

Steel Stud, Track & Accessories

Jefferson
METAL PRODUCTS
INC

QUALITY PRODUCTS



ON TIME DELIVERY



ABOUT THIS BROCHURE

A structural analysis was carried out for the complete product line of Jefferson Metal Products Steel Stud and Track in accordance with CSA Standard CAN3-S136 Cold Formed Structural Members (Limits States Design) by D.C. McCloskey Engineering Ltd.

Tables listed in this brochure provide the physical and structural properties of all steel stud and track and list wind bearings stud maximum allowable height for each cross section. The technical data contained in this brochure is intended to be used as technical data for components only and does not replace the proper design and analysis by a qualified Architect or Professional Engineer of the entire building system.

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JEFFERSON METAL PRODUCTS INC. - STEEL STUD, TRACK & ACCESSORIES

Jefferson Metal Products Inc. is proud to offer a full line of engineer tested and approved Steel Stud, Track and Accessories for the construction industry in the Southwestern Ontario area. JMP has been a supplier of steel products for the construction and automotive industries for over thirty years, and is now producing one of the best quality Commercial and Lightweight Framing Systems found on today's market.

JMP welcomes custom orders. Cut your cost when ordering with Jefferson Metal Products with custom lengths and quantities. Only order what you need Save on labour cost with studs, pre-cut to the length you need right for the job. No cutting, no rework, no waste. All Steel Studs are made with pre-punched service knockouts which may also be processed to a custom pattern according to customer requirements. Accessories such as our carrying channel, bridging clips and slip clips are all kept in stock to meet all of your building needs as well as many stock stud and track items. Along with our logistics division on-site delivery is another service offered.

As innovators of quality steel products catering to many different applications and industries our customers can depend on a top quality product and service, delivered on time, every time. With state of the art equipment, prime raw materials, an elite logistics division, competitive pricing, all supported by an ISO 9000 Quality Management System, Jefferson Metal Products Inc. is your number one choice Steel Stud and Track Supplier.

THE JEFFERSON METAL PRODUCTS ADVANTAGE

Our goal at Jefferson Metal Products is customer satisfaction.

Let us handle your next project with

- Cut to Length Orders
- On-time Deliveries
- No Waste / No Rework
- Custom Quantities
- Packaged to Your Specs
- Cost Savings

GENERAL NOTES:

1 Wall Stud and Track Section Properties:

1.1. General Information and Analysis Criteria:

- .1 Structural properties are computed in accordance with CSA Standard CAN3 S136-M84 Cold Formed Steel Structural Members (Limit States Design).
- .2 Steel meets the requirements of ASTM A446 Standard Specification for Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality. Galvanized coating is to a minimum G90 (Z275), a 50% heavier coating than the G60 (Z180) recommended by the CSSBI Guide Specification for Lightweight Steel Framing S6-90. Minimum grades are:
 - Grade A, 33 ksi (228 MPa) minimum yield, for .048" material (18 gauge) and thinner.
 - Grade D, 50 ksi (345 MPa) minimum yield, for .060" material (16 gauge) and thicker.
- .3 Section properties are computed on the basis of the black metal thicknesses shown. The under-run in thickness permitted by ASTM A446 is not accounted for in the design calculations.
- .4 Weights per foot are based on uncoated, unperforated steel.
- .5 Moment and shear capacities have been reduced to account for the effects of the web perforations
- .6 Perforations are assumed to be spaced at a minimum of 24" on centre. The distance from the centerline of the last perforation to the end of the member is assumed to be 12" minimum for studs and 24" minimum for joists.
- .7 The increase in yield from the cold work of forming has been conservatively neglected in the calculations.

1.2. Wall Stud Section Properties:

- .1 The moment of inertia, I_x , is a fully effective inertia for checking serviceability only. The studs are fully effective at specified load levels.
- .2 Factored web crippling, P_r , assumes 1" of bearing.

1.3. Track Section Properties:

- .1 Factored moment, M_{rx} , assumes $F_c = F_y$ therefore CAN/CSA-S136 M84 Clause 6.4.2.3 is not checked.
- .2 The deflection inertia, I_x , includes the effects of local buckling at the stress level resulting from specified live loads only.

