IRENE STEEL

QUALITY CONTROL MANUAL

Date Revised: 11/24/25

Effective Through: 12/31/26

MANUFACTURER

Address

City, State ZIP

Tel: (xxx) xxx-xxxx

Facility Manager: Name

AUTHORIZED REPRESENTATIVE

_____

Name, Title

_____

Date

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1.0 GENERAL

1.01 PURPOSE

The Quality Control System outlined in this document is intended for use by owners of Irene Steel roll formers in good standing and holding a current Certificate of Good Standing (see **Appendix I**) for maintaining quality control at their manufacturing locations including, but not limited to, assuring manufacturing consistency and maintenance of continued compliance of products covered. Implementation of the program is the responsibility of each individual manufacturer including but not limited to scheduling of inspections, training of operators, maintenance of documents, software/hardware required to implement program, & inspection fees.

1.02 SCOPE

A. PROFILES

See Irene Product Data v24.11.25 attached as **Appendix A** for profiles included in this program.

B. MACHINES

Machine manufacturing capabilities are as described below:

Irene by Knudson
Steel Thickness: 33 - 68mil
Web Depth: 3-⅝", 4", 6", 8"
Stud Flange Width: 1-⅝", 2", 2-½"
Track Flange Width: Up to 3"

The Irene
Steel Thickness: 18 - 54mil
Web Depth: 1-⅝" to 6"
Stud Flange Width: 1-¼" to 3"
Track Flange Width: ¾" to 3"

The Irene Pro
Steel Thickness: 33 - 68mil
Web Depth: 3-½" to 12"
Stud Flange Width: 1-¼" to 3-½"
Track Flange Width: ¾" to 3-½"

1.03 MANUFACTURER INFORMATION

Manufacturer/location's currently holding Certificate of Good Standing are as follows. Certificates are also posted on Irene Steel website.

COMPANY	MANUFACTURING LOCATION ADDRESS	IRENE MACHINES CERTIFIED	CONTACT (NAME, PHONE, & E-MAIL)
South Valley Prefab	11511 E. Caley Ave. Centennial, CO 80111	Irene by Knudson Irene Pro	Megan Washnieski 303-304-8344 megan.washnieski@soutvalley.net
South Valley Commercial	4901 Locust St. Commerce City, CO 80022	Irene	Duane Haynie 303-791-7212 duane.haynie@southvalley.net
Central Ceilings	36 Norfolk Ave. South Easton, MA 02375	Irene	Kevin Estano 508-238-6985 kestano@centralceilings.com
Falewitch Prefab	11608 Valley Ridge Dr. Papillion, NE 68046	Irene by Knudson Irene	Matt Falewitch 402-291-1000 mfalewitch@falewitch.com
Baker Triangle Prefab, Ltd	1301 Apollo Road Richardson, TX 75081	Irene by Knudson	Keith Giddens 214-729-1251 kgiddens@bakertriangle.com

1.04 PROGRAM REVISIONS

A. Irene Quality Control Director

Travis Vap
303-791-7212
tvap@southvalley.net

B. Program Review/Revisions

1. Program will be reviewed/updated the 4th quarter of each calendar year or additionally as deemed necessary by Irene Quality Control Director. Program revisions (if any) will be distributed to all program participants at the time of revision but in no case later than Jan 15th of each calendar year.
2. No revisions to this manual shall be made without approval of Irene Quality Control Director.
3. Irene Steel will inform ICC-ES of any significant changes to the quality system, operation, manufacturing, and administrative processes.

C. Record of Revisions

REVISION DATE	DESCRIPTION OF REVISIONS	APPROVED BY	PARTIES TO BE NOTIFIED
5/12/24	Current Document	Travis Vap	See table in section 1.02 of this document.
10/8/25	1.03 - Updated to match current manufacturer list 2.01.B - Removed allowance to mark members only once for prefab/kitting	Travis Vap	See table in section 1.02 of this document.
11/24/25	4.03.C – Updated to include micrometer and documentation of tool calibration. 5.0 – Added Packaging section. 6.0 – Added Customer Dispute section. Appendix K – Added Tool Log Appendix L - Added Customer Complaint Form Appendix M – Added Packaging Form	Travis Vap	See table in section 1.02 of this document

1.05 DEFINITIONS

Structural – A framing member that resists design loads [factored loads], as required by the applicable building code, except as defined as a nonstructural member (re: AISI S240-20)

Nonstructural – Member in a steel-framed system that is limited to a transverse (out-of-place) load of not more than 10 lb/ft^2 with exception of pressurized air plenums, ceilings and elevator shaft enclosures that are permitted to have a load of not more than 15 lb/ft^2; limited to a superimposed axial load , exclusive of sheathing materials, of not more than 100 lb/ft; limited to a superimposed axial load of not more than 200 lbs. (re: AISI S220-20)

1.06 REFERENCE DOCUMENTS

Irene Steel Product Date v24.11.25

AISI A200-20 - North American Standard for Cold-Formed Steel Nonstructural

AISI S240-20 - North American Standard Cold-Formed Steel Structural Framing

ASTM A1003/1003M - Standard Specification for Steel Sheet Carbon Metallic and Nonmetallic Coated for Cold-Formed Framing Members

ICC AC10 – Acceptance Criteria for Quality Documentation

ICC AC46 – Acceptance Criteria for Cold-Formed Steel Framing Members

ICC AC86 – Acceptance Criteria for Cold-Formed Steel Framing Members – Interior Nonload-Bearing Wall Assemblies

2.0 PRODUCT IDENTIFICATION & LABELING

2.01 MEMBER MARKINGS

A. Minimum Member Marking Contents

Member markings shall include the following at a minimum (ref. AISI S220-20, A5.5 & AISI S240-20, A5.5):

1. "IRENE STEEL BY"
2. Manufacturer's Name/Initials
3. Member Designator (see section 2.02)
4. Coil Material Type (see section 2.03A)
5. Coil Number (see section 2.03B)
6. ICC ES ESR-xxxx
7. (NS) denoting "Nonstructural" on 18mil and 30mil members

B. Member Marking Spacing

1. Markings shall be at a minimum of 96 in. o.c. for all members greater than 72" in length per AISI S220-20, A5.5.2 and AISI S240-20, A5.5.2.

C. Optional Markings

The following may be added as additional member markings for clarity of end users:

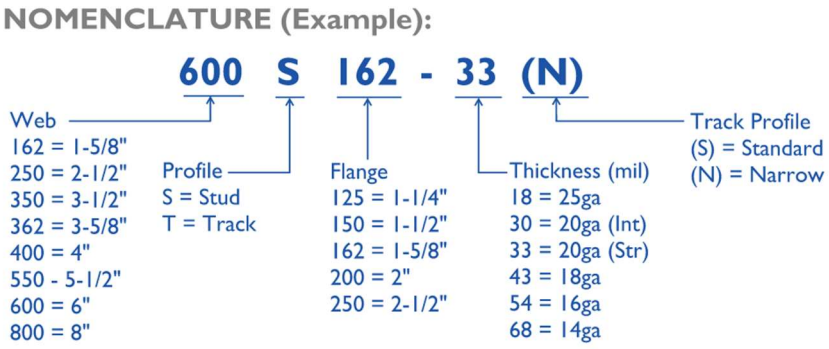
1. Length (in.)
2. Member type identify end use unique to manufacturer (i.e. EV = End stud)
3. Panel/package number unique to manufacturer (i.e. 02-003)

D. Example Marking

IRENE STEEL BY SVP 600S162-43 M4333G60-9.875 C-123456 ICC ES ESR-xxxx 120.000 in EV 02-003

2.02 MEMBER DESIGNATOR

Members should be identified as follows per AISI S220-20, A5.3 & AISI S240-20, A5.3:



2.03 COIL MATERIAL IDENTIFICATION

A. Coil Material Type

Coils shall have the following material code: Maabbccc-xx.xxx (i.e. M4333G60-9.875) where:
M = Constant material identifier
aa = Minimum steel thickness exclusive of protective coating (mils)
bb = Minimum yield strength (ksi)
ccc = Equivalent protective coating weight
xx.xxx = Nominal coil width (in.)

B. Coil Number

Each slit coil shall have a unique identifier as provided by coil supplier. Prefix of "C-" shall be added to coil number for clarity. (i.e. C-1234567)

3.0 COILS

3.01 MATERIAL PROPERTIES

Coils purchased shall possess material properties in compliance with ASTM A1003 - "Standard Specification for Steel Sheet Carbon Metallic and Nonmetallic Coated for Cold-Formed Framing Members". Specific material properties are as follows:

A. Material Type

1. Structural: Type H (high ductility)
   Structural Grade 33 [230] Type H (ST33H) [ST230H] or
   Structural Grade 50 [340] Type H (STH) [STH340H]
2. Nonstructural: NS
   Nonstructural Grade 33 [230] (NS33) [NS230] or
   Nonstructural Grade 40 [275] (NS20) [NS275] or
   Nonstructural Grade 50 [340] (NS50) [NS340] or
   Nonstructural Grade 57 [395] (NS57) [NS395] or
   Nonstructural Grade 60 [410] (NS60) [NS410] or
   Nonstructural Grade 65 [450] (NS65) [NS450] or
   Nonstructural Grade 70 [480] (NS70) [NS480] or
   Nonstructural Grade 80 [550] (NS80) [NS550]

B. Thickness:

1. Uncoated base metal thickness shall not be less than minimum base steel thicknesses listed below:

Designation (mils)	Gauge	Minimum Thickness (in.)	Design Thickness (in.)	Design Inside Corner Radii (in.)
18	25	0.0179	0.0188	0.0843
27	22	0.0269	0.0283	0.0796
30	20-INT	0.0296	0.0312	0.0781
33	20-STR	0.0329	0.0346	0.0764
43	18	0.0428	0.0451	0.0712
54	16	0.0538	0.0566	0.0849
68	14	0.0677	0.0713	0.1069

C. Yield Strength:

1. Yield strength shall not be less than 33ksi for coils with mil thickness designations less than or equal to nominal 43mil.
2. Yield strength shall be minimum 50 ksi for coils with mil thickness designations greater than or equal to nominal 54mil.

D. Coating Type & Weight

1. Structural - Minimum standard coating that complies with requirements of AISI S240, Table A4.1, extracted below:

Table A4-1
Coating Designations

Coating Classification	Coating Designator	Minimum Coating Requirements			
		Zinc Coated [A] oz/ft² (g/m²)	Zinc Iron [B] oz/ft² (g/m²)	55% Al-Zinc [C] oz/ft² (g/m²)	Zinc-5% [D] oz/ft² (g/m²)
Metallic Coated	CP 60	G60 [Z180]	A60 [ZF180]	AZ50 [AZM150]	GF30 [ZGF90]
	CP 90	G90 [Z275]	Not Applicable	AZ50 [AZM150]	GF45 [ZGF135]
Painted Metallic	PM	The metallic coated substrate shall meet the requirements of metallic coated. In addition, the paint film shall have a minimum thickness of 0.5 mil per side (primer plus topcoat) with a minimum primer thickness of 0.1 mil per side. [E]			

[A] Zinc-coated steel sheet as described in ASTM A653/A653M.
[B] Zinc-iron alloy-coated steel sheet as described in ASTM A653/A653M.
[C] 55% Aluminum-zinc alloy-coated steel sheet as described in ASTM A792/A792M.
[D] Zinc-5% aluminum alloy-coated steel sheet as described in ASTM A875/A875M.
[E] In accordance with the requirements of ASTM A1003/A1003M.

2. Nonstructural – Minimum standard coating that complies with table extracted below from ASTM A1003/A1003M.

TABLE 1 Coating Weight [Mass] Requirements (Metallic Coatings)

Product Designation	Coating Designation
Type NS	G40 [Z120][A] A40 [ZF120][B] AZ50 [AZM150][C] GF20 [ZGF60][D] T1–25 [T1M 75][E] T2–100 [T2M 300][E] 20Z/20Z [60G/60G][F] ZM20 [ZMM60][G]

[A] Zinc-coated steel sheet as described in Specifications A653/A653M, A1063/A1063M.
[B] Zinc-iron alloy-coated steel sheet as described in Specification A653/A653M.
[C] 55 % aluminum-zinc alloy-coated as described in Specification A792/A792M.
[D] Zinc-5 % aluminum alloy-coated steel sheet as described in Specification A875/A875M.
[E] Aluminum-coated Type 1 and Type 2 steel sheet as described in Specification A463/A463M.
[F] Zinc-coated steel sheet as described in Specification A879/A879M.
[G] Zinc-aluminum-magnesium alloy-coated as described in Specification A1046/A1046M.

3.02 COIL WIDTHS

Slit coils used to roll members shall be ordered per “Recommended Widths” provided in table included in **Appendix B** of this document.

3.03 COIL VERIFICATION

Incoming coils shall be verified as follows prior to being put into service. See **Appendix H** of this document for flow chart.

A. Slit Width Verification

Slit width to be verified that it is +/-1/16” of ordered width.

B. Coil Documentation

Each coil delivered shall be supplied with the following documents.

1. Coil Number
   a. Unique coil number or alphanumeric identifier shall be assigned to each individual slit coil. Each coil shall be clearly labeled as such upon receipt.
2. Packing Slip
   a. Packing slip shall be provided identifying individual slit coils and corresponding coil weight.
3. Coil Certification - Coil Certification can be one of the following:

a. Mill certificate and supporting documents clearly showing traceability from mill to master coil to slit coil delivered. Mill certificate needs to provide verification of the following:
   i. Material Type per ASTM A1003/A1003M (per item 2.03A)
   ii. Thickness (per item 2.03B)
   iii. Yield Strength (per item 2.03C)
   iv. Coating Type & Weight (per item 2.03D)
   v. Elongation – minimum of 10% in 2" (per ASTM A1003)
   vi. Ratio of Tensile Strength to Yield Strength – minimum of 1.08 (per A1003)

b. In the event that a mill certificate is not available, the following test results are acceptable per AC46 6.2.3. In addition, periodic measurements are required per AC46 6.4.
   i. Test results from independent laboratory showing F_y and F_u values that are a minimum of 10% more than specified.
   ii. Test results from in-house testing done with calibrated testing equipment showing F_y and F_u values that are a minimum of 10% more than specified.
   iii. Test results from testing done by SFIA or SSMA certified manufacturers in good standing with calibrated testing equipment showing F_y and F_u values that are a minimum of 10% more than specified.

3.04 COIL RELEASE FOR USE

A. Verified Coils

Once coils have been verified, as delineated in item 3.03 above, they can be released for service by the following procedure. (See **Appendix H** of this document for flow chart.)

1. Create traceability document for each individual slit coil that contains each of the items listed in 3.03.B above. (See **Appendix C** for example.) Records of all mill certificates, independent laboratory test and in-house tests shall be retained by the manufacturer for a minimum of (2) years.
2. Add coil to Irene Controller. Coil information added to machine should include:
   a. Coil number
   b. Starting coil weight/projected lineal feet of material
3. Create unique label for each individual slit coil containing the following and apply label to inside of face of coil:
   a. Unique coil number/identifier (i.e. "C-123456")
   b. Coil material code (i.e. M4333G60-9.875)
   c. Text "Released for Use"
   d. QR code with linked traceability document optional.



B. Unverified Coils

Coils which cannot be verified as prescribed in item 3.03 must be quarantined and tagged "Not for Use" until such time as they can be verified.



3.05 COIL STORAGE

Coils shall be stored in such a way that they are protected from the elements.

4.0 ROLLING PROCESS

4.01 PRIOR TO ROLLING

See **Appendix H** of this document for flow chart.

A. Coil Verification

Prior to loading coil into machine, confirm the following:

1. Coil label notes "Released for Use"
2. Coil label material (i.e. M4333G60-9.875) matches profile planning to be rolled (see **Appendix B** for suggested coil widths by profile)
3. If QR code is available on sticker, scan QR code and confirm material traceability document available and matches material code.
4. Once coil is on decoiler, confirm mill thickness by measuring with digital micrometer. Minimum thicknesses including coatings shall be per table below.

