

Metal Framing – ZI14-158

1 5/8" x 1 5/8" Channel

Standard finish is Pre-Galvanized (PG).

Green Painted (GN) is made to order.

Metal thickness is 14 gauge (0.075").

ELEMENTS OF SECTION

CATALOG NUMBER	STOCK NUMBER	PUNCH	LENGTH	WEIGHT	AREA OF SECTION	AXIS X-X			AXIS Y-Y			BUNDLE QTY
						I (in. ⁴)	S (in. ³)	R (in.)	I (in. ⁴)	S (in. ³)	R (in.)	
ZI14-158	5203310000	Solid	10	1.30	0.398	0.142	0.155	0.597	0.177	0.215	0.655	500
	5203010000	HS		1.28								500
	5203210000	FS		1.29								500
	—	P		—								—
ZI14-158 BTB	5203110000	HS/BTB*	10	2.56	0.796	0.685	0.421	0.927	0.354	0.430	0.655	250
ZI14-158	5203320000	Solid	20	1.30	0.398	0.142	0.155	0.597	0.177	0.215	0.655	500
	5203020000	HS		1.28								500
	5203220000	FS		1.29								500
	—	P		—								—
ZI14-158 BTB	5203120000	HS/BTB*	20	2.56	0.796	0.685	0.421	0.927	0.354	0.430	0.655	300

I: Moment of inertia

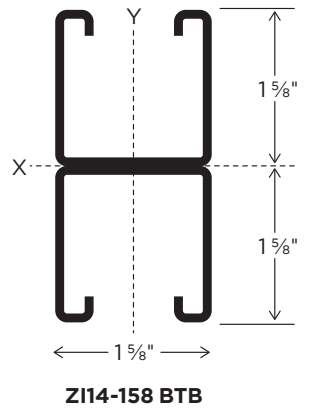
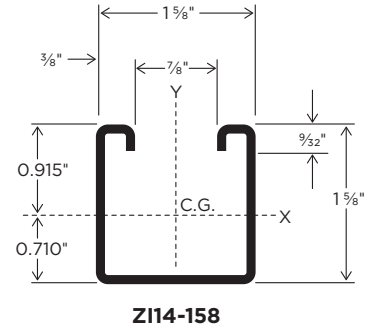
S: Section modulus

R: Radius of gyration

*BTB is welded back to back

BEAM AND COLUMN LOADS DATA

CATALOG NUMBER	BEAM SPAN OR UNBRACED COLUMN HEIGHT	UNIFORM LOAD AT STRESS OF 25,000 PSI	DEFLECTION AT STRESS OF 25,000 PSI	UNIFORM LOAD WHEN MAXIMUM DEFLECTION = SPAN/240	MAXIMUM ALLOWABLE LOAD OF COLUMN
	in.	lbs.	in.	lbs.	lbs.
ZI14-158	18	1850	0.034	1850	7500
	24	1360	0.059	1360	6790
	30	1050	0.089	1050	6350
	36	900	0.133	900	6000
	42	760	0.178	760	5400
	48	660	0.230	572	4750
	60	535	0.365	366	4120
	72	445	0.525	254	3320
	84	375	0.702	186	2800
	96	333	0.931	143	2250
	120	260	1.420	91	1520
	ZI14-158 BTB	18	5000	0.019	5000
24		3700	0.033	3700	15000
30		2900	0.051	2900	14250
36		2400	0.073	2400	13950
42		2100	0.102	2100	13500
48		1800	0.130	1800	13100
60		1500	0.212	1500	12000
72		1220	0.298	1220	10950
84		1050	0.407	900	9600
96		900	0.522	689	7550
120		725	0.849	441	4000

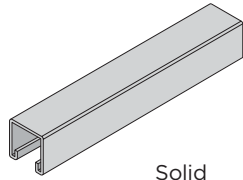


Beam Loads: Loads listed are uniformly distributed; for loads concentrated at center of span, multiply uniform load at table by 0.5 and multiply the deflection by 0.8. When deflection is not a factor, use stress of 25,000 psi. When deflection is a factor, use deflection of SPAN/240.