2. Wind Bearing Studs Maximum Allowable Height Table Sheathed and Unsheathed:

2.1 General:

- .1 The allowable heights are computed in accordance with the requirements of the National Building Code of Canada 1985 and CAN3-S136-M84 Cold Formed Steel Structural Members, Limit States Design.
- .2 Stud material, geometry and properties conform to the Wall Stud Section Properties Table and General Notes 2.1 to 2.2.
- .3 Asterisks indicated span lengths where the factored end reaction exceeds the factored web crippling resistance, P_r .
- .4 Design end connections for the applied wind shear. Where asterisks occur reduce the allowable span or design end connections that are not susceptible to web crippling.

2.2 Sheathed Allowable Heights:

- .1 The "Sheathed" allowable heights are limited by end shear or midspan moment. Sheathing providing full lateral support on both sides of the studs is assumed. The sheathing shall have adequate strength and rigidity to prevent the studs from buckling laterally and to resist the torsional component of loads not applied through the shear centre. Loads are assumed to be uniformly distributed.
- .2 Provide bridging at 5'-0" on centre, or less, in order to align members during erection and to provide the necessary structural integrity during construction as well as in the completed structure. Design the bridging to prevent stud rotation and translation about the minor axis.

2.3 Unsheathed Allowable Heights:

- .1 The "Unsheathed" allowable heights are limited by end shear or the interaction of longitudinal warping torsion and major axis flexural bending. Sheathing is not relied on to restrain the studs.

- .2 Lateral support is assumed to be provided by bridging conforming to the following schedule:

Unsheathed Allowable Height (Feet)	Number of Rows Equally Spaced Bridging
0.0 – 4.9	0
5.0 – 9.9	1
10.0 – 14.9	2
15.0 – 19.9	3

The number of bridging lines is determined using the Unsheathed Allowable Height even if the Deflection Allowance Height or the Web Crippling Allowable Height is less.

Design bridging for the accumulated torsion between bridging lines in accordance with CAN3-S136-M84.

- .3 Loads are uniformly distributed and are assumed to have a torsional eccentricity equal to the distance from the shear centre to the centerline of the flange.

2.4 L/360 Allowable Heights:

- .1 The "l/360" allowable heights are limited by deflection only. No strength criteria have been imposed.
- .2 Allowable heights for other deflection limits can be calculated by multiplying the L/360 allowable heights by the following factors:

Required Deflection Limit	Factor
L/1000	0.711
L/720	0.794
L/600	0.843
L/360	1.000
L/240	1.145
L/180	1.260

In no case shall the deflection allowable height exceed the strength allowable height either sheathed or unsheathed, whichever is applicable.

2.5 Stud Bridging:

- .1 For screwed applications, the standard bridging channels are 1/2" x 1-1/2" x 0.045" (18 gauge) and 1/2" x 1-1/2" x 0.057 (16 gauge).
- .2 Standard clips are 1-1/2" x 1-1/2" x 0.048 (18 gauge) x 3-1/8" long for 3-5/8" studs, 3-1/2" long for 4" studs, 5-1/2" long for 6" studs and 7-1/2" long for 8" studs.

 3. Symbols:

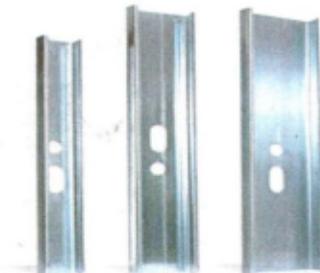
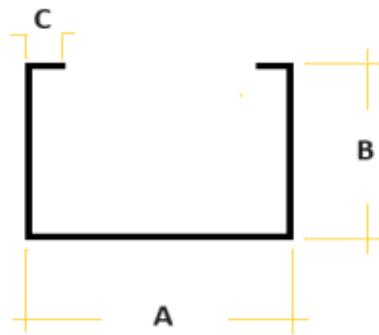
t	=	black metal thickness (in.)
A	=	out to out depth of stud or joist (in.)
B	=	inside depth of track (in.)
B1, B2=		out to out width of flange (in.)
C	=	out to out depth of lip stiffener (in.)
r	=	inside bend radius (in.)
D	=	height of rectangular perforation (in.)
D ¹	=	diameter of round perforation (in.)
E	=	length of rectangular perforation (in.)
X _{cg}	=	distance to centroid from back of web for the fully effective section (in.)
X _{sc}	=	distance from back of web to the shear centre (in.)
C _w	=	warping torsional constant (in. ⁶)
J	=	St. Venant torsional constant (in. ⁴)
I _x	=	moment of inertia about the major axis for deflection calculation in. ⁴)
I _y	=	fully effective moment of inertia about the minor axis for use in CAN3-S136-M84, Clause 6.4.2 ($I_{yc} \approx I_y/2$ in. ⁴)
r _x	=	fully effective radius of gyration about the major axis (in.)
r _y	=	fully effective radius of gyration about the minor axis (in.)
S _{xc}	=	fully effective moment of inertia about the minor axis for use in CAN3-S136-M84, Clause 6.4.2 (in. ³)
M _{rx}	=	fully braced factored moment resistance about the major axis (in.kips)
M _{ry}	=	fully braced factored moment resistance about the minor axis with the web in compression or with the lips in compression (in.kips)
V _r	=	factored shear resistance (kips)
P _r	=	factored web crippling resistance (kips)
F _c	=	compressive limit stress
F _y	=	tensile yield strength
ksi	=	kips per square inch
MPa	=	Mega Pascal
kip	=	1000 pounds