Designation (mils)	Gauge	Min. Base Metal Thickness (in.)	G40 Min. Coated Thickness (in.)	G60 Min. Coated Thickness (in.)	G90 Min. Coated Thickness (in.)
18	25	0.0179	0.0186	NA	NA
27	22	0.0269	0.0276	NA	NA
30	20-INT	0.0296	0.0303	NA	NA
33	20-STR	0.0329	NA	0.0339	0.0344
43	18	0.0428	NA	0.0438	0.0443
54	16	0.0538	NA	0.0548	0.0553
68	14	0.0677	NA	0.0687	0.0692

[1] Coated materials thickness assumes 0.00034 in. per side for G40, 0.00051 in. per side for G60, and 0.00076 in. per side for G90.

5. Document coil thickness verification. Acceptable documentation includes:
   a. Photo documentation that is dated and tied to each coil individually.
   b. Log denoting date, coil number, nominal mil thickness designation, min. coated thickness, actual coated thickness. See **Appendix D** for sample log.

B. Machine Verification

Prior to loading coil into machine, confirm the following:

1. Profile – Machine adjusted to profile and mil thickness required to be rolled
2. Coil – Coil number selected from controller.
3. Ink Jet String – Information contained in ink jet string complies with Field Identification requirements noted in section 2.04 above.
4. Job # - Enter job # as applicable.
5. Set pauses for QC checks if using The Irene or The Irene Pro.

4.02 QUALITY STANDARDS

A. Tolerances

1. Structural - Profiles shall be rolled to manufacturing tolerances below per AISI S240-20, Table 5-3 extracted below. Table Note 2 regarding web depths to be disregarded. All web depths provided in Irene product data are outside dimensions.

Table A5-3
Manufacturing Tolerances for Structural Members

Dimension[1]	Item Checked	C-shapes, in. (mm)	Tracks, in. (mm)
A	Length	+3/32 (2.38)	+ 1/2 (12.7)
		-3/32 (2.38)	-1/4 (6.35)
B[2]	Web Depth	+1/32 (0.79)	+1/32 (0.79)
		-1/32 (0.79)	+1/8 (3.18)
C	Flare	+1/16 (1.59)	+0 (0)
	Overbend	-1/16 (1.59)	-3/32 (2.38)
D	Hole Center Width	+1/16 (1.59)	NA
		-1/16 (1.59)	NA
E	Hole Center Length	+1/4 (6.35)	NA
		-1/4 (6.35)	NA
F	Crown	+1/16 (1.59)	+1/16 (1.59)
		-1/16 (1.59)	-1/16 (1.59)
G[3]	Camber	1/8 per 10 ft (3.13 per 3 m)	1/32 per ft (2.60 per m) 1/2 max (12.7)
H[3]	Bow	1/8 per 10 ft (3.13 per 3 m)	1/32 per ft (2.60 per m)
			1/2 max (12.7)
I	Twist	1/32 per ft (2.60 per m)	1/32 per ft (2.60 per m)
		1/2 max (12.7)	1/2 max (12.7)
J	Flange Width	+1/8 (3.18)	+1/4 (6.35)
		-1/16 (1.59)	-1/16 (1.59)
K	Stiffening Lip Length	+1/8 (3.18)	NA
		-1/32 (0.79)	

[1] All measurements are taken not less than 1 ft (305 mm) from the end.
[2] Outside dimension for *C-shape*; inside for *track*.
[3] 1/8 inch per 10 feet represents L/960 maximum for overall camber and bow. Thus, a 20-foot-long member has 1/4 inch permissible maximum; a 5-foot-long member has 1/16-inch permissible maximum.

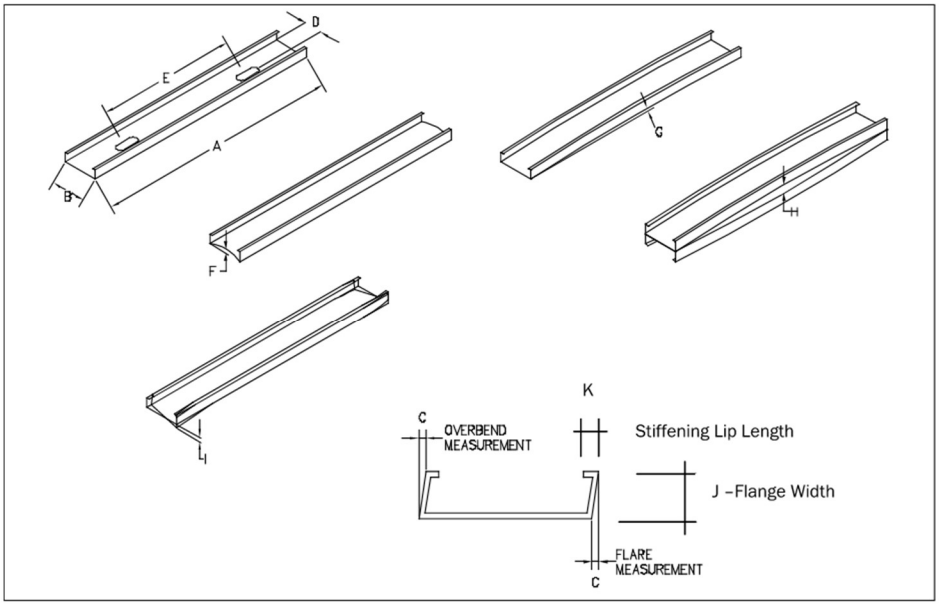


Figure A5-1 Manufacturing Tolerances for Structural Members

2. Nonstructural - Profiles shall be rolled to manufacturing tolerances below per AISI S220-20, Table 5-1 extracted below. Table Note 2 regarding web depths to be disregarded. All web depths provided in Irene product data are outside dimensions.

Table A5-1
Manufacturing Tolerances for Nonstructural Members

Dimension[1]	Item Checked	C-shapes, in. (mm)	Tracks, in. (mm)
A	Length	+1/8 (3.18)	+ 1(25.40)
		-1/4 (6.35)	-1/4 (6.35)
B[2]	Web Depth	+1/32 (0.79)	+1/8 (3.18)
		-1/32 (0.79)	-0 (0)
C	Flare	+1/16 (1.59)	+0 (0)
	Overbend	-1/16 (1.59)	-3/16 (4.76)
D	Hole Center Width	+1/8 (3.18)	NA
		-1/8 (3.18)	NA
E	Hole Center Length	+1/4 (6.35)	NA
		-1/4 (6.35)	NA
F	Crown	+1/8 (3.18)	+ 1/8 (3.18)
		-1/8 (3.18)	- 1/8 (3.18)
G	Camber	1/32 per ft (2.6 per m)	1/32 per ft (2.6 per m)
		1/2 max (12.7)	1/2 max (12.7)
H	Bow	1/32 per ft (2.6 per m)	1/32 per ft (2.6 per m)
		1/2 max (12.7)	1/2 max (12.7)
I	Twist	1/32 per ft (2.6 per m)	1/32 per ft (2.6 per m)
		1/2 max (12.7)	1/2 max (12.7)
J	Flange Width	+1/8 (3.18)	+1/2 (12.7)
		-1/16 (1.59)	-1/16 (1.59)
K	Stiffening Lip Length	+1/8 (3.18)	NA
		-1/32 (0.79)	

[1] All measurements shall be taken not less than 1 ft (305 mm) from the end.
[2] Outside dimension for *C-shape*; inside for *track*.

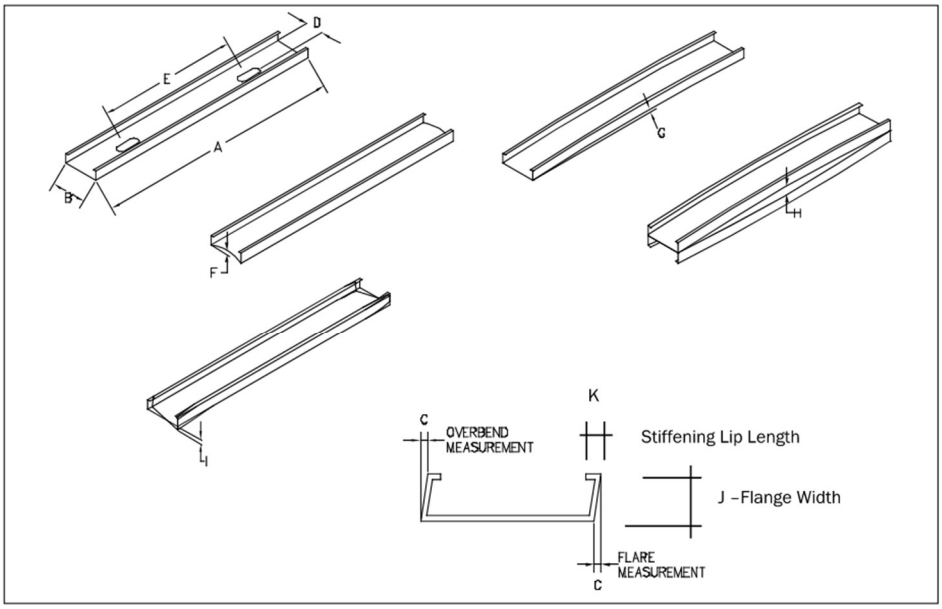


Figure A5-1 Manufacturing Tolerances for Nonstructural Members

4.03 QUALITY CHECKS DURING ROLLING

See **Appendix H** of this document for flow chart.

A. Quality Checks for Materials with Mill Certificate

1. Profile dimension quality checks are required to be performed at following increments:
    a. After 1st member rolled of each profile.
    b. After 10th member rolled of each profile.
    c. Every 100th piece there after.
2. Check profile dimensions comply with manufacturing tolerances noted in section 4.03.B below.
3. Document profile dimension verification. Acceptable documentation includes:
    a. Log denoting date measurements and compliance with prescribed tolerances. See **Appendix E** for sample log.
    b. Data entry in Irene Controller.

B. Quality Checks for Materials without Mill Certificate

Per AC46, 6.4, additional periodic measurements of coil thickness required for materials that do not have accompanying mill certificate. Measurements shall be performed and documented in accordance with item 4.01.A.4 of this document at the following intervals below.

1. Members (AC46, 6.4.2.1)
    a. Structural Studs & Tracks – one out of every (100) pieces
    b. Nonstructural Studs & Tracks – one out of every (250) pieces
2. Coils
    a. Structural – Every 800 lf (AC46, 6.4.2.2)
    b. Nonstructural – Every 2000 lf (AC46, 6.4.2.2)
    c. Any – Beginning, midpoint, and end of coil (AC46, 6.4.2.3)

C. Measurement Tools

The following tools are used for confirming tolerance conformance. See section 4.03D for specific use. Log of tools including corresponding certificates to be kept with Quality Control Manual. See **Appendix K** for sample log.

1. Tape Measure calibrated/certified with an ISO/IEC 17025 compliant laboratory
2. Digital Calipers calibrated/certified with an ISO/IEC 17025 compliant laboratory
3. Micrometer calibrated/certified with an ISO/IEC 17025 compliant laboratory
4. Combination square in good working order.
5. Guage blocks in good working order.

D. Dimensional Verifications Processes

The following are acceptable methods for verifying tolerances. Documentation required per item 4.03.A.3 of this document. All measurements are required to be taken a minimum of 1' from end of the member.

1. Dim A – Length
    a. Measure length of member with tape measure.
2. Dim B – Web Depth
    a. Measure web depth with digital calipers or tape measure if digital calipers does not expand enough.
    b. All members to be measured outside to outside.
3. Dim C – Flare/Overbend
    a. Measure with combination square and gauge block. Applicable gauge block for tolerance should not be able to fit between combination square and member. See **Appendix J** for example.
    b. Check required at each flange.
4. Dim D – Hole Center Width
    a. Measurements required on studs only.

b. Measurements taken with combination square. See **Appendix J** for recommendations of Hole Center combination square use.
c. Measurement to be verified from each side of stud.

5. Dim F – Crown
   a. Measurements taken using combination square to square across flange. See **Appendix J** for suggested measurement technique.
6. Dim G – Camber and Dim H - Bow
   a. Measurements required on members greater than 4' in length.
   b. To measure camber, lay member web down on flat surface. Use tape measure to measure largest gap. See **Appendix J** for tolerance tables.
   c. To measure camber, lay member flanges down on flat surface. Use tape measure to measure largest gap. See **Appendix J** for tolerance tables.
7. Dim J – Flange Width
   a. Measure flange width using digital calipers. See **Appendix J** for tolerance tables.
8. Dim K – Stiffening Lip Length
   a. Measure to stiffening lip length using digital calipers. See **Appendix J** for tolerance tables.

E. Product Nonconformance

In the event that steel does not pass the quality checks above, the steel shall be disposed of in area clearly marked for disposal or recycling.

5.0 PACKAGING

5.01 Packaging

A. Packaging

1. In the event that material is used by parties other than the manufacturer, manufacturer shall complete **Appendix M**, describing packaging procedures.

6.0 CUSTOMER COMPLAINTS

6.01 Customer Complaints

A. Complaint Process

1. In the event of a customer complaint, manufacturer shall complete complaint form included in **Appendix L**.
2. All forms shall include the following:
   a. Date of complaint.
   b. Clear description of complaint.
   c. Date of resolution.
   d. Clear description of resolution.
   e. Signature of plant manager confirming documentation and resolution of complaint.
3. Complaint forms shall be kept by Plant Manager.

7.0 INSPECTIONS

7.01 INTERNAL INSPECTIONS

A. Frequency

1. Internal inspections shall be completed by manufacturer's designated Quality Assurance Agent (see Organization Chart included as **Appendix G**) on a biannual basis.

B. Inspection Scope

1. Quality Assurance agent shall go through each step of the quality process specifically reviewing items below. Biannual Quality Assurance Process Verification Document included in **Appendix F** to be completed and kept on file for a minimum of (2) years.

a. Coil Certification
b. Pre-Rolling Process
c. In Process Rolling Quality Checks

7.02 ICC INSPECTIONS

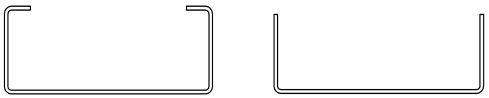
A. Frequency

1. Third party inspections shall be completed by inspector in compliance with ICC AC304 Annually.

IRENE STEEL

COLD-FORMED FRAMING PRODUCT DATA

PROFILES:



Stud Track

ASTM & CODE STANDARDS:

1. Members shall comply with manufacturing tolerances listed in Table A5-1 of AISI S220-20 for 18-30mil members.
2. Members shall comply with manufacturing tolerances listed in Table A5-3 of AISI S240-20 for 33-68mil members.
3. Reference AISI S100 for Design of Cold Formed Structural Steel Members.

GENERAL FRAMING NOTES:

1. Physical properties have been calculated in accordance with AISI S100.
2. CRC punches for 3-5/8" & wider members is 1.5" x 4" punch (see following page).
3. CRC punches for 1-5/8" & 2-1/2" members is 0.75" x 4" punch (see following page).

