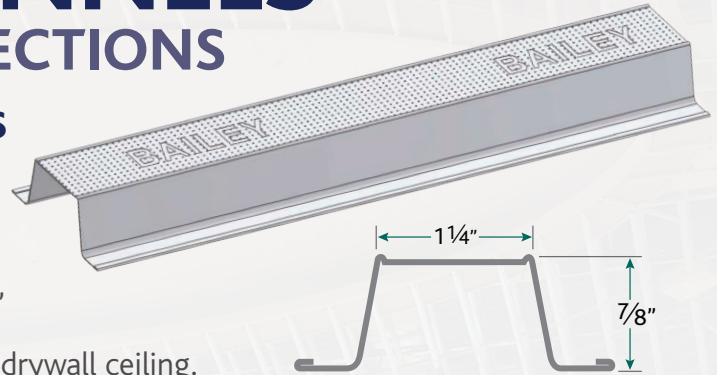


Technical Data Sheet

FURRING CHANNELS AND CUSTOM TOP HAT SECTIONS

D-1001 DRYWALL FURRING CHANNELS

Drywall Furring Channel is a hat-shaped framing accessory designed to “furr” out any surface for the application of the final finish (i.e. metal siding on steel studs, drywall on masonry, etc.). In addition, furring channel used in conjunction with cold rolled channel is the ideal system for the construction of a drywall ceiling.



DRYWALL FURRING CHANNEL ALLOWABLE UNIFORM LOADS – CEILINGS (LBS PER SQ. FT.)

The Bailey Drywall Furring Channel system has been fully engineered in .018, .033 and .043 thicknesses to the requirements of CAN/CSA S136-12.

Note: Allowable load tables and capacities apply to Bailey D-1001 Furring Channels only.

BAILEY FURRING CHANNEL ALLOWABLE UNIFORM LOADS – CEILINGS Maximum Specified Uniform Loads (psf)

ONE SPAN CONDITION (0.0188 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	50.0*	50.0*	37.5*	37.5*	25.0*	25.0*
3	23.7	15.8	17.8	11.9	11.9	7.91
4	10.0	6.68	7.51	5.01	5.01	3.34
5	5.13	3.42	3.85	2.56	2.56	1.71
6	2.97	1.98	2.23	1.48	1.48	0.99
7	1.87	1.25	1.40	0.93	0.93	0.62
8	1.25	0.83	0.94	0.63	0.63	0.42

TWO SPAN CONDITION (0.0188 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	48.5*	48.5*	36.4*	36.4*	24.3*	24.3*
3	23.8	23.8	17.8	17.8	11.9	11.9
4	13.4	13.4	10.0	10.0	6.69	6.69
5	8.56	8.21	6.42	6.15	4.28	4.10
6	5.94	4.75	4.46	3.56	2.97	2.37
7	4.37	2.99	3.28	2.24	2.18	1.50
8	3.01	2.00	2.25	1.50	1.50	1.00

THREE SPAN CONDITION (0.0188 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	55.1*	55.1*	41.3*	41.3*	27.6*	27.6*
3	29.7	29.7	22.3	22.3	14.9	14.9
4	16.7	12.6	12.5	9.47	8.36	6.31
5	9.69	6.46	7.27	4.85	4.85	3.23
6	5.61	3.74	4.21	2.80	2.80	1.87
7	3.53	2.35	2.65	1.77	1.77	1.18
8	2.37	1.58	1.77	1.18	1.18	0.79

ONE SPAN CONDITION (0.0346 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	104	96.5	77.7	72.4	51.8	48.3
3	42.9	28.6	32.2	21.5	21.5	14.3
4	18.1	12.1	13.6	9.05	9.05	6.03
5	9.27	6.18	6.95	4.63	4.63	3.09
6	5.36	3.58	4.02	2.68	2.68	1.79
7	3.38	2.25	2.53	1.69	1.69	1.13
8	2.26	1.51	1.70	1.13	1.13	0.75

TWO SPAN CONDITION (0.0346 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	104	104	77.7	77.7	51.8	51.8
3	46.0	46.0	34.5	34.5	23.0	23.0
4	25.9	25.9	19.4	19.4	12.9	12.9
5	16.6	14.8	12.4	11.1	8.28	7.41
6	11.5	8.58	8.63	6.44	5.75	4.29
7	8.10	5.40	6.08	4.05	4.05	2.70
8	5.43	3.62	4.07	2.71	2.71	1.81

THREE SPAN CONDITION (0.0346 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	129	129	97.1	97.1	64.7	64.7
3	57.5	54.1	43.1	40.5	28.8	27.0
4	32.4	22.8	24.3	17.1	16.2	11.4
5	17.5	11.7	13.1	8.76	8.76	5.84
6	10.1	6.76	7.60	5.07	5.07	3.38
7	6.38	4.26	4.79	3.19	3.19	2.13
8	4.28	2.85	3.21	2.14	2.14	1.43