JEFFERSON METAL PRODUCTS INC.
MASTER PARTS LIST - STUD & TRACK
STUD AND TRACK SIZES

STUD

PART NO.	STUD WIDTH (A)	STUD LEGS (B)	Return Strengthener (C)	GAUGES
S1625-125	1.625"	1.250"	.200"	.021-.040
S2500-125	2.500"	1.250"	.200"	.021-.040
S3625-125	3.625"	1.250"	.200"	.021-.040
S3625-162	3.625"	1.625"	.375"	.021-.065
S3625-200	3.625"	2.000"	.375"	.021-.065
S6000-125	6.000"	1.250"	.200"	.021-.040
S6000-162	6.000"	1.625"	.375"	.021-.065
S6000-200	6.000"	2.000"	.375"	.021-.065
S8000-162	8.000"	1.625"	.375"	.021-.065
S8000-200	8.000"	2.000"	.375"	.021-.065



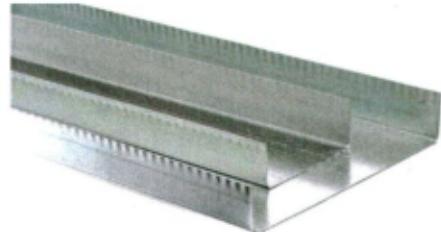
STUD

TRACK

PART NO.	TRACK WIDTH (A)	TRACK LEGS (B)	GAUGES
T1625-125	1.625"	1.250"	.021-.040
T2500-125	2.500"	1.250"	.021-.040
T3625-125	3.625"	1.250"	.021-.040
T3625-200	3.625"	2.000"	.021-.065
T6000-125	6.000"	1.250"	.021-.040
T6000-200	6.000"	2.000"	.021-.065
T8000-150	8.000"	1.500"	.042-.065
T8000-200	8.000"	2.000"	.042-.065

GAUGE CHART

GAUGE	MINIMUM	MAXIMUM
16GA / .060"	.053"	.067"
18GA / .048"	.042"	.054"
20GA / .036"	.033"	.040"
25GA / .021"	.018"	.026"