NOMENCLATURE (Example):

600 S 162 - 33 (N)

- **600** — Web
  - 162 = 1-5/8"
  - 250 = 2-1/2"
  - 350 = 3-1/2"
  - 362 = 3-5/8"
  - 400 = 4"
  - 550 - 5-1/2"
  - 600 = 6"
  - 800 = 8"
- **S** — Profile
  - S = Stud
  - T = Track
- **162** — Flange
  - 125 = 1-1/4"
  - 150 = 1-1/2"
  - 162 = 1-5/8"
  - 200 = 2"
  - 250 = 2-1/2"
- **33** — Thickness (mil)
  - 18 = 25ga
  - 30 = 20ga (Int)
  - 33 = 20ga (Str)
  - 43 = 18ga
  - 54 = 16ga
  - 68 = 14ga
- **(N)** — Track Profile
  - (S) = Standard
  - (N) = Narrow

THICKNESS IDENTIFICATION:

Designation (mils)	Gauge	Minimum Thickness (in.)	Design Thickness (in.)	Design Inside Corner Radii (in.)
18	25	0.0179	0.0188	0.0843
27	22	0.0269	0.0283	0.0796
30	20-INT	0.0296	0.0312	0.0781
33	20-STR	0.0329	0.0346	0.0764
43	18	0.0428	0.0451	0.0712
54	16	0.0538	0.0566	0.0849
68	14	0.0677	0.0713	0.1069

[1] Minimum thickness represents 95% of the design thickness (per AISI S100)
[2] Section properties calculated based on inside corner radii above (per AISI S220-20 for 18-30mil & AISI S240-20 for 33-68mil)

PROJECT: **APPROVAL:**

SUBMITTED TO:

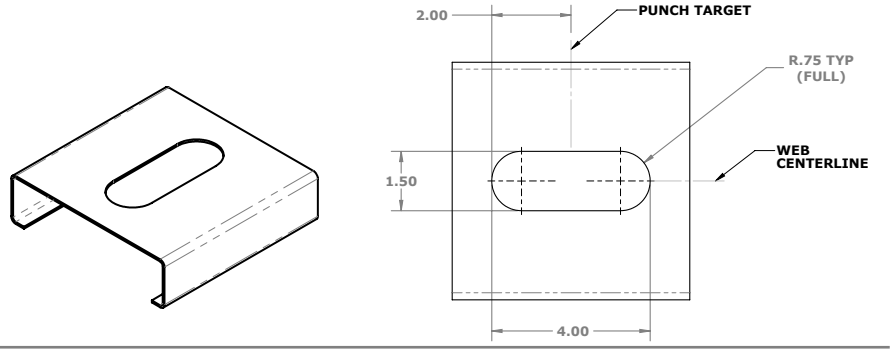
SUBMITTED BY:

DATE SUBMITTED:

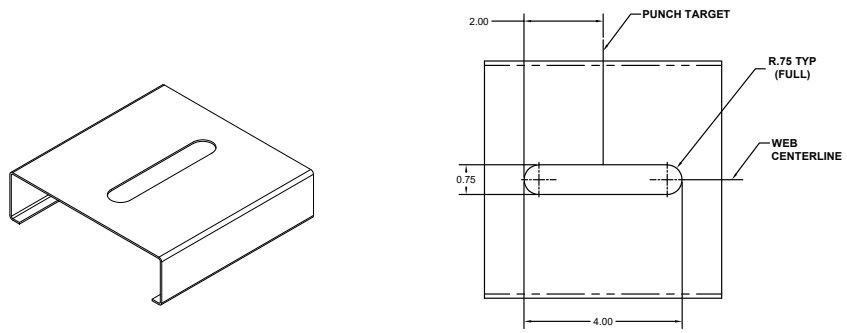
IRENE STEEL

PUNCHES & POST ROLLING OPTIONS

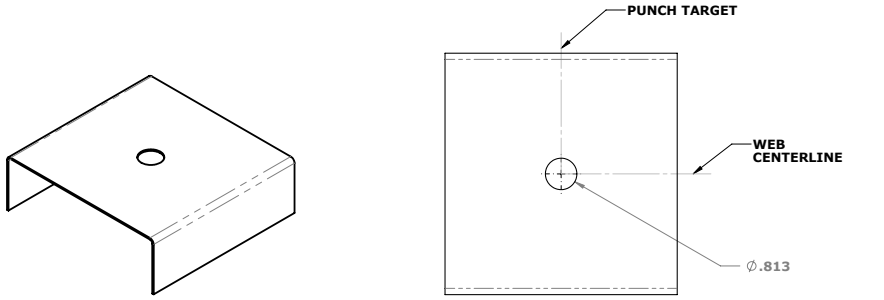
PUNCHES & POST ROLLING TREATMENTS:



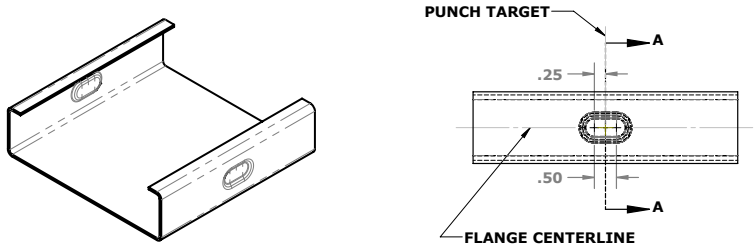
CRC Service Hole



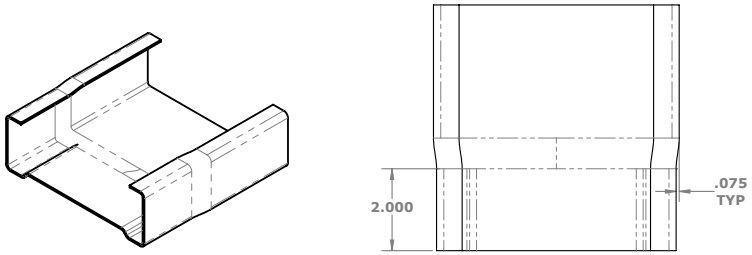
Service Hole



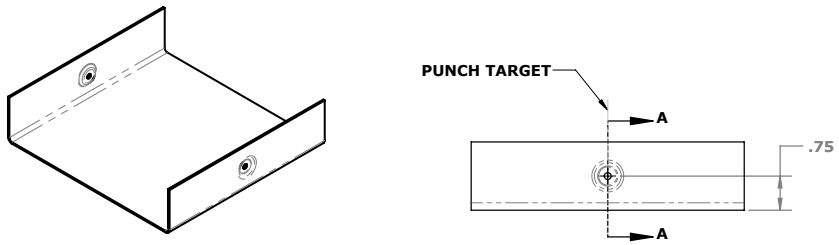
Round Web Punch



Boss Flange Stamp



Swage



Flange Dimple

IRENE STEEL

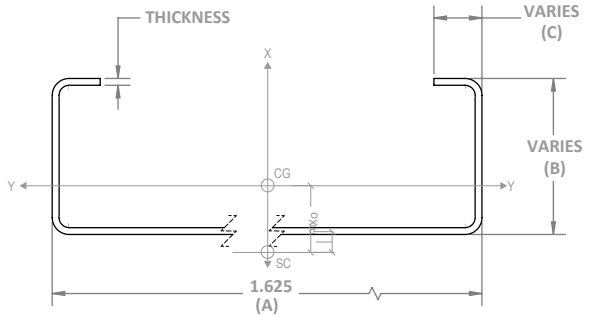
1-5/8" MEMBER PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at Kϕ = 0
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

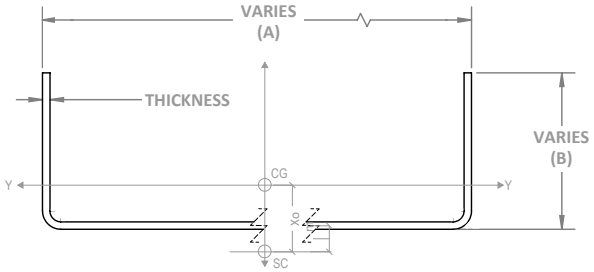
Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



1-5/8" STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
162S125-18	1.625	1.250	0.188	0.0188	33	33	0.080	0.27	0.038	0.047	0.686	0.016	0.447	0.034	0.031	0.607	0.585	302.190	99.530	0.009	0.009	-1.029	1.315	0.388
162S125-27	1.625	1.250	0.188	0.0283	33	33	0.120	0.41	0.056	0.069	0.682	0.023	0.443	0.055	0.053	1.046	1.004	493.520	106.440	0.032	0.013	-1.017	1.302	0.390
162S125-30	1.625	1.250	0.188	0.0312	33	33	0.132	0.45	0.061	0.075	0.681	0.026	0.441	0.060	0.060	1.190	1.140	542.970	105.760	0.043	0.014	-1.014	1.298	0.390
162S125-33	1.625	1.250	0.188	0.0346	33	33	0.145	0.49	0.067	0.083	0.679	0.028	0.440	0.066	0.069	1.367	1.302	600.690	104.950	0.058	0.016	-1.010	1.294	0.391

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations



1-5/8" TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
162T125-18(S)[3]	1.747	1.250	0.0188	33	33	0.753	0.26	0.036	0.044	0.687	0.013	0.412	-	-	-	-	0.009	0.006	-0.906	1.209	-
162T125-27(S)	1.761	1.250	0.0283	33	33	0.117	0.40	0.063	0.072	0.735	0.020	0.410	0.051	0.044	0.868	541.220	0.031	0.011	-0.872	1.211	0.482
162T125-30(S)	1.766	1.250	0.0312	33	33	0.129	0.44	0.070	0.079	0.735	0.022	0.409	0.057	0.050	0.995	597.240	0.042	0.012	-0.870	1.210	0.483
162T125-33(S)	1.771	1.250	0.0346	33	45	0.143	0.49	0.077	0.087	0.736	0.024	0.408	0.066	0.058	1.151	663.050	0.057	0.013	-0.868	1.209	0.484
162T150-18(S)[3]	1.747	1.500	0.0188	33	33	0.087	0.30	0.049	0.056	0.749	0.021	0.496	-	-	-	-	0.010	0.011	-1.117	1.433	-
162T150-27(S)	1.761	1.500	0.0283	33	33	0.131	0.45	0.074	0.084	0.750	0.032	0.495	0.055	0.045	0.897	541.220	0.035	0.017	-1.099	1.420	0.400
162T150-30(S)	1.766	1.500	0.0312	33	33	0.144	0.49	0.081	0.092	0.751	0.035	0.494	0.062	0.052	1.030	597.240	0.047	0.019	-1.098	1.419	0.401
162T150-33(S)	1.771	1.500	0.0346	33	45	0.160	0.54	0.090	0.102	0.751	0.039	0.494	0.072	0.060	1.193	663.050	0.064	0.021	-1.096	1.418	0.402

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

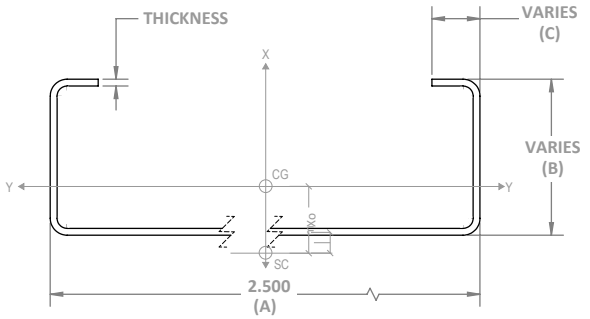
2-1/2" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at $K\phi = 0$
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



2-1/2" NON-STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
250S125-18	2.500	1.250	0.188	0.0188	33	33	0.097	0.33	0.099	0.079	1.014	0.019	0.439	0.089	0.060	1.175	1.028	257.840	196.030	0.011	0.023	-0.904	1.427	0.599
250S125-27	2.500	1.250	0.188	0.0283	33	33	0.144	0.49	0.147	0.118	1.009	0.027	0.434	0.144	0.097	1.925	1.824	684.770	343.730	0.039	0.034	-0.893	1.416	0.602
250S125-30	2.500	1.250	0.188	0.0312	33	33	0.159	0.54	0.161	0.129	1.008	0.030	0.433	0.159	0.110	2.174	2.087	832.300	378.230	0.052	0.037	-0.889	1.412	0.603
250S125-33	2.500	1.250	0.188	0.0346	33	33	0.176	0.60	0.178	0.142	1.006	0.033	0.431	0.175	0.125	2.478	2.405	975.340	398.800	0.070	0.040	-0.886	1.408	0.605

2-1/2" STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
250S162-33	2.500	1.625	0.500	0.0346	33	45	0.223	0.76	0.235	0.188	1.027	0.087	0.624	0.235	0.180	3.553	3.563	975.340	398.800	0.089	0.146	-1.470	1.898	0.401
250S162-43	2.500	1.625	0.500	0.0451	33	45	0.289	0.98	0.302	0.242	1.022	0.111	0.620	0.302	0.242	4.774	4.774	1265.460	394.230	0.196	0.184	-1.457	1.885	0.402
250S162-54	2.500	1.625	0.500	0.0566	50	65	0.358	1.22	0.370	0.296	1.016	0.135	0.613	0.370	0.288	8.625	8.789	2352.790	564.640	0.383	0.223	-1.443	1.868	0.404
250S162-68	2.500	1.625	0.500	0.0713	50	65	0.444	1.51	0.450	0.360	1.007	0.162	0.605	0.450	0.360	10.780	10.780	2865.590	518.570	0.752	0.268	-1.424	1.846	0.405

IRENE STEEL

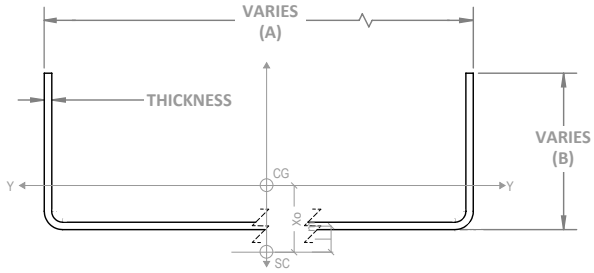
2-1/2" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:

J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:

I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:

Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

2-1/2" NON-STRUCTURAL TRACK PROPERTIES

	Gross Properties											Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
250T125-18(S)[3]	2.622	1.250	0.0188	33	33	0.092	0.31	0.093	0.075	1.009	0.015	0.402	-	-	-	-	0.011	0.015	-0.791	1.343	-
250T125-27(S)	2.636	1.250	0.0283	33	33	0.142	0.48	0.157	0.119	1.053	0.022	0.398	0.129	0.079	1.557	684.770	0.038	0.027	-0.762	1.360	0.685
250T125-30(S)	2.641	1.250	0.0312	33	33	0.156	0.53	0.173	0.131	1.053	0.025	0.397	0.146	0.090	1.771	832.300	0.051	0.030	-0.762	1.359	0.686
250T150-18(S)[3]	2.622	1.500	0.0188	33	33	0.101	0.34	0.108	0.086	1.032	0.024	0.490	-	-	-	-	0.012	0.025	-1.007	1.523	-
250T150-27(S)	2.636	1.500	0.0283	33	33	0.156	0.53	0.181	0.137	1.078	0.037	0.486	0.139	0.082	1.611	684.770	0.042	0.044	-0.977	1.534	0.595
250T150-30(S)	2.641	1.500	0.0312	33	33	0.172	0.58	0.200	0.151	1.078	0.040	0.486	0.157	0.093	1.835	832.300	0.056	0.049	-0.975	1.533	0.595
250T200-18(S)[3]	2.622	2.000	0.0188	33	33	0.122	0.42	0.152	0.116	1.114	0.053	0.661	-	-	-	-	0.014	0.062	-1.439	1.936	-
250T200-27(S)[3]	2.636	2.000	0.0283	33	33	0.184	0.63	0.229	0.174	1.116	0.080	0.660	-	-	-	-	0.049	0.094	-1.434	1.933	-
250T200-30(S)[3]	2.641	2.000	0.0312	33	33	0.203	0.69	0.253	0.191	1.117	0.088	0.659	-	-	-	-	0.066	0.103	-1.432	1.932	-
250T250-18(S)[3]	2.622	2.500	0.0188	33	33	0.141	0.48	0.184	0.140	1.141	0.097	0.830	-	-	-	-	0.017	0.115	-1.900	2.367	-
250T250-27(S)[3]	2.636	2.500	0.0283	33	33	0.212	0.72	0.277	0.210	1.143	0.146	0.829	-	-	-	-	0.057	0.173	-1.895	2.363	-
250T250-30(S)[3]	2.641	2.500	0.0312	33	33	0.234	0.80	0.306	0.232	1.143	0.160	0.828	-	-	-	-	0.076	0.191	-1.893	2.362	-
250T300-18(S)[3]	2.622	3.000	0.0188	33	33	0.160	0.54	0.216	0.164	1.161	0.158	0.995	-	-	-	-	0.019	0.191	-2.371	2.822	-
250T300-27(S)[3]	2.636	3.000	0.0283	33	33	0.241	0.82	0.325	0.247	1.163	0.238	0.994	-	-	-	-	0.064	0.288	-2.366	2.817	-
250T300-30(S)[3]	2.641	3.000	0.0312	33	33	0.265	0.90	0.359	0.272	1.164	0.262	0.993	-	-	-	-	0.086	0.317	-2.364	2.816	-