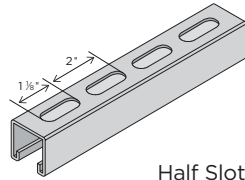
All weights and dimensions shown are subject to commercial tolerances.

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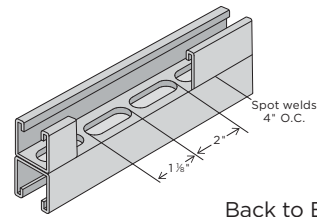
Punching Options



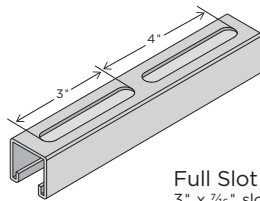
Solid



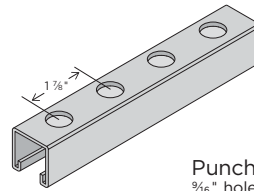
Half Slot (HS)
1 1/4" x 3/16" slots punched
on 2" centers



Back to Back (BTB)
Back to back channel with
standard half-slots



Full Slot (FS)
3" x 3/16" slots punched
on 4" centers



Punch (P)
3/16" holes punched
on 1 1/4" centers

Material Specifications and Finishes

Carbon Steel— Structural grade steel sheet coil that has been melted and rolled at the steel mill to conform to ASTM A1011 SS GR 33 (Hot Rolled) and ASTM A653 SS GR 33 (Galvanized). These ASTM specifications require the mechanical properties to be a minimum of 33 ksi yield and 52 ksi tensile. Additionally, the mechanical properties of the incoming steel are further increased in the actual rollforming process. This is sometimes referred to as “work hardening.”

Stainless Steel— Chromium–nickel austenitic steel sheet coil that has been melted, rolled and annealed at the steel mill to conform to ASTM A240 Type 304. Generally, stainless steel has a higher yield and tensile than carbon steel produced to GR 33. The mechanical properties of the incoming steel (stainless) tend not to increase as much as carbon steel in the rollforming process. Strut produced from stainless steel offers superior protection in harsh and corrosive environments.

PL— Plain. Plain strut does not have any protective coating other than the residual mill oil and rolling lubricant that is applied in the rollforming process. Using bare strut in any application where it may be exposed to corrosion is not recommended.

PG— Pre-Galvanized, also known as Hot-Dip Mill Galvanized or Mill Galvanized, is produced at the steel mills. Coils of carbon steel weighing up to 40 tons are unwound and passed (continuously) through a vessel containing molten zinc. This vessel is commonly referred to as a “Galvanizing Pot” or “Zinc Pot.” The molten zinc alloys itself to the base metal (carbon steel) and is then cooled in a uniform manner and rewound back into a coil. The amount of zinc applied to the base metal used for manufacturing ZI-Strut meets all specifications of ASTM G90, which requires 0.9 oz. minimum per square foot of base metal. The nominal coating weight for G90 is 1.25 oz. per square foot. Prior to rewinding the pre-galvanized coil, a chromate coating (chem treat) and/or a light coating of rolling oil may be applied to prevent oxidation.

GN— Green Painted. Plain strut is thoroughly cleaned to remove all residual mill oils and rolling lubricants. The cleaned strut is then pre-treated with a phosphoric coating for additional corrosion resistance and improved paint adherence. From here, a high grade of polyester powder paint is electrostatically applied. The strut is then placed on an overhead conveyor and is cycled through a curing oven for 20 minutes at 400°F (204°C). Upon completion of this process, the paint is chemically bonded to the base steel.*

Note: Specifications subject to change without notice.

*Zekelman Industries reserves the right to substitute alternate paint systems that will be of equal or superior quality to the system described above.

SUBMITTAL INFORMATION

PROJECT: _____

CONTRACTOR: _____

DATE: _____

ENGINEER: _____

SPECIFICATION REFERENCE: _____

SYSTEM TYPE: _____

LOCATIONS: _____

COMMENTS: _____

ZI-031425