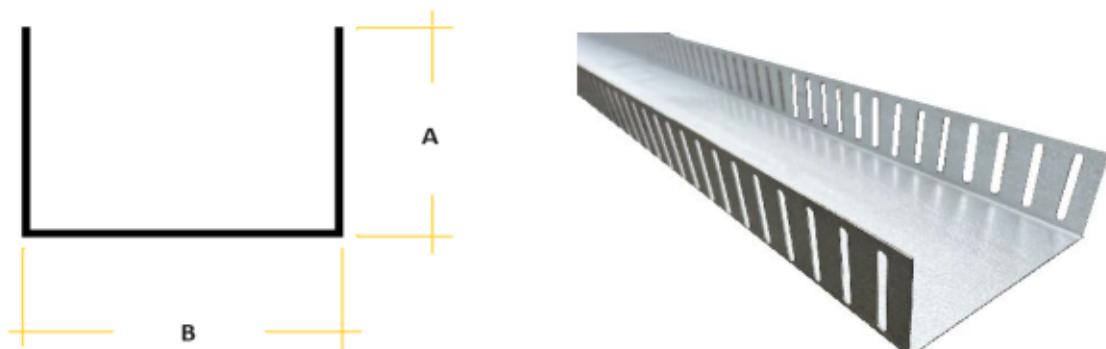
TRACK



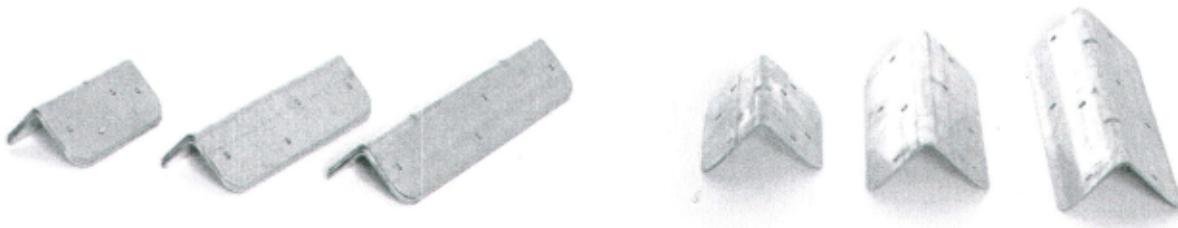
JEFFERSON METAL PRODUCTS INC.

MASTER PART LIST STUD & TRACK

LEGS (A)	WIDTH (B)	GA OPTIONS
AVAILABLE IN 2.5" & 3"	3 5/8" TRACK	16GA
		18GA
		20GA
		25GA
	6" TRACK	16 GA
		18 GA
		20 GA
	8" TRACK	16 GA
		18 GA
		20 GA
SLOT SIZE: 2" LEG - 2" x 0.25" / 3" LEG - 2.5" x 0.25"		

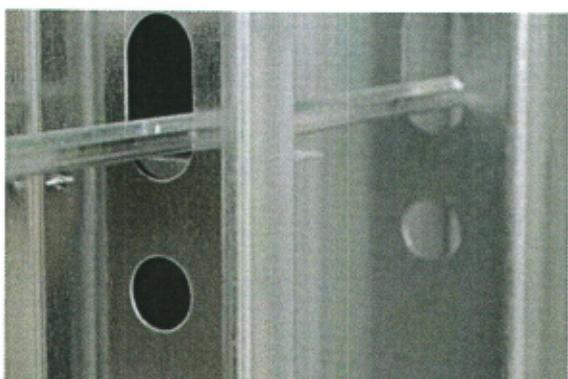


SLOT TRACK



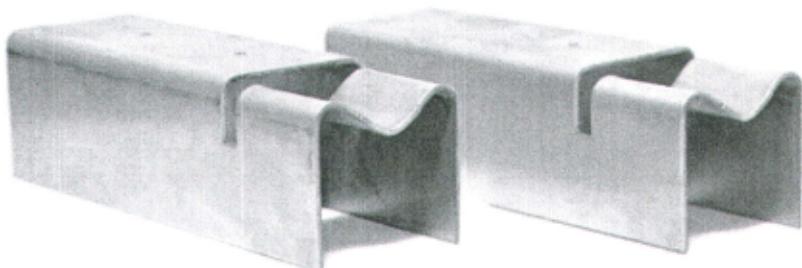
BRIDGING CLIPS

Bridging Clips are 18 gauge galvanized material with pre-punched mounting holes for easy installation. Bridging clips are available in lengths of 3.5", 5.5" and 7.5"



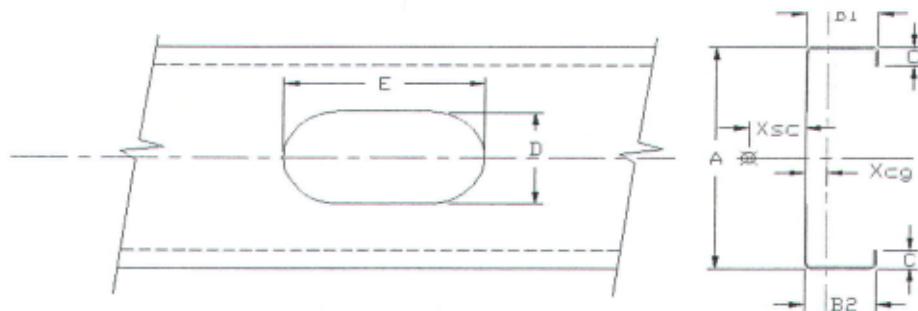
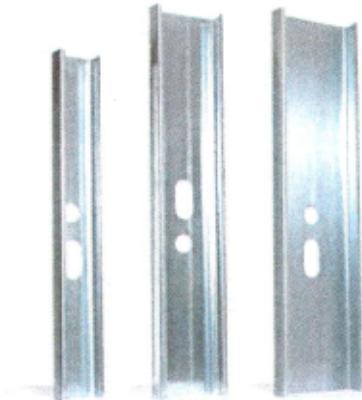
CARRYING CHANNEL

Carrying channels are available in 1.5" and .75" widths



SLIP CLIPS

Slip Clips are 18 gauge material with pre-punched holes for easy installation.