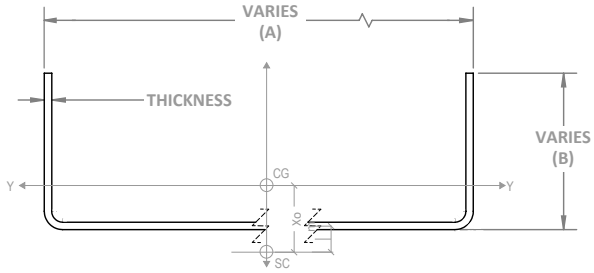
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

2-1/2" STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

2-1/2" STRUCTURAL TRACK PROPERTIES

	Gross Properties												Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
250T125-33(S)	2.646	1.250	0.0346	33	45	0.173	0.59	0.192	0.145	1.054	0.027	0.397	0.166	0.103	2.033	1023.500	0.069	0.033	-0.760	1.358	0.687
250T125-43(S)	2.661	1.250	0.0451	33	45	0.225	0.77	0.250	0.188	1.055	0.035	0.395	0.231	0.147	2.909	1355.540	0.153	0.043	-0.755	1.356	0.690
250T125-54(S)	2.698	1.250	0.0566	50	65	0.282	0.96	0.318	0.236	1.062	0.043	0.392	0.297	0.188	5.640	2563.000	0.302	0.054	-0.749	1.357	0.696
250T125-68(S)	2.750	1.250	0.0713	50	65	0.355	1.21	0.408	0.297	1.072	0.054	0.389	0.403	0.262	7.847	3199.200	0.602	0.069	-0.740	1.360	0.704
250T150-33(S)	2.646	1.500	0.0346	33	45	0.190	0.65	0.221	0.167	1.079	0.045	0.485	0.180	0.107	2.110	1023.580	0.076	0.054	-0.973	1.532	0.596
250T150-43(S)	2.661	1.500	0.0451	33	45	0.248	0.84	0.289	0.217	1.080	0.058	0.483	0.252	0.154	3.034	1355.540	0.168	0.070	-0.968	1.529	0.599
250T150-54(S)	2.698	1.500	0.0566	50	65	0.311	1.06	0.368	0.273	1.088	0.072	0.481	0.325	0.197	5.891	2563.020	0.332	0.089	-0.961	1.529	0.605
250T150-68(S)	2.750	1.500	0.0713	50	65	0.391	1.33	0.472	0.344	1.099	0.089	0.478	0.445	0.276	8.271	3199.210	0.663	0.114	-0.953	1.531	0.613
250T200-33(S)	2.646	2.000	0.0346	33	45	0.225	0.76	0.280	0.212	1.117	0.097	0.658	0.203	0.112	2.221	1023.580	0.090	0.118	-1.418	1.922	0.455
250T200-43(S)	2.661	2.000	0.0451	33	45	0.293	1.00	0.366	0.275	1.118	0.126	0.657	0.288	0.163	3.214	1355.540	0.199	0.153	-1.413	1.918	0.457
250T200-54(S)	2.698	2.000	0.0566	50	65	0.367	1.25	0.466	0.346	1.127	0.157	0.654	0.372	0.209	6.251	2563.020	0.392	0.195	-1.405	1.917	0.462
250T200-68(S)	2.750	2.000	0.0713	50	65	0.462	1.57	0.600	0.437	1.139	0.196	0.652	0.517	0.296	8.864	3199.210	0.784	0.251	-1.396	1.916	0.469
250T250-33(S)[3]	2.646	2.500	0.0346	33	45	0.259	0.88	0.339	0.257	1.144	0.178	0.827	-	-	-	-	0.104	0.212	-1.891	2.360	-
250T250-43(S)	2.661	2.500	0.0451	33	45	0.338	1.15	0.443	0.333	1.146	0.230	0.826	0.318	0.169	3.339	1355.540	0.229	0.283	-1.873	2.346	0.362
250T250-54(S)	2.698	2.500	0.0566	50	65	0.424	1.44	0.565	0.419	1.155	0.288	0.824	0.410	0.217	6.501	2563.020	0.453	0.361	-1.865	2.343	0.366
250T250-68(S)	2.750	2.500	0.0713	50	65	0.534	1.82	0.728	0.530	1.168	0.360	0.821	0.576	0.310	9.267	3199.210	0.904	0.466	-1.855	2.341	0.372
250T300-33(S)[3]	2.646	3.000	0.0346	33	45	0.294	1.00	0.398	0.301	1.164	0.290	0.993	-	-	-	-	0.117	0.352	-2.362	2.814	-
250T300-43(S)[3]	2.661	3.000	0.0451	33	45	0.383	0.13	0.521	0.391	1.166	0.376	0.991	-	-	-	-	0.260	0.458	-2.356	2.810	-
250T300-54(S)	2.698	3.000	0.0566	50	65	0.480	1.63	0.664	0.492	1.176	0.470	0.989	0.443	0.223	6.685	2563.020	0.513	0.599	-2.335	2.795	0.302
250T300-68(S)	2.750	3.000	0.0713	50	65	0.605	2.06	0.856	0.623	1.190	0.589	0.987	0.626	0.319	9.563	3199.210	1.025	0.773	-2.324	2.791	0.307

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

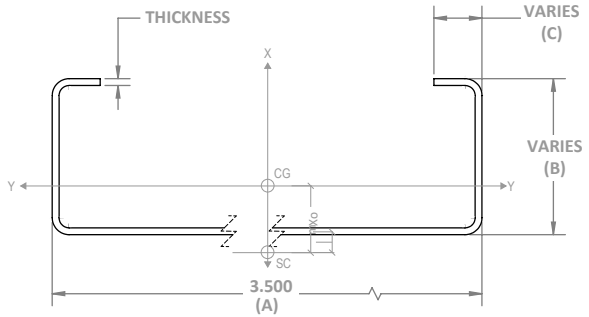
3-1/2" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at $K\phi = 0$
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



3-1/2" NON-STRUCTURAL STUD PROPERTIES

	Gross Properties													Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
350S125-18	3.500	1.250	0.188	0.0188	33	33	0.115	0.39	0.215	0.123	1.366	0.021	0.423	0.197	0.087	1.723	1.467	179.560	158.620	0.014	0.050	-0.797	1.637	0.763
350S125-27	3.500	1.250	0.188	0.0283	33	33	0.173	0.59	0.320	0.183	1.361	0.030	0.418	0.313	0.155	3.059	2.648	614.240	358.570	0.046	0.073	-0.787	1.627	0.766
350S125-30	3.500	1.250	0.188	0.0312	33	33	0.190	0.65	0.351	0.201	1.359	0.033	0.417	0.346	0.174	3.444	3.045	823.810	435.500	0.062	0.079	-0.784	1.624	0.767

3-1/2" STRUCTURAL STUD PROPERTIES

	Gross Properties													Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
350S162-33	3.500	1.625	0.500	0.0346	33	45	0.258	0.88	0.508	0.291	1.404	0.098	0.617	0.508	0.279	5.505	5.218	1023.580	487.000	0.103	0.277	-1.324	2.026	0.573
350S162-43	3.500	1.625	0.500	0.0451	33	45	0.334	1.14	0.654	0.374	1.400	0.125	0.612	0.654	0.374	7.390	7.313	1739.090	631.040	0.227	0.350	-1.312	2.014	0.575
350S162-54	3.500	1.625	0.500	0.0566	50	65	0.415	1.41	0.804	0.460	1.393	0.152	0.606	0.804	0.447	13.370	13.047	3371.560	947.020	0.443	0.426	-1.298	1.998	0.578
350S162-68	3.500	1.625	0.500	0.0713	50	65	0.515	1.75	0.985	0.563	1.383	0.184	0.597	0.985	0.563	16.844	16.844	4202.470	896.930	0.872	0.514	-1.280	1.977	0.581
350S200-33	3.500	2.000	0.625	0.0346	33	45	0.292	0.99	0.598	0.342	1.431	0.175	0.773	0.593	0.306	6.051	5.948	1023.580	487.000	0.117	0.541	-1.760	2.396	0.461
350S200-43	3.500	2.000	0.625	0.0451	33	45	0.379	1.29	0.771	0.441	1.426	0.224	0.768	0.771	0.428	8.459	8.360	1739.090	631.040	0.257	0.687	-1.748	2.383	0.462
350S200-54	3.500	2.000	0.625	0.0566	50	65	0.471	1.60	0.950	0.543	1.420	0.274	0.762	0.950	0.494	14.800	14.863	3371.560	947.020	0.503	0.838	-1.733	2.367	0.464
350S200-68	3.500	2.000	0.625	0.0713	50	65	0.586	1.99	1.167	0.667	1.411	0.333	0.754	1.167	0.653	19.551	19.678	4202.470	896.930	0.993	1.018	-1.715	2.345	0.465
350S250-43	3.500	2.500	0.625	0.0451	33	45	0.424	1.44	0.906	0.518	1.461	0.380	0.946	0.906	0.455	8.981	9.004	1739.090	631.040	0.288	1.151	-2.220	2.821	0.381
350S250-54	3.500	2.500	0.625	0.0566	50	65	0.528	1.80	1.118	0.639	1.455	0.467	0.940	1.107	0.524	15.676	15.918	3371.560	947.020	0.564	1.409	-2.205	2.804	0.382
350S250-68	3.500	2.500	0.625	0.0713	50	65	0.657	2.24	1.376	0.787	1.447	0.570	0.931	1.376	0.683	20.443	21.311	4202.470	896.930	1.114	1.718	-2.186	2.782	0.383

IRENE STEEL

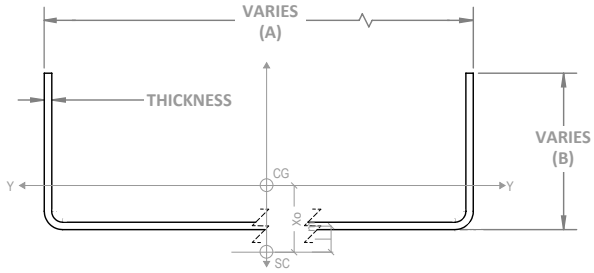
3-1/2" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:

J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:

I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:

Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

3-1/2" NON-STRUCTURAL TRACK PROPERTIES

	Gross Properties											Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
350T125-18(S)[3]	3.622	1.250	0.0188	33	33	0.113	0.38	0.220	0.121	1.395	0.017	0.382	-	-	-	-	0.013	0.037	-0.683	1.600	-
350T125-27(S)	3.636	1.250	0.0283	33	33	0.170	0.58	0.331	0.182	1.396	0.025	0.381	0.278	0.128	2.529	589.790	0.045	0.057	-0.671	1.595	0.823
350T125-30(S)	3.641	1.250	0.0312	33	33	0.187	0.64	0.365	0.200	1.396	0.027	0.380	0.313	0.145	2.862	789.980	0.061	0.063	-0.669	1.594	0.824
350T150-18(S)[3]	3.622	1.500	0.0188	33	33	0.122	0.42	0.250	0.138	1.431	0.027	0.472	-	-	-	-	0.014	0.061	-0.883	1.746	-
350T150-27(S)	3.636	1.500	0.0283	33	33	0.184	0.63	0.377	0.207	1.432	0.041	0.470	0.298	0.132	2.617	589.790	0.049	0.094	-0.869	1.739	0.751
350T150-30(S)	3.641	1.500	0.0312	33	33	0.203	0.69	0.416	0.228	1.432	0.045	0.470	0.336	0.150	2.964	789.980	0.066	0.103	-0.868	1.739	0.751
350T200-18(S)[3]	3.622	2.000	0.0188	33	33	0.141	0.48	0.311	0.172	1.485	0.060	0.649	-	-	-	-	0.017	0.133	-1.304	2.080	-
350T200-27(S)[3]	3.636	2.000	0.0283	33	33	0.212	0.72	0.469	0.258	1.487	0.089	0.648	-	-	-	-	0.057	0.199	-1.299	2.078	-
350T200-30(S)[3]	3.641	2.000	0.0312	33	33	0.234	0.80	0.517	0.284	1.487	0.098	0.647	-	-	-	-	0.076	0.219	-1.298	2.077	-
350T250-18(S)[3]	3.622	2.500	0.0188	33	33	0.160	0.54	0.372	0.206	1.526	0.109	0.824	-	-	-	-	0.019	0.243	-1.745	2.460	-
350T250-27(S)[3]	3.636	2.500	0.0283	33	33	0.241	0.82	0.561	0.309	1.527	0.163	0.822	-	-	-	-	0.064	0.365	-1.740	2.457	-
350T250-30(S)[3]	3.641	2.500	0.0312	33	33	0.265	0.90	0.619	0.340	1.528	0.179	0.822	-	-	-	-	0.086	0.403	-1.738	2.456	-
350T300-18(S)[3]	3.622	3.000	0.0188	33	33	0.179	0.61	0.433	0.239	1.557	0.177	0.995	-	-	-	-	0.021	0.400	-2.199	2.873	-
350T300-27(S)[3]	3.636	3.000	0.0283	33	33	0.269	0.91	0.653	0.359	1.559	0.265	0.994	-	-	-	-	0.072	0.601	-2.194	2.869	-
350T300-30(S)[3]	3.641	3.000	0.0312	33	33	0.296	1.01	0.721	0.396	1.560	0.292	0.993	-	-	-	-	0.096	0.663	-2.192	2.868	-

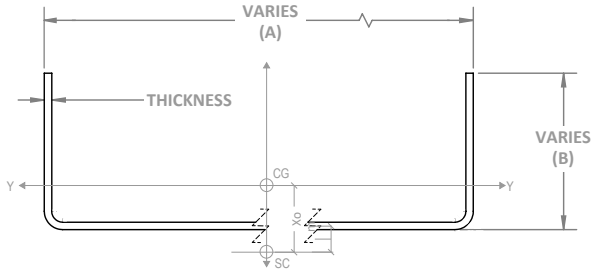
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

3-1/2" STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
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β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

3-1/2" STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
350T125-33(S)	3.646	1.250	0.0346	33	45	0.208	0.71	0.405	0.222	1.397	0.030	0.379	0.355	0.165	3.267	1023.580	0.083	0.070	-0.668	1.594	0.824
350T125-43(S)	3.661	1.250	0.0451	33	45	0.270	0.92	0.528	0.288	1.398	0.039	0.377	0.490	0.233	4.605	1739.090	0.183	0.090	-0.663	1.592	0.827
350T125-54(S)	3.698	1.250	0.0566	50	65	0.339	1.15	0.668	0.361	1.404	0.048	0.375	0.626	0.297	8.895	3371.560	0.362	0.114	-0.658	1.595	0.830
350T125-68(S)	3.750	1.250	0.0713	50	65	0.427	1.45	0.851	0.454	1.412	0.059	0.372	0.839	0.407	12.184	4536.080	0.723	0.144	-0.650	1.599	0.835
350T150-33(S)	3.646	1.500	0.0346	33	45	0.225	0.76	0.461	0.253	1.432	0.049	0.469	0.382	0.172	3.388	1023.580	0.090	0.114	-0.866	1.738	0.752
350T150-43(S)	3.661	1.500	0.0451	33	45	0.293	1.00	0.601	0.329	1.433	0.064	0.467	0.531	0.243	4.798	1739.090	0.199	0.148	-0.861	1.736	0.754
350T150-54(S)	3.698	1.500	0.0566	50	65	0.367	1.25	0.761	0.412	1.440	0.079	0.465	0.679	0.310	9.278	3371.560	0.392	0.187	-0.855	1.738	0.758
350T150-68(S)	3.750	1.500	0.0713	50	65	0.462	1.57	0.972	0.518	1.450	0.099	0.462	0.919	0.428	12.810	4536.080	0.784	0.238	-0.847	1.741	0.763
350T200-33(S)	3.646	2.000	0.0346	33	45	0.259	0.88	0.574	0.315	1.487	0.108	0.647	0.428	0.181	3.573	1023.580	0.104	0.249	-1.285	2.069	0.614
350T200-43(S)	3.661	2.000	0.0451	33	45	0.338	1.15	0.749	0.409	1.489	0.140	0.645	0.601	0.257	5.086	1739.090	0.229	0.323	-1.280	2.067	0.616
350T200-54(S)	3.698	2.000	0.0566	50	65	0.424	1.44	0.949	0.513	1.497	0.175	0.642	0.770	0.329	9.848	3371.560	0.453	0.409	-1.273	2.067	0.621
350T200-68(S)	3.750	2.000	0.0713	50	65	0.534	1.82	1.213	0.647	1.508	0.218	0.639	1.054	0.458	13.714	4536.080	0.904	0.522	-1.265	2.069	0.627
350T250-33(S)[3]	3.646	2.500	0.0346	33	45	0.294	1.00	0.687	0.377	1.529	0.198	0.821	-	-	-	-	0.117	0.446	-1.737	2.455	-
350T250-43(S)	3.661	2.500	0.0451	33	45	0.383	1.30	0.896	0.490	1.530	0.257	0.819	0.659	0.268	5.294	1739.090	0.260	0.593	-1.719	2.443	0.505
350T250-54(S)	3.698	2.500	0.0566	50	65	0.480	1.63	1.137	0.615	1.538	0.321	0.817	0.846	0.343	10.260	3371.560	0.513	0.752	-1.712	2.442	0.509
350T250-68(S)	3.750	2.500	0.0713	50	65	0.605	2.06	1.454	0.776	1.550	0.401	0.814	1.168	0.479	14.352	4536.080	1.025	0.961	-1.703	2.443	0.514
350T300-33(S)[3]	3.646	3.000	0.0346	33	45	0.329	1.12	0.800	0.439	1.560	0.324	0.993	-	-	-	-	0.131	0.735	-2.191	2.867	-
350T300-43(S)[3]	3.661	3.000	0.0451	33	45	0.428	1.45	1.044	0.570	1.562	0.420	0.991	-	-	-	-	0.290	0.956	-2.185	2.863	-
350T300-54(S)	3.698	3.000	0.0566	50	65	0.537	1.83	1.324	0.716	1.570	0.525	0.989	0.912	0.353	10.575	3371.560	0.573	1.238	-2.165	2.851	0.424
350T300-68(S)	3.750	3.000	0.0713	50	65	0.676	2.30	1.695	0.904	1.583	0.657	0.986	1.265	0.496	14.834	4536.080	1.146	1.585	-2.155	2.850	0.428