ONE SPAN CONDITION (0.0451 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	132	124	98.6	93.2	65.8	62.1
3	55.2	36.8	41.4	27.6	27.6	18.4
4	23.3	15.5	17.5	11.7	11.7	7.77
5	11.9	7.95	8.95	5.96	5.96	3.98
6	6.90	4.60	5.18	3.45	3.45	2.30
7	4.35	2.90	3.26	2.17	2.17	1.45
8	2.91	1.94	2.18	1.46	1.46	0.97

TWO SPAN CONDITION (0.0451 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	132	132	98.6	98.6	65.8	65.8
3	58.5	58.5	43.8	43.8	29.2	29.2
4	32.9	32.9	24.7	24.7	16.4	16.4
5	21.0	19.1	15.8	14.3	10.5	9.54
6	14.6	11.0	11.0	8.28	7.31	5.52
7	10.4	6.96	7.82	5.22	5.22	3.48
8	6.99	4.66	5.24	3.49	3.49	2.33

THREE SPAN CONDITION (0.0451 in.)						
SPAN LENGTH (FT)	12" Spacing		16" Spacing		24" Spacing	
	L/240	L/360	L/240	L/360	L/240	L/360
2	164	164	123	123	82.2	82.2
3	73.1	69.6	54.8	52.2	36.5	34.8
4	41.1	29.4	30.8	22.0	20.6	14.7
5	22.5	15.0	16.9	11.3	11.3	7.51
6	13.1	8.70	9.78	6.52	6.52	4.35
7	8.22	5.48	6.16	4.11	4.11	2.74
8	5.50	3.67	4.13	2.75	2.75	1.83

* Controlled by web crippling with 0.75" bearing length.

Commentary and General Notes:

1. Loads are limited by deflection or stress (i.e. strength). 2. The unfactored strength load is derived by calculating the allowable factored load and dividing by the live load factor of 1.5. The strength checks include midspan moment, support moment and web crippling over the interior and exterior supports. 3. The furring channels are assumed to be fully braced. Lateral. 4. The furring channels are assumed to be adequately connected to other ceiling members. 5. Sheathing and sheathing fasteners are assumed to have adequate strength.

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FURRING CHANNEL SECTION PROPERTIES

STEEL THICKNESS (in.)	YIELD STRESS F _y (KSI)	MIDSPAN SECTION MODULUS S _m (in ³)	SUPPORT SECTION MODULUS S _s (in ³)	DEFLECTION INERTIA I _d (in ⁴)	END WEB CRIPPLING P _e (lbs)	INTERIOR WEB CRIPPLING P _i (lbs)
0.0188	33	0.0173	0.0162	0.00882	75.0	182
0.0346	33	0.0314	0.0314	0.0159	290	657
0.0451	33	0.0399	0.0399	0.0205	501	1134

Section Properties:

1. Section Properties conform to the requirements of CAN/CSA S136-12.
2. Deflection moment of inertia, I_d, was based on a stress of 0.6F_y.
3. Maximum specified web crippling values, P_e and P_i were based on a bearing length of 0.75 in.
4. Steel yield and thickness are assumed to conform to the requirements of CAN/CSA S136-12.

TOP HAT SECTIONS

Similar to D-1001 Drywall Furring Channel, Top Hat Sections are designed for areas where a wider face or a deeper section is required (roof purlins, etc.). Available in 20, 18, 16, and 14 gauge to enable construction over greater spans.

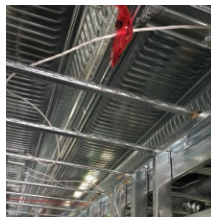
COLD ROLLED CHANNEL SECTION PROPERTIES TABLE ***Imperial & Metric

BRIDGING CHANNEL DESIGNATION	DIMENSIONS			PROPERTIES																
	THICKNESS t (in)	DEPTH A (in)	FLANGE B (in)	WEIGHT (lbs/ft)	YIELD F _y (ksi)	AREA (in ²)	X _{cp} (in)	X _p (in)	C _w (in ⁶)	J (in ⁴)	j (in)	r _x (in)	r _y (in)	I _x (in ⁴)	I _y (in ⁴)	S _t (in ³)	M _{rx} (in.kips)	L _m (in)	Shear V _t (in)	I _x defl. (in ⁴)
75U50-54	0.0566	0.750	0.50	0.297	33	0.0871	0.174	0.335	0.000189	0.0000931	0.461	0.289	0.156	0.00727	0.00212	0.0194	0.576	15.8	0.419	0.00727
75U50-54	0.0566	0.750	0.50	0.297	50	0.0871	0.174	0.335	0.000189	0.0000931	0.461	0.289	0.156	0.00727	0.00212	0.0194	0.873	11.2	0.634	0.00727
150U50-43	0.0451	1.500	0.50	0.357	33	0.1050	0.121	0.257	0.000870	0.0000712	0.799	0.555	0.147	0.03240	0.00227	0.0432	1.280	11.0	0.905	0.03240
150U50-43	0.0451	1.500	0.50	0.357	50	0.1050	0.121	0.257	0.000870	0.0000712	0.799	0.555	0.147	0.03240	0.00227	0.0432	1.940	8.7	1.370	0.03240
150U50-54	0.0566	1.500	0.50	0.441	33	0.1300	0.126	0.254	0.001040	0.0001380	0.787	0.549	0.145	0.03900	0.00274	0.0520	1.540	11.6	1.090	0.03900
150U50-54	0.0566	1.500	0.50	0.441	50	0.1300	0.126	0.254	0.001040	0.0001380	0.787	0.549	0.145	0.03900	0.00274	0.0520	2.340	9.0	1.650	0.03900
150U75-54	0.0566	1.500	0.75	0.537	33	0.1580	0.216	0.458	0.003230	0.0001690	0.831	0.583	0.234	0.05370	0.00866	0.0717	2.130	17.2	1.090	0.05370
150U75-54	0.0566	1.500	0.75	0.537	50	0.1580	0.216	0.458	0.003230	0.0001690	0.831	0.583	0.234	0.05370	0.00866	0.0717	3.170	13.4	1.650	0.05370