STUD GEOMETRY

STUD SECTION PROPERTIES TABLE

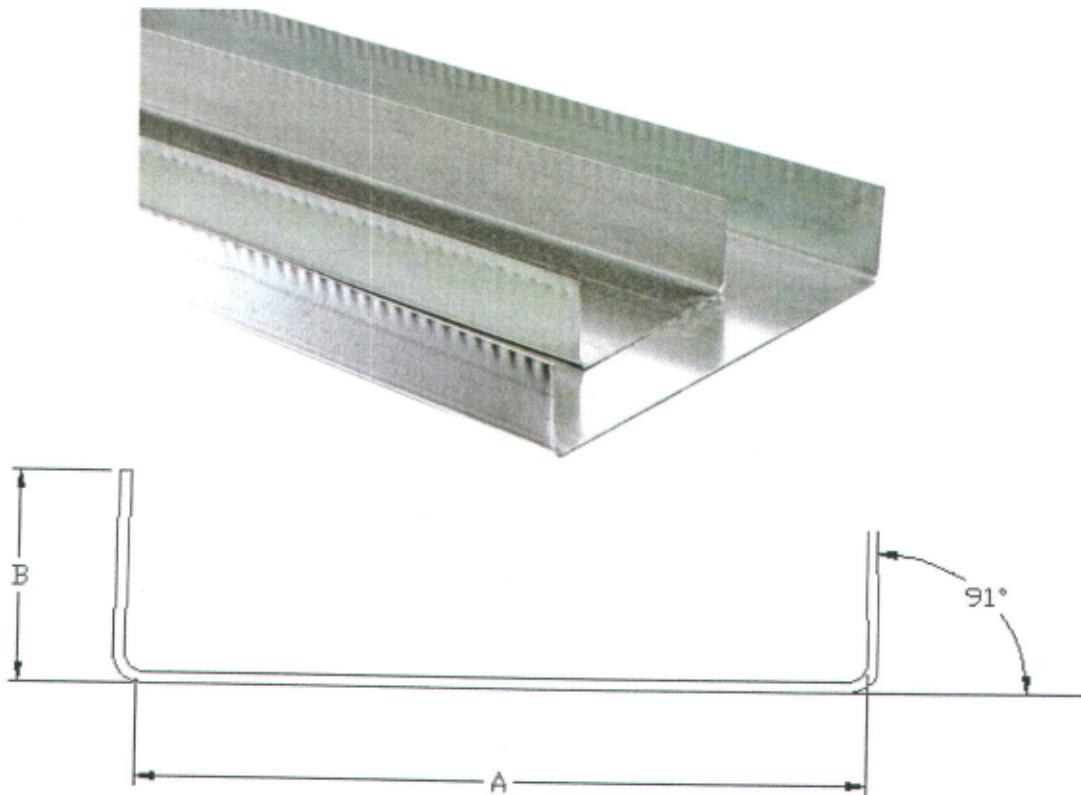
STUD NAME	DIMENSIONS								Perforated Properties			
	Thick	Depth	Fig	Fig	Lip	Rad	Perf	Perf	I _x	M _{rx}	M _{ry}	Shear
	t	A	B1	B2	C	r	D	E	(in)	(in-kip)	(in-kip)	(kips)
3.625 x 0.048	0.048	3.625	1.625	1.625	0.5	0.096	1.5	4.0	0.742	11.173	3.226	1.382
3.625 x 0.060	0.060	3.625	1.625	1.625	0.5	0.120	1.5	4.0	0.906	20.667	5.854	2.553
3.625 x 0.075	0.075	3.625	1.625	1.625	0.5	0.150	1.5	4.0	1.098	25.043	6.924	3.256
4 x 0.048	0.048	4.000	1.625	1.625	0.5	0.096	1.5	4.0	0.935	12.758	3.290	1.508
4 x 0.060	0.060	4.000	1.625	1.625	0.5	0.120	1.5	4.0	1.143	23.624	5.976	2.806
4 x 0.075	0.075	4.000	1.625	1.625	0.5	0.150	1.5	4.0	1.387	28.667	7.079	3.985
6 x 0.048	0.048	6.000	1.625	1.625	0.5	0.096	2.5	4.5	2.394	21.771	3.358	1.133
6 x 0.060	0.060	6.000	1.625	1.625	0.5	0.120	2.5	4.5	2.936	40.448	6.120	2.163
6 x 0.075	0.075	6.000	1.625	1.625	0.5	0.150	2.5	4.5	3.579	49.312	7.283	4.103
8 x 0.048	0.048	8.000	1.625	1.625	0.5	0.096	2.5	4.5	4.848	33.061	3.575	1.034
8 x 0.060	0.060	8.000	1.625	1.625	0.5	0.120	2.5	4.5	5.960	61.584	6.527	1.991
8 x 0.075	0.075	8.000	1.625	1.625	0.5	0.150	2.5	4.5	7.292	75.347	7.787	3.822