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

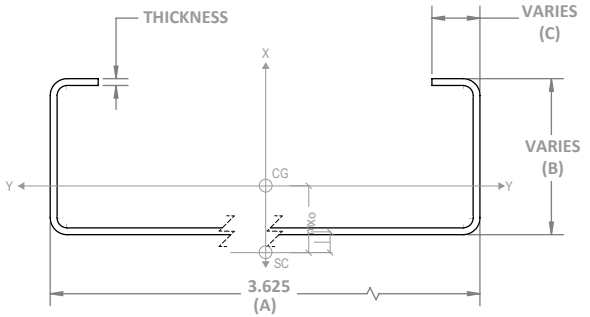
3-5/8" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at Kϕ = 0
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



3-5/8" NON-STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
362S125-18	3.625	1.250	0.188	0.0188	33	33	0.118	0.40	0.234	0.129	1.409	0.021	0.421	0.215	0.090	1.782	1.522	172.990	163.470	0.014	0.539	-0.786	1.667	0.777
362S125-27	3.625	1.250	0.188	0.0283	33	33	0.176	0.60	0.347	0.192	1.404	0.031	0.416	0.340	0.163	3.214	2.752	591.720	369.620	0.047	0.079	-0.776	1.657	0.781
362S125-30	3.625	1.250	0.188	0.0312	33	33	0.194	0.66	0.381	0.210	1.402	0.033	0.415	0.375	0.183	3.618	3.166	793.580	448.960	0.063	0.086	-0.773	1.654	0.782

3-5/8" STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
362S162-33	3.625	1.625	0.5	0.0346	33	45	0.262	0.89	0.551	0.304	1.450	0.099	0.616	0.551	0.292	5.766	5.429	1023.580	521.240	0.105	0.297	-1.308	2.048	0.592
362S162-43	3.625	1.625	0.5	0.0451	33	45	0.340	1.16	0.710	0.392	1.445	0.127	0.611	0.710	0.392	7.738	7.619	1739.090	675.670	0.230	0.376	-1.297	2.036	0.594
362S162-54	3.625	1.625	0.5	0.0566	50	65	0.422	1.44	0.873	0.482	1.438	0.154	0.604	0.873	0.468	14.004	13.593	3371.560	1015.970	0.451	0.457	-1.283	2.020	0.597
362S162-68	3.625	1.625	0.5	0.0713	50	65	0.524	1.78	1.069	0.590	1.429	0.186	0.596	1.069	0.590	17.653	17.653	4369.580	1003.530	0.887	0.552	-1.264	1.998	0.600
362S200-33	3.625	2.000	0.625	0.0346	33	45	0.297	1.01	0.648	0.358	1.478	0.177	0.772	0.642	0.321	6.336	6.185	1023.580	521.240	0.118	0.577	-1.741	2.411	0.479
362S200-43	3.625	2.000	0.625	0.0451	33	45	0.385	1.31	0.836	0.461	1.474	0.227	0.767	0.836	0.448	8.853	8.702	1739.090	675.670	0.261	0.734	-1.729	2.398	0.480
362S200-54	3.625	2.000	0.625	0.0566	50	65	0.479	1.63	1.030	0.568	1.467	0.277	0.761	1.030	0.517	15.492	15.472	3371.560	1015.970	0.511	0.896	-1.715	2.382	0.482
362S200-68	3.625	2.000	0.625	0.0713	50	65	0.595	2.02	1.265	0.698	1.458	0.337	0.753	1.265	0.684	20.466	20.510	4369.580	1003.530	1.008	1.089	-1.696	2.360	0.484
362S250-43	3.625	2.500	0.625	0.0451	33	45	0.430	1.46	0.980	0.541	1.510	0.385	0.946	0.980	0.475	9.392	9.355	1739.090	675.670	0.292	1.230	-2.199	2.830	0.396
362S250-54	3.625	2.500	0.625	0.0566	50	65	0.535	1.82	1.210	0.668	1.504	0.473	0.940	1.198	0.548	16.402	16.541	3371.560	1015.970	0.571	1.506	-2.184	2.813	0.397
362S250-68	3.625	2.500	0.625	0.0713	50	65	0.666	2.27	1.491	0.822	1.496	0.578	0.931	1.491	0.714	21.384	22.168	4369.580	1003.530	1.129	1.837	-2.165	2.791	0.398
362S300-54	3.625	3.000	0.625	0.0566	50	65	0.592	2.01	1.390	0.767	1.533	0.734	1.114	1.295	0.568	16.999	17.341	3371.560	1015.970	0.632	2.316	-2.659	3.265	0.337
362S300-68	3.625	3.000	0.625	0.0713	50	65	0.738	2.51	1.716	0.947	1.525	0.900	1.105	1.681	0.747	22.368	23.418	4369.580	1003.530	1.250	2.833	-2.640	3.243	0.337

IRENE STEEL

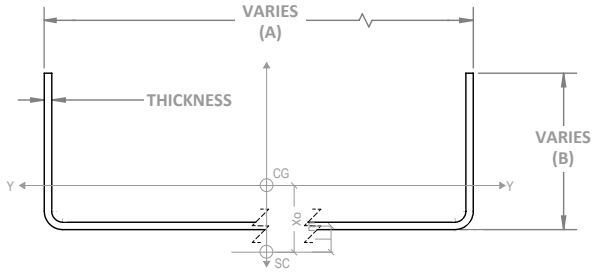
3-5/8" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:

J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:

I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:

Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

3-5/8" NON-STRUCTURAL TRACK PROPERTIES

	Gross Properties											Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
362T125-18(S)[3]	3.747	1.250	0.0188	33	33	0.115	0.39	0.238	0.127	1.437	0.017	0.380	-	-	-	-	0.014	0.040	-0.673	1.632	-
362T125-27(S)	3.761	1.250	0.0283	33	33	0.173	0.59	0.358	0.191	1.438	0.025	0.378	0.301	0.135	2.664	568.990	0.046	0.062	-0.661	1.627	0.835
362T125-30(S)	3.766	1.250	0.0312	33	33	0.191	0.65	0.395	0.210	1.438	0.027	0.378	0.339	0.153	3.013	762.140	0.062	0.068	-0.659	1.627	0.836
362T150-18(S)[3]	3.747	1.500	0.0188	33	33	0.125	0.42	0.271	0.144	1.474	0.028	0.470	-	-	-	-	0.015	0.066	-0.871	1.775	-
362T150-27(S)	3.761	1.500	0.0283	33	33	0.188	0.64	0.408	0.217	1.475	0.041	0.468	0.323	0.140	2.757	568.990	0.050	0.102	-0.857	1.769	0.765
362T150-30(S)	3.766	1.500	0.0312	33	33	0.207	0.70	0.449	0.239	1.475	0.045	0.467	0.364	0.158	3.121	762.140	0.067	0.112	-0.856	1.768	0.766
362T200-18(S)[3]	3.747	2.000	0.0188	33	33	0.143	0.49	0.336	0.179	1.530	0.060	0.648	-	-	-	-	0.017	0.144	-1.289	2.103	-
362T200-27(S)[3]	3.761	2.000	0.0283	33	33	0.216	0.73	0.506	0.269	1.532	0.090	0.646	-	-	-	-	0.058	0.216	-1.284	2.101	-
362T200-30(S)[3]	3.766	2.000	0.0312	33	33	0.238	0.81	0.558	0.297	1.532	0.099	0.645	-	-	-	-	0.077	0.237	-1.283	2.100	-
362T250-18(S)[3]	3.747	2.500	0.0188	33	33	0.162	0.55	0.401	0.214	1.573	0.110	0.823	-	-	-	-	0.019	0.263	-1.728	2.477	-
362T250-27(S)[3]	3.761	2.500	0.0283	33	33	0.244	0.83	0.605	0.322	1.574	0.165	0.821	-	-	-	-	0.065	0.395	-1.723	2.474	-
362T250-30(S)[3]	3.766	2.500	0.0312	33	33	0.269	0.91	0.667	0.354	1.575	0.181	0.820	-	-	-	-	0.087	0.436	-1.721	2.473	-
362T300-18(S)[3]	3.747	3.000	0.0188	33	33	0.181	0.62	0.467	0.249	1.606	0.179	0.994	-	-	-	-	0.021	0.433	-2.180	2.884	-
362T300-27(S)[3]	3.761	3.000	0.0283	33	33	0.272	0.93	0.703	0.374	1.607	0.268	0.993	-	-	-	-	0.073	0.650	-2.175	2.880	-
362T300-30(S)[3]	3.766	3.000	0.0312	33	33	0.300	1.02	0.776	0.412	1.608	0.296	0.992	-	-	-	-	0.097	0.717	-2.173	2.879	-

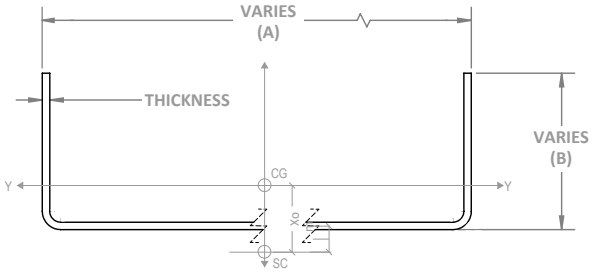
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

3-5/8" STANDARD STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

3-5/8" STANDARD STRUCTURAL TRACK PROPERTIES

	Gross Properties													Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
362T125-33(S)	3.771	1.250	0.0346	33	45	0.212	0.72	0.438	0.232	1.438	0.030	0.377	0.385	0.174	3.437	1023.580	0.085	0.076	-0.658	1.626	0.836
362T125-43(S)	3.786	1.250	0.0451	33	45	0.276	0.94	0.571	0.302	1.439	0.039	0.375	0.531	0.245	4.839	1739.090	0.187	0.098	-0.654	1.625	0.838
362T125-54(S)	3.823	1.250	0.0566	50	65	0.346	1.18	0.723	0.378	1.445	0.048	0.373	0.678	0.312	9.342	3371.560	0.370	0.123	-0.648	1.627	0.841
362T125-68(S)	3.875	1.250	0.0713	50	65	0.436	1.48	0.921	0.475	1.454	0.060	0.370	0.907	0.427	12.777	4703.190	0.738	0.156	-0.641	1.631	0.846
362T150-33(S)	3.771	1.500	0.0346	33	45	0.229	0.78	0.499	0.264	1.475	0.050	0.467	0.414	0.180	3.565	1023.580	0.091	0.124	-0.854	1.767	0.766
362T150-43(S)	3.786	1.500	0.0451	33	45	0.298	1.02	0.650	0.344	1.476	0.064	0.465	0.574	0.255	5.041	1739.090	0.202	0.160	-0.850	1.766	0.768
362T150-54(S)	3.823	1.500	0.0566	50	65	0.374	1.27	0.823	0.431	1.483	0.080	0.462	0.735	0.325	9.743	3371.560	0.400	0.202	-0.844	1.768	0.772
362T150-68(S)	3.875	1.500	0.0713	50	65	0.471	1.60	1.050	0.542	1.492	0.100	0.459	0.993	0.449	13.429	4703.190	0.799	0.257	-0.836	1.771	0.777
362T189-33(S)	3.771	1.890	0.0346	33	45	0.256	0.87	0.593	0.314	1.521	0.094	0.606	0.454	0.188	3.722	1023.580	0.102	0.231	-1.177	2.017	0.660
362T189-43(S)	3.786	1.890	0.0451	33	45	0.334	1.14	0.773	0.409	1.523	0.122	0.604	0.634	0.267	5.285	1739.090	0.226	0.300	-1.172	2.014	0.662
362T189-54(S)	3.823	1.890	0.0566	50	65	0.418	1.42	0.980	0.512	1.530	0.151	0.602	0.812	0.342	10.227	3371.560	0.447	0.379	-1.165	2.015	0.666
362T189-68(S)	3.875	1.890	0.0713	50	65	0.527	1.79	1.251	0.646	1.541	0.189	0.599	1.108	0.474	14.195	4703.130	0.893	0.483	-1.157	2.017	0.671
362T200-33(S)	3.771	2.000	0.0346	33	45	0.264	0.90	0.619	0.329	1.533	0.110	0.645	0.464	0.190	3.760	1023.580	0.105	0.269	-1.270	2.092	0.631
362T200-43(S)	3.786	2.000	0.0451	33	45	0.344	1.17	0.808	0.427	1.534	0.142	0.643	0.649	0.270	5.343	1739.090	0.233	0.350	-1.265	2.090	0.633
362T200-54(S)	3.823	2.000	0.0566	50	65	0.431	1.47	1.024	0.536	1.541	0.177	0.641	0.832	0.345	10.341	3371.560	0.460	0.442	-1.259	2.091	0.638
362T200-68(S)	3.875	2.000	0.0713	50	65	0.543	1.85	1.307	0.675	1.552	0.221	0.638	1.138	0.480	14.374	4703.190	0.919	0.564	-1.250	2.093	0.643
362T239-33(S)[3]	3.771	2.390	0.0346	33	45	0.291	0.99	0.714	0.378	1.567	0.178	0.782	-	-	-	-	0.116	0.427	-1.622	2.386	-
362T239-43(S)	3.786	2.390	0.0451	33	45	0.379	1.29	0.931	0.492	1.568	0.230	0.780	0.700	0.279	5.519	1739.090	0.257	0.567	-1.605	2.375	0.544
362T239-54(S)	3.823	2.390	0.0566	50	65	0.475	1.62	1.180	0.618	1.576	0.287	0.777	0.897	0.357	10.690	3371.560	0.507	0.718	-1.598	2.375	0.548
362T239-68(S)	3.875	2.390	0.0713	50	65	0.598	2.04	1.509	0.779	1.588	0.359	0.775	1.234	0.498	14.913	4703.130	1.014	0.918	-1.589	2.376	0.553
362T250-33(S)[3]	3.771	2.500	0.0346	33	45	0.298	1.01	0.740	0.393	1.575	0.201	0.820	-	-	-	-	0.119	0.483	-1.719	2.472	-
362T250-43(S)	3.786	2.500	0.0451	33	45	0.389	1.32	0.966	0.510	1.577	0.260	0.818	0.713	0.282	5.562	1739.090	0.264	0.641	-1.702	2.460	0.521
362T250-54(S)	3.823	2.500	0.0566	50	65	0.488	1.66	1.225	0.641	1.585	0.324	0.816	0.914	0.360	10.775	3371.560	0.521	0.812	-1.695	2.460	0.525
362T250-68(S)	3.875	2.500	0.0713	50	65	0.614	2.09	1.565	0.808	1.597	0.406	0.813	1.259	0.503	15.044	4703.190	1.040	1.038	-1.686	2.460	0.531
362T289-33(S)[3]	3.771	2.890	0.0346	33	45	0.325	1.11	0.834	0.443	1.602	0.296	0.954	-	-	-	-	0.130	0.717	-2.071	2.786	-
362T289-43(S)[3]	3.786	2.890	0.0451	33	45	0.424	1.44	1.089	0.575	1.603	0.384	0.952	-	-	-	-	0.287	0.933	-2.065	2.783	-
362T289-54(S)	3.823	2.890	0.0566	50	65	0.532	1.81	1.381	0.723	1.612	0.480	0.950	0.970	0.369	11.041	3371.560	0.568	1.207	-2.046	2.772	0.456
362T289-68(S)	3.875	2.890	0.0713	50	65	0.670	2.28	1.766	0.912	1.624	0.601	0.947	1.342	0.516	15.450	4703.130	1.135	1.544	-2.036	2.771	0.460
362T300-33(S)[3]	3.771	3.000	0.0346	33	45	0.333	1.13	0.861	0.457	1.608	0.327	0.992	-	-	-	-	0.133	0.795	-2.171	2.878	-
362T300-43(S)[3]	3.786	3.000	0.0451	33	45	0.434	1.47	1.124	0.594	1.610	0.425	0.990	-	-	-	-	0.294	1.034	-2.166	2.874	-
362T300-54(S)	3.823	3.000	0.0566	50	65	0.544	1.85	1.425	0.746	1.619	0.531	0.988	0.985	0.371	11.108	3371.560	0.581	1.337	-2.146	2.863	0.439
362T300-68(S)	3.875	3.000	0.0713	50	65	0.685	2.33	1.823	0.941	1.631	0.665	0.985	1.364	0.519	15.551	4703.190	1.161	1.711	-2.136	2.862	0.443