BRIDGING CHANNEL DESIGNATION	DIMENSIONS			PROPERTIES																
	THICKNESS t (mm)	DEPTH A (mm)	FLANGE B (mm)	WEIGHT (kg/m)	YIELD F _y (MPa)	AREA (E+03mm ²)	X _{cp} (mm)	X _p (mm)	C _w (E+06mm ⁴)	J (mm ⁴)	j (mm)	r _x (mm)	r _y (mm)	I _x (E+06mm ⁴)	I _y (E+06mm ⁴)	S _t (E+03mm ³)	M _{rx} (kN.m)	L _m (mm)	Shear V _t (kN)	I _x defl. (E+06mm ⁴)
75U50-54	1.438	19	13	0.441	230	0.0562	4.42	8.51	0.051	38.7	11.7	7.34	3.96	0.00303	0.000883	0.318	0.0651	400	1.86	0.00303
75U50-54	1.438	19	13	0.441	345	0.0562	4.42	8.51	0.051	38.7	11.7	7.34	3.96	0.00303	0.000883	0.318	0.0986	286	2.82	0.00303
150U50-43	1.146	38	13	0.532	230	0.0678	3.07	6.52	0.234	29.6	20.3	14.10	3.73	0.01350	0.000943	0.707	0.1450	280	4.03	0.01350
150U50-43	1.146	38	13	0.532	345	0.0678	3.07	6.52	0.234	29.6	20.3	14.10	3.73	0.01350	0.000943	0.707	0.2190	221	6.10	0.01350
150U50-54	1.438	38	13	0.656	230	0.0836	3.21	6.46	0.279	57.6	20.0	13.90	3.69	0.01620	0.001140	0.852	0.1740	294	4.85	0.01620
150U50-54	1.438	38	13	0.656	345	0.0836	3.21	6.46	0.279	57.6	20.0	13.90	3.69	0.01620	0.001140	0.852	0.2640	228	7.35	0.01620
150U75-54	1.438	38	19	0.800	230	0.1020	5.48	11.60	0.868	70.2	21.1	14.80	5.95	0.02240	0.003610	1.170	0.2400	437	4.85	0.02240
150U75-54	1.438	38	19	0.800	345	0.1020	5.48	11.60	0.868	70.2	21.1	14.80	5.95	0.02240	0.003610	1.170	0.3590	341	7.35	0.02240

Notes:

1. Structural properties are computed in accordance with CSA standard S136-12, North American Specification for the design of Cold-Formed Steel Structural Members.
2. Steel shall meet the requirements S136-12 with a minimum yield strength of 33 ksi for design thicknesses less than or equal to 0.0451" and 50 ksi for design thicknesses greater than or equal to 0.0566".
3. Section properties are computed on the basis of the design thickness shown in the tables. Design thicknesses are exclusive of coating.
4. The maximum unbraced length, L_m, 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_x and C_b are set equal to one.
5. The deflection inertia, I_x, 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.
6. For bridging channels the actual outside to outside depth is the depth given in the tables.
7. The factored moment resistance, M_{rx}, is derived using effective section properties with the cold work of forming conservatively neglected. Factored shear and moment re-sistances, V_t and M_{rx}, include a 0.8 and 0.9 resistance factor respectively.



SUSPENSION WIRE – ALLOWABLE LOAD TABLE

WIRE GAUGE	NOMINAL DIAMETER (in)	SPECIFIED UNFACTORED LOAD (lbs)
#12	0.104	190
#9	0.144	372
3/16"	0.188	638
1/4"	0.250	1145

Notes:

- The calculated load capacities listed above have been engineered in conformance with the requirements of CAN/CSA S136, Cold Formed Structural Members based on the following assumptions:
1. F_y = 40 ksi.
 2. Steel conforms to the requirements of CAN/CSA S136.
 3. Nominal diameters are measured over the galvanizing.
 4. The maximum diameters are measured over the galvanizing.
 5. All loads are gravity live loads.
 6. Load capacities do not account for the weakening effect of bends.



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