STUD SECTION PROPERTIES TABLE

STUD NAME	Unperforated Properties									
	Weight	Area	X _{cg}	X _{sc}	J	I _y	r _x	r _y	S _{xc}	Web Cripp
(lbs/ft)	(in ²)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in)	(in)	(in ³)	Pr.(kips)
3.625 x 0.048	1.221	0.359	0.536	0.782	0.00028	0.133	1.451	0.608	0.417	0.542
3.625 x 0.060	1.506	0.443	0.534	0.775	0.00053	0.160	1.444	0.601	0.509	1.063
3.625 x 0.075	1.851	0.544	0.532	0.768	0.00102	0.190	1.435	0.591	0.618	1.653
4 x 0.048	1.282	0.377	0.511	0.761	0.00029	0.137	1.587	0.603	0.474	0.533
4 x 0.060	1.583	0.465	0.510	0.754	0.00056	0.165	1.579	0.596	0.580	1.050
4 x 0.075	1.947	0.572	0.508	0.746	0.00107	0.197	1.569	0.586	0.704	1.637
6 x 0.048	1.609	0.473	0.412	0.666	0.00036	0.155	2.279	0.573	0.819	0.486
6 x 0.060	1.991	0.585	0.411	0.659	0.00070	0.187	2.270	0.565	1.005	0.978
6 x 0.075	2.457	0.722	0.410	0.650	0.00135	0.223	2.257	0.556	1.226	1.550
8 x 0.048	1.936	0.569	0.347	0.594	0.00044	0.167	2.938	0.542	1.228	0.439
8 x 0.060	2.399	0.705	0.346	0.586	0.00085	0.202	2.926	0.535	1.510	0.907
8 x 0.075	2.967	0.872	0.346	0.576	0.00164	0.240	2.911	0.525	1.848	1.463

Notes:

1. See General Notes.
2. Studs manufactured by Jefferson Metal Products



TRACK GEOMETRY

TRACK SECTION PROPERTIES TABLE

TRACK NAME	DIMENSIONS			Weight (lbs/ft)	Area (in^4)	I_x (in^4)	I_y (in^3)	S_{xc} (kips)	V_r (in-kip)	M_{rx} (in)	r_x (in)	r_y (in)	X_{cg} (in)	X_{sc} (in^6)	C_w (in^3)	J (in^3)
	Thick <i>t</i>	Depth <i>A</i>	Flg <i>B</i>													
	(in)	(in)	(in)													
3.625 x 0.048	0.048	3.645	1.180	0.971	0.285	0.570	0.035	0.313	2.87	8.526	1.413	0.350	0.252	0.357	0.081	0.00022
3.625 x 0.060	0.060	3.645	1.180	1.210	0.356	0.712	0.043	0.391	5.44	16.143	1.415	0.348	0.257	0.348	0.099	0.00043
3.625 x 0.075	0.075	3.645	1.180	1.508	0.443	0.889	0.053	0.488	7.23	20.168	1.417	0.346	0.263	0.338	0.120	0.00083
4 x 0.048	0.048	4.020	1.180	1.032	0.303	0.716	0.036	0.356	2.88	9.718	1.537	0.344	0.238	0.344	0.102	0.00023
4 x 0.060	0.060	4.020	1.180	1.287	0.378	0.894	0.044	0.445	5.48	18.392	1.538	0.342	0.243	0.335	0.125	0.00045
4 x 0.075	0.075	4.020	1.180	1.604	0.471	1.117	0.054	0.556	8.04	22.968	1.540	0.340	0.250	0.325	0.152	0.00088
6 x 0.048	0.048	6.020	1.180	1.359	0.399	1.888	0.039	0.627	2.27	17.108	2.174	0.313	0.187	0.287	0.263	0.00031
6 x 0.060	0.060	6.020	1.180	1.695	0.498	2.356	0.048	0.783	4.39	32.350	2.175	0.311	0.192	0.279	0.323	0.00060
6 x 0.075	0.075	6.020	1.180	2.114	0.621	2.939	0.059	0.976	8.49	40.355	2.175	0.309	0.198	0.268	0.394	0.00116
8 x 0.048	0.048	8.020	1.180	1.685	0.495	3.858	0.041	0.962	1.72	26.244	2.791	0.288	0.155	0.245	0.511	0.00038
8 x 0.060	0.060	8.020	1.180	2.103	0.618	4.814	0.051	1.200	3.33	49.615	2.791	0.287	0.161	0.237	0.628	0.00074
8 x 0.075	0.075	8.020	1.180	2.624	0.771	6.004	0.062	1.497	6.46	61.876	2.790	0.284	0.167	0.227	0.768	0.00145