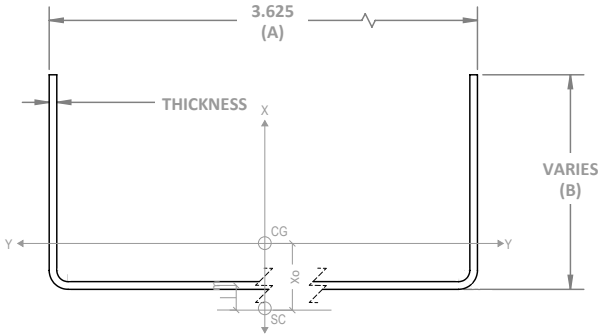
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

3-5/8" NARROW STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

3-5/8" NARROW STRUCTURAL TRACK PROPERTIES

	Gross Properties												Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
362T125-33(N)	3.625	1.250	0.0346	33	45	0.207	0.70	0.399	0.220	1.390	0.030	0.380	0.350	0.164	3.238	1023.500	0.083	0.069	-0.670	1.588	0.822
362T125-43(N)	3.625	1.250	0.0451	33	45	0.269	0.91	0.516	0.284	1.385	0.038	0.378	0.478	0.230	4.539	1739.090	0.182	0.088	-0.666	1.583	0.823
362T125-54(N)	3.625	1.250	0.0566	50	65	0.335	1.14	0.637	0.351	1.379	0.047	0.376	0.597	0.289	8.637	3371.560	0.358	0.109	-0.664	1.576	0.823
362T125-68(N)	3.625	1.250	0.0713	50	65	0.418	1.42	0.785	0.433	1.371	0.059	0.374	0.773	0.388	11.602	4368.910	0.708	0.133	-0.660	1.567	0.822
362T150-33(N)	3.625	1.500	0.0346	33	45	0.224	0.76	0.455	0.251	1.425	0.049	0.469	0.376	0.170	3.359	1023.580	0.089	0.113	-0.868	1.733	0.749
362T150-43(N)	3.625	1.500	0.0451	33	45	0.291	0.99	0.588	0.324	1.421	0.064	0.468	0.518	0.239	4.729	1739.090	0.197	0.145	-0.865	1.728	0.750
362T150-54(N)	3.625	1.500	0.0566	50	65	0.363	1.24	0.727	0.401	1.415	0.079	0.466	0.648	0.301	9.011	3371.560	0.388	0.178	-0.862	1.721	0.749
362T150-68(N)	3.625	1.500	0.0713	50	65	0.453	1.54	0.897	0.495	1.407	0.098	0.464	0.848	0.408	12.203	4368.910	0.768	0.220	-0.859	1.712	0.748
362T199-33(N)	3.625	1.990	0.0346	33	45	0.258	0.88	0.564	0.311	1.479	0.107	0.643	0.422	0.179	3.539	1023.580	0.103	0.242	-1.279	2.058	0.614
362T199-43(N)	3.625	1.990	0.0451	33	45	0.335	1.14	0.729	0.402	1.475	0.138	0.642	0.586	0.253	5.008	1739.090	0.227	0.312	-1.276	2.053	0.614
362T199-54(N)	3.625	1.990	0.0566	50	65	0.419	1.42	0.903	0.498	1.469	0.171	0.640	0.733	0.319	9.556	3371.560	0.447	0.385	-1.273	2.047	0.613
362T199-68(N)	3.625	1.990	0.0713	50	65	0.523	1.78	1.118	0.617	1.462	0.213	0.638	0.972	0.436	13.052	4368.910	0.887	0.475	-1.271	2.039	0.612
362T249-33(N)[3]	3.625	2.490	0.0346	33	45	0.293	0.99	0.676	0.373	1.520	0.196	0.818	-	-	-	-	0.117	0.435	-1.731	2.444	-
362T249-43(N)	3.625	2.490	0.0451	33	45	0.380	1.29	0.874	0.482	1.516	0.253	0.816	0.643	0.264	5.214	1739.090	0.258	0.573	-1.715	2.430	0.502
362T249-54(N)	3.625	2.490	0.0566	50	65	0.475	1.62	1.084	0.598	1.510	0.315	0.814	0.806	0.333	9.957	3371.560	0.507	0.710	-1.713	2.425	0.501
362T249-68(N)	3.625	2.490	0.0713	50	65	0.595	2.02	1.343	0.741	1.503	0.392	0.812	1.078	0.456	13.662	4368.910	1.008	0.878	-1.711	2.418	0.499
362T299-33(N)[3]	3.625	2.990	0.0346	33	45	0.327	1.11	0.787	0.434	1.551	0.320	0.989	-	-	-	-	0.131	0.719	-2.185	2.856	-
362T299-43(N)[3]	3.625	2.990	0.0451	33	45	0.425	1.45	1.018	0.562	1.547	0.415	0.988	-	-	-	-	0.289	0.926	-2.182	2.851	-
362T299-54(N)	3.625	2.990	0.0566	50	65	0.532	1.81	1.264	0.697	1.542	0.517	0.986	0.869	0.343	10.263	3371.560	0.568	1.172	-2.167	2.836	0.416
362T299-68(N)	3.625	2.990	0.0713	50	65	0.666	2.27	1.568	0.865	1.535	0.644	0.983	1.169	0.472	14.122	4368.910	1.128	1.452	-2.165	2.830	0.415

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

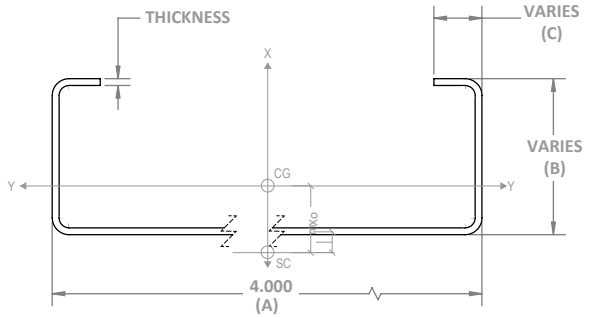
4" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at $K\phi = 0$
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



4" NON-STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
400S125-18[1]	4.000	1.250	0.188	0.0188	33	33	0.125	0.42	0.294	0.147	1.536	0.021	0.414	0.273	0.099	1.961	1.684	155.890	155.890	0.015	0.068	-0.754	1.760	0.817
400S125-27	4.000	1.250	0.188	0.0283	33	33	0.187	0.64	0.438	0.219	1.531	0.031	0.410	0.428	0.187	3.698	3.064	533.090	398.400	0.050	0.098	-0.744	1.751	0.819
400S125-30	4.000	1.250	0.188	0.0312	33	33	0.206	0.70	0.481	0.240	1.529	0.034	0.409	0.473	0.210	4.158	3.531	714.880	483.990	0.067	0.107	-0.741	1.748	0.820

[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.

4" STRUCTURAL STUD PROPERTIES

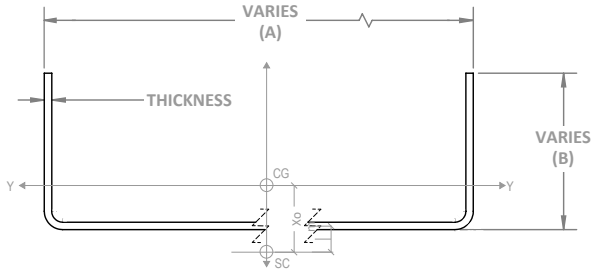
							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
400S162-33	4.000	1.625	0.5	0.0346	33	45	0.275	0.94	0.692	0.346	1.586	0.103	0.611	0.692	0.333	6.569	6.066	975.860	594.870	0.110	0.363	-1.263	2.118	0.644
400S162-43	4.000	1.625	0.5	0.0451	33	45	0.357	1.21	0.892	0.446	1.581	0.131	0.606	0.892	0.446	8.812	8.544	1739.090	809.560	0.242	0.460	-1.252	2.106	0.647
400S162-54	4.000	1.625	0.5	0.0566	50	65	0.443	1.51	1.098	0.549	1.574	0.159	0.600	1.097	0.533	15.961	15.248	3371.560	1222.800	0.473	0.560	-1.238	2.090	0.649
400S162-68	4.000	1.625	0.5	0.0713	50	65	0.550	1.87	1.346	0.673	1.564	0.192	0.591	1.346	0.673	20.150	20.150	4870.900	1355.880	0.933	0.677	-1.220	2.069	0.653
400S200-33	4.000	2.000	0.625	0.0346	33	45	0.310	1.05	0.812	0.406	1.619	0.183	0.769	0.804	0.365	7.212	6.899	975.860	594.870	0.124	0.697	-1.688	2.462	0.530
400S200-43	4.000	2.000	0.625	0.0451	33	45	0.402	1.37	1.048	0.524	1.615	0.235	0.764	1.048	0.509	10.063	9.736	1739.090	809.560	0.272	0.886	-1.676	2.450	0.532
400S200-54	4.000	2.000	0.625	0.0566	50	65	0.500	1.70	1.292	0.646	1.608	0.287	0.758	1.292	0.589	17.625	17.313	3371.560	1222.800	0.534	1.083	-1.662	2.433	0.534
400S200-68	4.000	2.000	0.625	0.0713	50	65	0.622	2.12	1.589	0.795	1.599	0.349	0.750	1.589	0.778	23.282	23.034	4870.900	1355.880	1.054	1.318	-1.643	2.412	0.536
400S250-43	4.000	2.500	0.625	0.0451	33	45	0.447	1.52	1.224	0.612	1.655	0.399	0.945	1.224	0.539	10.656	10.415	1739.090	809.560	0.303	1.486	-2.139	2.865	0.443
400S250-54	4.000	2.500	0.625	0.0566	50	65	0.556	1.89	1.512	0.756	1.649	0.490	0.938	1.496	0.623	18.639	18.422	3371.560	1222.800	0.594	1.821	-2.124	2.848	0.444
400S250-68	4.000	2.500	0.625	0.0713	50	65	0.693	2.36	1.864	0.932	1.640	0.599	0.929	1.864	0.811	24.278	24.763	4870.900	1355.880	1.174	2.225	-2.105	2.826	0.445
400S300-54	4.000	3.000	0.625	0.0566	50	65	0.613	2.09	1.732	0.866	1.681	0.760	1.114	1.612	0.645	19.313	19.244	3371.560	1222.800	0.655	2.802	-2.594	3.285	0.377
400S300-68	4.000	3.000	0.625	0.0713	50	65	0.764	2.60	2.140	1.070	1.673	0.933	1.105	2.093	0.848	25.384	26.055	4870.900	1355.880	1.295	3.433	-2.574	3.263	0.378

IRENE STEEL

4" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

4" NON-STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
400T125-18(S)[1,3]	4.122	1.250	0.0188	33	33	0.122	0.42	0.298	0.145	1.561	0.017	0.374	-	-	-	-	0.014	0.051	-0.645	1.730	-
400T125-27(S)	4.136	1.250	0.0283	33	33	0.184	0.63	0.449	0.217	1.562	0.025	0.372	0.380	0.156	3.079	514.570	0.049	0.078	-0.633	1.726	0.866
400T125-30(S)	4.141	1.250	0.0312	33	33	0.203	0.69	0.495	0.239	1.562	0.028	0.371	0.427	0.177	3.487	689.260	0.066	0.086	-0.631	1.726	0.866
400T150-18(S)[1,3]	4.122	1.500	0.0188	33	33	0.132	0.45	0.338	0.164	1.601	0.028	0.463	-	-	-	-	0.016	0.083	-0.837	1.865	-
400T150-27(S)	4.136	1.500	0.0283	33	33	0.198	0.67	0.509	0.246	1.602	0.042	0.461	0.409	0.154	3.042	514.570	0.053	0.127	-0.824	1.860	0.804
400T150-30(S)	4.141	1.500	0.0312	33	33	0.218	0.74	0.561	0.271	1.603	0.046	0.461	0.458	0.183	3.611	689.260	0.071	0.140	-0.822	1.860	0.804
400T200-18(S)[1,3]	4.122	2.000	0.0188	33	33	0.150	0.51	0.417	0.202	1.664	0.062	0.642	-	-	-	-	0.018	0.180	-1.246	2.176	-
400T200-27(S)[3]	4.136	2.000	0.0283	33	33	0.226	0.77	0.628	0.304	1.665	0.093	0.640	-	-	-	-	0.060	0.270	-1.242	2.174	-
400T200-30(S)[3]	4.141	2.000	0.0312	33	33	0.250	0.85	0.693	0.335	1.666	0.102	0.639	-	-	-	-	0.081	0.297	-1.240	2.173	-
400T250-18(S)[1,3]	4.122	2.500	0.0188	33	33	0.169	0.58	0.496	0.241	1.712	0.113	0.818	-	-	-	-	0.020	0.329	-1.678	2.532	-
400T250-27(S)[3]	4.136	2.500	0.0283	33	33	0.255	0.87	0.747	0.361	1.713	0.170	0.816	-	-	-	-	0.068	0.493	-1.673	2.530	-
400T250-30(S)[3]	4.141	2.500	0.0312	33	33	0.281	0.95	0.824	0.398	1.714	0.187	0.816	-	-	-	-	0.091	0.544	-1.671	2.529	-
400T300-18(S)[1,3]	4.122	3.000	0.0188	33	33	0.188	0.64	0.575	0.279	1.749	0.185	0.991	-	-	-	-	0.022	0.539	-2.124	2.924	-
400T300-27(S)[3]	4.136	3.000	0.0283	33	33	0.283	0.96	0.867	0.419	1.750	0.277	0.990	-	-	-	-	0.076	0.810	-2.119	2.921	-
400T300-30(S)[3]	4.141	3.000	0.0312	33	33	0.312	1.06	0.956	0.462	1.751	0.305	0.989	-	-	-	-	0.101	0.893	-2.117	2.920	-

[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.