Notes:

1. See General Notes.
2. Studs manufactured by Jefferson Metal Products

Wind Bearing Studs Maximum Allowable Height

MAXIMUM ALLOWABLE SINGLE SPAN HEIGHT IN FEET

SPECIFIED WIND LOAD (PSF)		25		30		35		40			
LSD FACTORED WIND LOAD (PSF)		37.5		45		52.5		60			
Stud Name	STRENGTH OR DEFLECTION	STUD SPACING (in)									
		12	16	24	12	16	24	12	16	24	12
3.5/8" WIND BEARING STEEL STUDS											
3.625 x 0.048	SHEATHED	14.09	12.21	9.97	12.87	11.14	9.1	11.91	10.32	8.42	11.14
	UNSHEATHED	13.61	11.76	9.54	12.41	10.71	8.68	11.47	9.89	8.01	10.71
	L/360	10.92	9.92	8.66	10.27	9.33	8.15	9.76	8.87	7.74	9.33
3.625 x 0.06	SHEATHED	19.17	16.6	13.55	17.5	15.15	12.37	16.2	14.03	11.46	15.15
	UNSHEATHED	18.04	15.59	12.69	16.45	14.22	11.56	15.21	13.14	10.68	14.22
	L/360	11.67	10.6	9.26	10.98	9.98	8.71	10.43	9.48	8.28	9.98
3.625 x 0.075	SHEATHED	21.1	18.27	14.92	19.26	16.68	13.62	17.83	15.44	12.61	16.68
	UNSHEATHED	19.22	16.62	13.53	17.53	15.15	12.33	16.21	14.01	11.39	15.15
	L/360	12.44	11.3	9.87	11.71	10.64	9.29	11.12	10.1	8.83	10.64
4" WIND BEARING STEEL STUDS											
4 x 0.048	SHEATHED	15.06	13.04	10.65	13.75	11.91	9.72	12.73	11.02	9	11.91
	UNSHEATHED	14.55	12.57	10.2	13.26	11.45	9.28	12.26	10.57	8.57	11.45
	L/360	11.78	10.7	9.35	11.08	10.07	8.79	10.53	9.56	8.35	10.07
4 x 0.06	SHEATHED	20.49	17.75	14.49	18.71	16.2	13.23	17.32	15	12.25	16.2
	UNSHEATHED	19.29	16.68	13.57	17.59	15.2	12.37	16.27	14.06	11.43	15.2
	L/360	12.59	11.44	9.99	11.85	10.76	9.4	11.25	10.23	8.93	10.76
4 x 0.075	SHEATHED	22.58	19.55	15.96	20.61	17.85	14.57	19.08	16.52	13.49	17.85
	UNSHEATHED	20.58	17.8	14.5	18.78	16.24	13.22	17.37	15.02	12.23	16.24
	L/360	13.43	12.2	10.66	12.64	11.48	10.03	12.01	10.91	9.53	11.48
6" WIND BEARING STEEL STUDS											
6 x 0.048	SHEATHED	19.67	17.04	13.91*	17.96	15.55	12.7*	16.63	14.4*	11.76*	15.55
	UNSHEATHED	18.69	16.04	12.85	16.97	14.53	11.59*	15.62	13.35	10.6*	14.53
	L/360	16.17	14.69	12.83	15.22	13.82	12.08*	14.45	13.13	11.47*	13.82
6 x 0.06	SHEATHED	26.82	23.22	18.96	24.48	21.2	17.31	22.66	19.63	16.03	21.2
	UNSHEATHED	25.01	21.55	17.42	22.76	19.6	15.8	21.01	18.07	14.54	19.6
	L/360	17.31	15.73	13.74	16.29	14.8	12.93	15.47	14.06	12.28	14.8
6 x 0.075	SHEATHED	29.61	25.64	20.94	27.03	23.41	19.11	25.02	21.67	17.69	23.41
	UNSHEATHED	26.94	23.29	18.94	24.56	21.23	17.26	22.72	19.62	15.94	21.23
	L/360	18.49	16.8	14.68	17.4	15.81	13.81	16.53	15.02	13.12	15.81
8" WIND BEARING STEEL STUDS											
8 x 0.048	SHEATHED	24.24*	21*	17.14*	22.13*	19.17*	15.65*	20.49*	17.74*	14.49*	19.17*
	UNSHEATHED	22.51	19.14*	15*	20.33*	17.21*	13.32*	18.61*	15.67*	11.94*	17.21*
	L/360	20.37	18.5*	16.17*	19.17	17.41*	15.21*	18.21*	16.54*	14.45*	17.41*
8 x 0.06	SHEATHED	33.09	28.66	23.4	30.21	26.16	21.36*	27.96	24.22	19.77*	26.16
	UNSHEATHED	30.49	26.17	20.95	27.68	23.7	18.89	25.49	21.77	17.26	23.7
	L/360	21.82	19.82	17.32	20.53	18.66	16.3	19.5	17.72	15.48	18.66
8 x 0.075	SHEATHED	36.6	31.7	25.88	33.41	28.93	23.62	30.93	26.79	21.87	28.93
	UNSHEATHED	33.16	28.62	23.22	30.21	26.06	21.11	27.92	24.06	19.46	26.06
	L/360	23.34	21.21	18.52	21.96	19.96	17.43	20.86	18.96	16.56	19.96