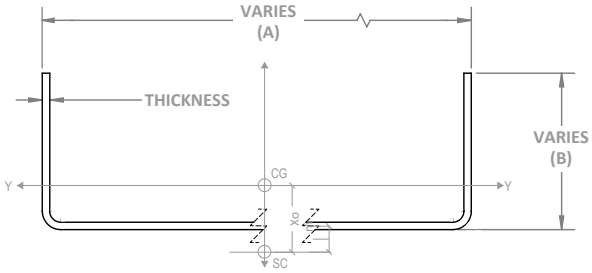
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

4" STANDARD STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

4" STANDARD STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
400T125-33(S)	4.146	1.250	0.0346	33	45	0.225	0.76	0.549	0.265	1.563	0.031	0.371	0.484	0.201	3.972	939.640	0.090	0.095	-0.630	1.725	0.867
400T125-43(S)	4.161	1.250	0.0451	33	45	0.293	1.00	0.716	0.344	1.563	0.040	0.369	0.666	0.282	5.568	1739.090	0.199	0.122	-0.626	1.724	0.868
400T125-54(S)	4.198	1.250	0.0566	50	65	0.367	1.25	0.904	0.431	1.569	0.049	0.366	0.849	0.359	10.739	3371.560	0.392	0.154	-0.621	1.727	0.871
400T125-68(S)	4.250	1.250	0.0713	50	65	0.462	1.57	1.150	0.541	1.577	0.061	0.363	1.134	0.488	14.623	5204.520	0.784	0.194	-0.614	1.731	0.874
400T150-33(S)	4.146	1.500	0.0346	33	45	0.242	0.82	0.622	0.300	1.603	0.051	0.460	0.519	0.208	4.117	939.640	0.097	0.155	-0.822	1.859	0.805
400T150-43(S)	4.161	1.500	0.0451	33	45	0.315	1.07	0.811	0.390	1.604	0.066	0.458	0.719	0.293	5.797	1739.090	0.214	0.200	-0.817	1.857	0.807
400T150-54(S)	4.198	1.500	0.0566	50	65	0.396	1.35	1.025	0.489	1.610	0.082	0.456	0.918	0.374	11.193	3371.560	0.422	0.252	-0.811	1.860	0.810
400T150-68(S)	4.250	1.500	0.0713	50	65	0.498	1.69	1.306	0.615	1.619	0.102	0.453	1.237	0.513	15.354	5204.520	0.844	0.320	-0.804	1.864	0.814
400T189-33(S)	4.146	1.890	0.0346	33	45	0.269	0.92	0.736	0.355	1.654	0.097	0.600	0.568	0.218	4.299	939.650	0.107	0.289	-1.137	2.095	0.706
400T189-43(S)	4.161	1.890	0.0451	33	45	0.351	1.19	0.960	0.461	1.655	0.125	0.598	0.792	0.308	6.076	1739.090	0.238	0.375	-1.132	2.092	0.707
400T189-54(S)	4.198	1.890	0.0566	50	65	0.440	1.50	1.215	0.579	1.662	0.156	0.595	1.013	0.392	11.745	3371.560	0.470	0.473	-1.126	2.094	0.711
400T189-68(S)	4.250	1.890	0.0713	50	65	0.554	1.88	1.549	0.729	1.673	0.194	0.592	1.376	0.542	16.221	5204.450	0.938	0.602	-1.117	2.097	0.716
400T200-33(S)	4.146	2.000	0.0346	33	45	0.277	0.94	0.768	0.371	1.666	0.113	0.639	0.581	0.220	4.343	939.640	0.110	0.336	-1.229	2.167	0.678
400T200-43(S)	4.161	2.000	0.0451	33	45	0.360	1.23	1.002	0.482	1.668	0.146	0.637	0.811	0.311	6.143	1739.090	0.244	0.437	-1.224	2.164	0.680
400T200-54(S)	4.198	2.000	0.0566	50	65	0.452	1.54	1.268	0.604	1.675	0.182	0.635	1.037	0.397	11.877	3371.560	0.483	0.551	-1.217	2.165	0.684
400T200-68(S)	4.250	2.000	0.0713	50	65	0.569	1.94	1.617	0.761	1.685	0.227	0.632	1.412	0.549	16.424	5204.520	0.965	0.702	-1.209	2.168	0.689
400T239-33(S)[3]	4.146	2.390	0.0346	33	45	0.304	1.03	0.882	0.426	1.705	0.183	0.777	-	-	-	-	0.121	0.533	-1.573	2.446	-
400T239-43(S)	4.161	2.390	0.0451	33	45	0.396	1.35	1.151	0.553	1.706	0.237	0.775	0.872	0.321	6.348	1739.090	0.268	0.707	-1.557	2.436	0.592
400T239-54(S)	4.198	2.390	0.0566	50	65	0.496	1.69	1.457	0.694	1.714	0.296	0.772	1.116	0.410	12.280	3371.560	0.530	0.894	-1.550	2.437	0.595
400T239-68(S)	4.250	2.390	0.0713	50	65	0.625	2.13	1.860	0.875	1.725	0.370	0.770	1.529	0.569	17.041	5204.450	1.059	1.140	-1.541	2.438	0.600
400T250-33(S)[3]	4.146	2.500	0.0346	33	45	0.311	1.06	0.915	0.441	1.714	0.207	0.815	-	-	-	-	0.124	0.602	-1.670	2.528	-
400T250-43(S)	4.161	2.500	0.0451	33	45	0.406	1.38	1.193	0.573	1.715	0.268	0.813	0.888	0.324	6.398	1739.090	0.275	0.799	-1.653	2.517	0.569
400T250-54(S)	4.198	2.500	0.0566	50	65	0.509	1.73	1.511	0.720	1.723	0.335	0.811	1.137	0.414	12.379	3371.560	0.543	1.011	-1.646	2.517	0.573
400T250-68(S)	4.250	2.500	0.0713	50	65	0.641	2.18	1.928	0.908	1.735	0.418	0.808	1.559	0.574	17.191	5204.520	1.086	1.289	-1.637	2.519	0.578
400T289-33(S)[3]	4.146	2.890	0.0346	33	45	0.338	1.15	1.029	0.496	1.744	0.306	0.951	-	-	-	-	0.135	0.894	-2.016	2.830	-
400T289-43(S)[3]	4.161	2.890	0.0451	33	45	0.441	1.50	1.342	0.645	1.745	0.397	0.949	-	-	-	-	0.299	1.163	-2.011	2.827	-
400T289-54(S)	4.198	2.890	0.0566	50	65	0.553	1.88	1.700	0.810	1.754	0.496	0.947	1.206	0.424	12.690	3371.56	0.590	1.501	-1.991	2.817	0.500
400T289-68(S)	4.250	2.890	0.0713	50	65	0.696	2.37	2.171	1.022	1.766	0.620	0.944	1.661	0.590	17.661	5204.450	1.180	1.916	-1.982	2.817	0.505
400T300-33(S)[3]	4.146	3.000	0.0346	33	45	0.346	1.18	1.061	0.512	1.751	0.338	0.989	-	-	-	-	0.138	0.990	-2.115	2.919	-
400T300-43(S)[3]	4.161	3.000	0.0451	33	45	0.451	1.53	1.384	0.665	1.753	0.439	0.987	-	-	-	-	0.306	1.288	-2.110	2.915	-
400T300-54(S)	4.198	3.000	0.0566	50	65	0.565	1.92	1.754	0.835	1.761	0.548	0.985	1.224	0.427	12.768	3371.560	0.604	1.662	-2.090	2.905	0.482
400T300-68(S)	4.250	3.000	0.0713	50	65	0.712	2.42	2.239	1.054	1.774	0.686	0.982	1.687	0.594	17.778	5204.520	1.206	2.122	-2.081	2.905	0.487

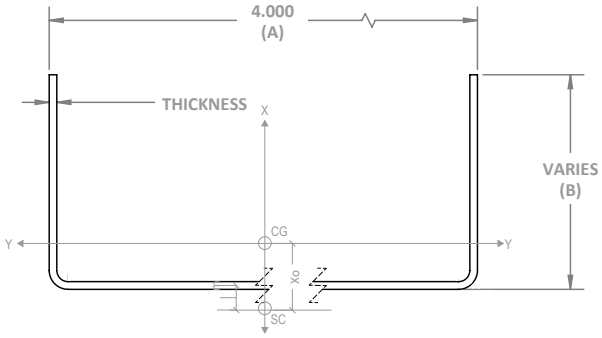
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

4" NARROW STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

4" NARROW STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
400T125-33(N)	4.000	1.250	0.0346	33	45	0.220	0.75	0.504	0.252	1.515	0.031	0.373	0.444	0.190	3.760	975.860	0.088	0.087	-0.641	1.686	0.856
400T125-43(N)	4.000	1.250	0.0451	33	45	0.286	0.97	0.651	0.326	1.510	0.039	0.372	0.606	0.266	5.249	1739.090	0.194	0.111	-0.638	1.681	0.856
400T125-54(N)	4.000	1.250	0.0566	50	65	0.356	1.21	0.805	0.403	1.504	0.049	0.370	0.756	0.334	9.991	3371.560	0.380	0.137	-0.635	1.674	0.856
400T125-68(N)	4.000	1.250	0.0713	50	65	0.445	1.51	0.994	0.497	1.495	0.060	0.368	0.980	0.447	13.383	4870.900	0.753	0.168	-0.631	1.664	0.856
400T150-33(N)	4.000	1.500	0.0346	33	45	0.237	0.81	0.572	0.286	1.554	0.051	0.463	0.477	0.197	3.899	975.860	0.095	0.142	-0.834	1.823	0.791
400T150-43(N)	4.000	1.500	0.0451	33	45	0.308	1.05	0.739	0.370	1.549	0.066	0.461	0.654	0.277	5.466	1739.090	0.209	0.183	-0.831	1.817	0.791
400T150-54(N)	4.000	1.500	0.0566	50	65	0.384	1.31	0.915	0.458	1.543	0.081	0.459	0.818	0.348	10.417	3371.560	0.410	0.225	-0.828	1.810	0.791
400T150-68(N)	4.000	1.500	0.0713	50	65	0.480	1.63	1.132	0.566	1.535	0.100	0.457	1.071	0.470	14.062	4870.900	0.814	0.278	-0.825	1.802	0.790
400T199-33(N)	4.000	1.990	0.0346	33	45	0.271	0.92	0.705	0.353	1.614	0.110	0.638	0.532	0.208	4.109	975.860	0.108	0.305	-1.236	2.130	0.663
400T199-43(N)	4.000	1.990	0.0451	33	45	0.352	1.20	0.912	0.456	1.609	0.142	0.636	0.737	0.293	5.787	1739.090	0.239	0.392	-1.233	2.124	0.663
400T199-54(N)	4.000	1.990	0.0566	50	65	0.440	1.50	1.131	0.565	1.604	0.177	0.634	0.923	0.369	11.044	3371.560	0.470	0.485	-1.230	2.118	0.663
400T199-68(N)	4.000	1.990	0.0713	50	65	0.550	1.87	1.401	0.701	1.596	0.220	0.632	1.223	0.502	15.031	4870.900	0.932	0.600	-1.227	2.110	0.662
400T249-33(N)[3]	4.000	2.490	0.0346	33	45	0.306	1.04	0.841	0.421	1.660	0.202	0.814	-	-	-	-	0.122	0.548	-1.680	2.497	-
400T249-43(N)	4.000	2.490	0.0451	33	45	0.397	1.35	1.088	0.544	1.655	0.262	0.812	0.808	0.305	6.029	1739.090	0.269	0.721	-1.665	2.484	0.551
400T249-54(N)	4.000	2.490	0.0566	50	65	0.496	1.69	1.351	0.675	1.650	0.326	0.810	1.014	0.385	11.512	3371.560	0.530	0.893	-1.663	2.478	0.550
400T249-68(N)	4.000	2.490	0.0713	50	65	0.621	2.11	1.676	0.838	1.643	0.406	0.808	1.353	0.526	15.738	4870.900	1.053	1.106	-1.660	2.471	0.549
400T299-33(N)[3]	4.000	2.990	0.0346	33	45	0.340	1.16	0.977	0.489	1.695	0.331	0.987	-	-	-	-	0.136	0.903	-2.128	2.894	-
400T299-43(N)[3]	4.000	2.990	0.0451	33	45	0.442	1.50	1.265	0.632	1.691	0.429	0.985	-	-	-	-	0.300	1.164	-2.124	2.888	-
400T299-54(N)	4.000	2.990	0.0566	50	65	0.553	1.88	1.571	0.785	1.685	0.534	0.983	1.092	0.397	11.873	3371.560	0.591	1.472	-2.110	2.874	0.461
400T299-68(N)	4.000	2.990	0.0713	50	65	0.693	2.36	1.952	0.976	1.679	0.666	0.981	1.466	0.544	16.275	4870.900	1.174	1.826	-2.108	2.867	0.460

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

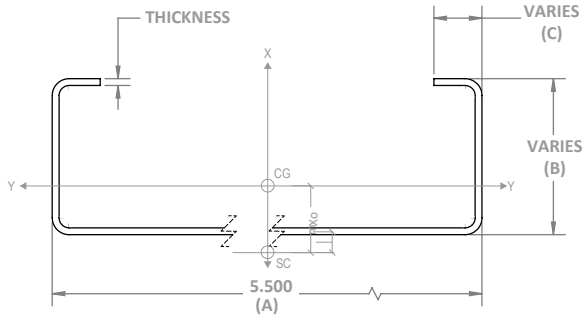
5-1/2" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at Kϕ = 0
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



5-1/2" NON-STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
550S125-27	5.500	1.250	0.188	0.0283	33	33	0.229	0.78	0.938	0.341	2.023	0.034	0.385	0.898	0.246	4.863	4.265	381.760	381.760	0.061	0.205	-0.642	2.157	0.912
550S125-30	5.500	1.250	0.188	0.0312	33	33	0.252	0.86	1.031	0.375	2.021	0.037	0.384	0.996	0.286	5.648	4.946	511.840	511.840	0.082	0.224	-0.639	2.154	0.912

5-1/2" STRUCTURAL STUD PROPERTIES

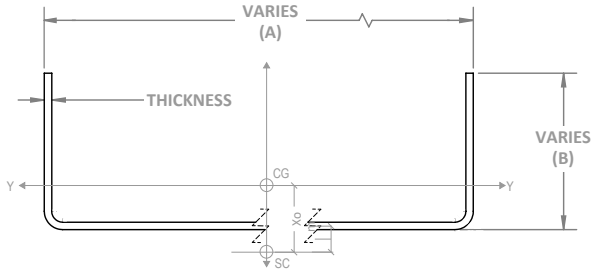
							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
550S162-33	5.500	1.625	0.500	0.0346	33	45	0.327	1.11	1.459	0.530	2.112	0.113	0.589	1.459	0.512	10.111	8.627	698.520	698.520	0.131	0.713	-1.114	2.459	0.795
550S162-43	5.500	1.625	0.500	0.0451	33	45	0.424	1.44	1.883	0.685	2.107	0.145	0.584	1.883	0.685	13.531	12.308	1550.050	1198.910	0.288	0.905	-1.103	2.449	0.797
550S162-54	5.500	1.625	0.500	0.0566	50	65	0.528	1.80	2.324	0.845	2.098	0.176	0.577	2.324	0.822	24.596	21.987	3093.430	1881.020	0.564	1.105	-1.090	2.434	0.800
550S162-68	5.500	1.625	0.500	0.0713	50	65	0.657	2.24	2.861	1.040	2.086	0.212	0.568	2.861	1.040	31.151	29.581	5350.290	2531.530	1.114	1.342	-1.072	2.414	0.803
550S200-33	5.500	2.000	0.625	0.0346	33	45	0.362	1.23	1.694	0.616	2.164	0.204	0.751	1.678	0.559	11.050	9.796	698.520	698.520	0.144	1.326	-1.508	2.742	0.698
550S200-43	5.500	2.000	0.625	0.0451	33	45	0.469	1.60	2.189	0.796	2.159	0.261	0.746	2.189	0.776	15.335	13.964	1550.050	1198.910	0.318	1.691	-1.496	2.731	0.700
550S200-54	5.500	2.000	0.625	0.0566	50	65	0.585	1.99	2.706	0.984	2.152	0.320	0.739	2.706	0.901	26.985	24.845	3093.430	1881.020	0.624	2.072	-1.483	2.716	0.702
550S200-68	5.500	2.000	0.625	0.0713	50	65	0.729	2.48	3.341	1.215	2.141	0.389	0.731	3.341	1.188	35.571	33.449	5350.290	2531.530	1.235	2.531	-1.465	2.695	0.705