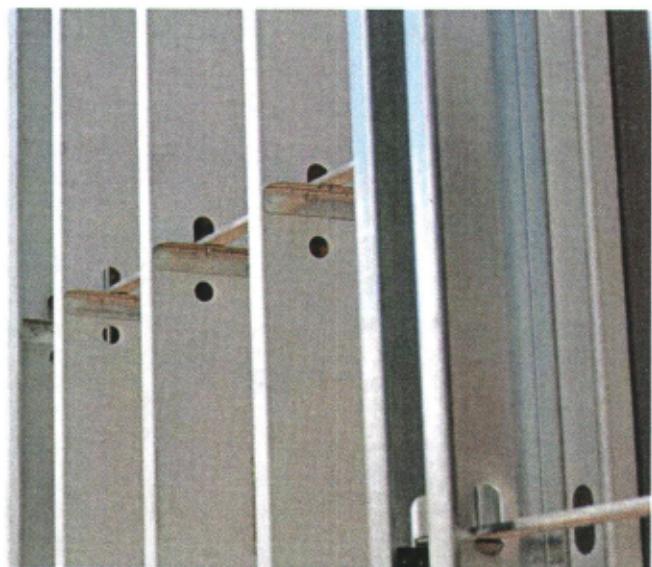
Notes:

1. See General Notes.
2. Sheathed allowable heights are limited by strength only with sheathing providing full lateral support on both sides of the studs is assumed.
Lateral support is to be provided by bridging conforming to General notes.
3. In no case shall the deflection allowable height exceed the sheathed allowable height.



Jefferson
METAL PRODUCTS
INC

Steel Stud, Track and Accessories



JEFFERSON METAL PRODUCTS INC.
STUD AND TRACK ORDER SHEET

CUSTOMER INFORMATION

CUSTOMER:	ORDER DATE:
P.O. NO. #:	DUE DATE:
SHIP TO:	
APPR. BY:	

ORDER DETAILS

# OF PCS.	GAUGE	WIDTH	LENGTH	STUD	TRACK	WEIGHT / LBS.	INITIAL INSP. COMP.

ACCESSORIES

PRODUCT TYPE	QUANTITY REQ.	PRODUCT TYPE	GAUGE	QUANTITY REQ.
CARRYING CHANNEL:		1" X 2" ANGLE		
SLIP CLIP:		2" X 2" ANGLE		
3.5" BRIDGE CLIP:				
6.5" BRIDGE CLIP:				
7.5" BRIDGE CLIP:				

DOC.NO.R-101 STUD/TRACK REV.NO.1 DATED 04/07/06

COPY & FAX THIS ORDER FORM TO (519) 948-5299