IRENE STEEL

5-1/2" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

5-1/2" NON-STRUCTURAL TRACK PROPERTIES

	Gross Properties												Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
550T125-18(S)[2,3]	5.622	1.250	0.0188	33	33	0.150	0.51	0.630	0.224	2.046	0.018	0.349	-	-	-	-	0.018	0.106	-0.553	2.148	-
550T125-27(S)	5.636	1.250	0.0283	33	33	0.226	0.77	0.948	0.336	2.046	0.027	0.348	0.786	0.192	3.786	372.170	0.060	0.160	-0.543	2.145	0.936
550T125-30(S)	5.641	1.250	0.0312	33	33	0.250	0.85	1.045	0.371	2.046	0.030	0.347	0.897	0.226	4.472	498.570	0.081	0.176	-0.542	2.145	0.936
550T150-18(S)[2,3]	5.622	1.500	0.0188	33	33	0.160	0.54	0.704	0.250	2.098	0.031	0.437	-	-	-	-	0.019	0.173	-0.727	2.263	-
550T150-27(S)	5.636	1.500	0.0283	33	33	0.241	0.82	1.059	0.376	2.098	0.046	0.436	0.893	0.208	4.100	372.170	0.064	0.263	-0.716	2.260	0.900
550T150-30(S)	5.641	1.500	0.0312	33	33	0.265	0.90	1.168	0.414	2.099	0.050	0.435	0.995	0.251	4.964	498.570	0.086	0.289	-0.715	2.259	0.900
550T200-18(S)[2,3]	5.622	2.000	0.0188	33	33	0.179	0.61	0.851	0.303	2.183	0.068	0.616	-	-	-	-	0.021	0.374	-1.103	2.522	-
550T200-27(S)[3]	5.636	2.000	0.0283	33	33	0.269	0.91	1.281	0.455	2.183	0.101	0.614	-	-	-	-	0.072	0.560	-1.099	2.520	-
550T200-30(S)[3]	5.641	2.000	0.0312	33	33	0.296	1.01	1.413	0.501	2.184	0.112	0.614	-	-	-	-	0.096	0.616	-1.098	2.520	-
550T250-18(S)[2,3]	5.622	2.500	0.0188	33	33	0.197	0.67	0.999	0.355	2.249	0.125	0.795	-	-	-	-	0.023	0.680	-1.506	2.821	-
550T250-27(S)[3]	5.636	2.500	0.0283	33	33	0.297	1.01	1.504	0.534	2.250	0.187	0.793	-	-	-	-	0.079	1.020	-1.502	2.819	-
550T250-30(S)[3]	5.641	2.500	0.0312	33	33	0.328	1.11	1.659	0.588	2.250	0.206	0.793	-	-	-	-	0.106	1.124	-1.501	2.819	-
550T300-18(S)[2,3]	5.622	3.000	0.0188	33	33	0.216	0.74	1.146	0.408	2.302	0.205	0.972	-	-	-	-	0.026	1.110	-1.928	3.156	-
550T300-27(S)[3]	5.636	3.000	0.0283	33	33	0.325	1.11	1.726	0.613	2.303	0.307	0.971	-	-	-	-	0.087	1.668	-1.924	3.154	-
550T300-30(S)[3]	5.641	3.000	0.0312	33	33	0.359	1.22	1.904	0.675	2.304	0.338	0.970	-	-	-	-	0.116	1.838	-1.922	3.153	-

[2] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 260 BUT IS LESS THAN 300. BEARING AND INTERMEDIATE STIFFENERS MUST BE PROVIDED IN ACCORDANCE WITH AISI S100.

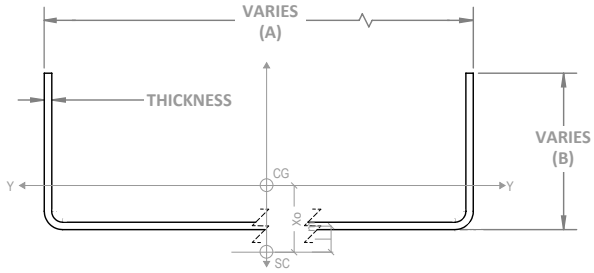
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

5-1/2" STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

5-1/2" STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
550T125-33(S)	5.646	1.250	0.0346	33	45	0.277	0.94	1.159	0.410	2.046	0.033	0.346	1.029	0.270	5.327	679.760	0.110	0.195	-0.541	2.145	0.937
550T125-43(S)	5.661	1.250	0.0451	33	45	0.360	1.23	1.510	0.533	2.047	0.043	0.345	1.428	0.417	8.230	1503.960	0.244	0.252	-0.537	2.144	0.937
550T125-54(S)	5.698	1.250	0.0566	50	65	0.452	1.54	1.903	0.668	2.052	0.053	0.342	1.811	0.535	16.007	2980.260	0.483	0.315	-0.532	2.147	0.939
550T125-68(S)	5.750	1.250	0.0713	50	65	0.569	1.94	2.412	0.839	2.058	0.066	0.339	2.379	0.769	23.016	5350.290	0.965	0.397	-0.526	2.152	0.940
550T150-33(S)	5.646	1.500	0.0346	33	45	0.294	1.00	1.295	0.459	2.099	0.056	0.434	1.115	0.310	6.120	679.760	0.117	0.320	-0.714	2.259	0.900
550T150-43(S)	5.661	1.500	0.0451	33	45	0.383	1.30	1.688	0.596	2.099	0.072	0.433	1.516	0.468	9.251	1503.960	0.260	0.414	-0.710	2.258	0.901
550T150-54(S)	5.698	1.500	0.0566	50	65	0.480	1.63	2.128	0.747	2.105	0.089	0.430	1.928	0.595	17.805	2980.260	0.513	0.519	-0.704	2.261	0.903
550T150-68(S)	5.750	1.500	0.0713	50	65	0.605	2.06	2.699	0.939	2.112	0.111	0.427	2.569	0.804	24.073	5350.290	1.025	0.655	-0.698	2.265	0.905
550T200-33(S)	5.646	2.000	0.0346	33	45	0.329	1.12	1.567	0.555	2.184	0.123	0.613	1.246	0.307	6.060	679.760	0.131	0.694	-1.088	2.516	0.813
550T200-43(S)	5.661	2.000	0.0451	33	45	0.428	1.46	2.043	0.722	2.185	0.160	0.611	1.690	0.495	9.787	1503.960	0.290	0.900	-1.083	2.514	0.814
550T200-54(S)	5.698	2.000	0.0566	50	65	0.537	1.83	2.578	0.905	2.191	0.199	0.609	2.153	0.630	18.858	2980.260	0.573	1.133	-1.078	2.517	0.817
550T200-68(S)	5.750	2.000	0.0713	50	65	0.676	2.30	3.274	1.139	2.200	0.248	0.606	2.894	0.857	25.670	5350.290	1.146	1.434	-1.070	2.521	0.820
550T250-33(S)[3]	5.646	2.500	0.0346	33	45	0.363	1.23	1.840	0.652	2.251	0.228	0.792	-	-	-	-	0.145	1.245	-1.499	2.818	-
550T250-43(S)	5.661	2.500	0.0451	33	45	0.473	1.61	2.399	0.848	2.252	0.295	0.790	1.841	0.516	10.199	1503.960	0.321	1.643	-1.484	2.810	0.721
550T250-54(S)	5.698	2.500	0.0566	50	65	0.594	2.02	3.029	1.063	2.259	0.368	0.788	2.346	0.657	19.663	2980.260	0.634	2.070	-1.478	2.812	0.724
550T250-68(S)	5.750	2.500	0.0713	50	65	0.748	2.54	3.849	1.339	2.269	0.460	0.785	3.173	0.897	26.860	5350.290	1.267	2.627	-1.470	2.815	0.727
550T300-33(S)[3]	5.646	3.000	0.0346	33	45	0.398	1.35	2.112	0.748	2.304	0.374	0.970	-	-	-	-	0.159	2.036	-1.920	3.152	-
550T300-43(S)[3]	5.661	3.000	0.0451	33	45	0.518	1.76	2.754	0.973	2.306	0.485	0.968	-	-	-	-	0.351	2.646	-1.915	3.150	-
550T300-54(S)	5.698	3.000	0.0566	50	65	0.650	2.21	3.479	1.221	2.313	0.606	0.965	2.526	0.663	19.840	2980.260	0.694	3.390	-1.898	3.144	0.636
550T300-68(S)	5.750	3.000	0.0713	50	65	0.819	2.79	4.424	1.539	2.324	0.758	0.962	3.417	0.929	27.800	5350.290	1.388	4.307	-1.889	3.146	0.640

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

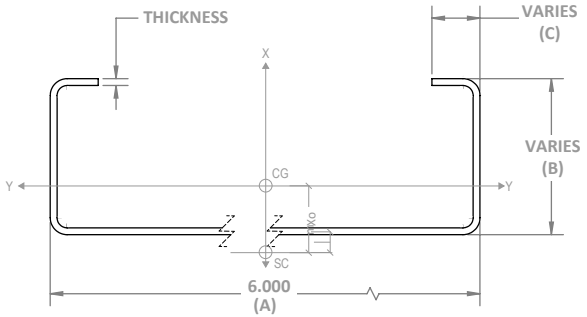
6" STUD PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at $K\phi = 0$
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



6" NON-STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
600S125-18[4]	6.000	1.250	0.188	0.0188	33	33	0.162	0.55	0.778	0.259	2.189	0.024	0.382	0.543	0.142	2.350	1.920	102.000	82.000	0.019	0.172	-0.623	2.308	0.927
600S125-27[1]	6.000	1.250	0.188	0.0283	33	33	0.243	0.83	1.160	0.387	2.183	0.035	0.378	1.097	0.271	5.348	4.640	348.760	348.760	0.065	0.251	-0.614	2.299	0.929
600S125-30	6.000	1.250	0.188	0.0312	33	33	0.268	0.91	1.275	0.425	2.181	0.038	0.376	1.218	0.315	6.219	5.388	467.570	467.570	0.087	0.274	-0.611	2.296	0.929

[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.

[4] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 300. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

6" STRUCTURAL STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
600S162-33	6.000	1.625	0.5	0.0346	33	45	0.344	1.17	1.793	0.598	2.282	0.116	0.581	1.793	0.577	11.408	9.466	638.070	638.070	0.137	0.862	-1.072	2.587	0.828
600S162-43	6.000	1.625	0.5	0.0451	33	45	0.447	1.52	2.316	0.772	2.276	0.148	0.576	2.316	0.772	15.254	13.558	1415.670	1240.290	0.303	1.095	-1.062	2.577	0.830
600S162-54	6.000	1.625	0.5	0.0566	50	65	0.556	1.89	2.860	0.954	2.268	0.181	0.570	2.860	0.927	27.760	23.790	2822.880	1947.400	0.594	1.337	-1.049	2.562	0.833
600S162-68	6.000	1.625	0.5	0.0713	50	65	0.693	2.36	3.525	1.175	2.255	0.218	0.561	3.525	1.175	35.176	32.746	5350.290	2878.930	1.174	1.626	-1.032	2.543	0.835
600S200-33	6.000	2.000	0.625	0.0346	33	45	0.379	1.29	2.075	0.692	2.340	0.209	0.743	2.058	0.621	12.277	10.764	638.070	638.070	0.151	1.593	-1.457	2.855	0.740
600S200-43	6.000	2.000	0.625	0.0451	33	45	0.492	1.67	2.683	0.894	2.335	0.268	0.739	2.683	0.873	17.243	15.388	1415.670	1240.290	0.334	2.033	-1.446	2.844	0.742
600S200-54	6.000	2.000	0.625	0.0566	50	65	0.613	2.09	3.319	1.106	2.327	0.329	0.732	3.319	1.015	30.395	27.383	2822.880	1947.400	0.655	2.493	-1.433	2.829	0.744
600S200-68	6.000	2.000	0.625	0.0713	50	65	0.764	2.60	4.101	1.367	2.316	0.400	0.723	4.101	1.337	40.029	36.992	5350.290	2878.930	1.295	3.047	-1.415	2.809	0.746
600S250-43	6.000	2.500	0.625	0.0451	33	45	0.537	1.83	3.083	1.028	2.396	0.458	0.923	3.083	0.918	18.139	16.208	1415.670	1240.290	0.364	3.411	-1.874	3.179	0.652
600S250-54	6.000	2.500	0.625	0.0566	50	65	0.670	2.28	3.819	1.273	2.388	0.562	0.917	3.766	1.069	32.001	28.713	2822.880	1947.400	0.715	4.194	-1.860	3.163	0.654
600S250-68	6.000	2.500	0.625	0.0713	50	65	0.836	2.84	4.727	1.576	2.378	0.688	0.908	4.723	1.386	41.491	39.070	5350.290	2878.930	1.416	5.146	-1.842	3.142	0.657
600S300-54	6.000	3.000	0.625	0.0566	50	65	0.726	2.47	4.319	1.440	2.439	0.875	1.098	4.014	1.106	33.126	29.623	2822.880	1947.400	0.775	6.452	-2.299	3.527	0.575
600S300-68	6.000	3.000	0.625	0.0713	50	65	0.907	3.09	5.354	1.785	2.430	1.075	1.089	5.221	1.446	43.296	40.528	5350.290	2878.930	1.537	7.937	-2.280	3.506	0.577

IRENE STEEL

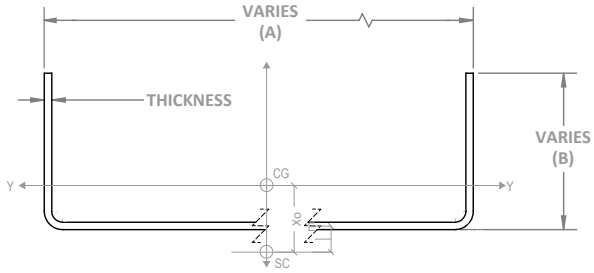
6" NON-STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations



6" NON-STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
600T125-18(S)[3,4]	6.122	1.250	0.0188	33	33	0.160	0.54	0.776	0.254	2.204	0.019	0.342	-	-	-	-	0.019	0.129	-0.528	2.292	-
600T125-27(S)[1]	6.136	1.250	0.0283	33	33	0.241	0.82	1.168	0.381	2.204	0.028	0.340	0.958	0.211	4.159	340.740	0.064	0.196	-0.519	2.290	0.949
600T125-30(S)	6.141	1.250	0.0312	33	33	0.265	0.90	1.288	0.420	2.204	0.031	0.340	1.095	0.249	4.920	456.480	0.086	0.215	-0.518	2.289	0.949
600T150-18(S)[3,4]	6.122	1.500	0.0188	33	33	0.169	0.58	0.864	0.282	2.259	0.031	0.429	-	-	-	-	0.020	0.211	-0.697	2.403	-
600T150-27(S)[1]	6.136	1.500	0.0283	33	33	0.255	0.87	1.300	0.424	2.260	0.047	0.428	1.011	0.214	4.226	340.740	0.068	0.320	-0.686	2.400	0.918
600T150-30(S)	6.141	1.500	0.0312	33	33	0.281	0.96	1.434	0.467	2.260	0.051	0.427	1.159	0.253	5.007	456.480	0.091	0.352	-0.685	2.400	0.919
600T200-18(S)[3,4]	6.122	2.000	0.0188	33	33	0.188	0.64	1.039	0.339	2.350	0.069	0.607	-	-	-	-	0.022	0.457	-1.063	2.650	-
600T200-27(S)[1,3]	6.136	2.000	0.0283	33	33	0.283	0.96	1.564	0.510	2.351	0.104	0.605	-	-	-	-	0.076	0.684	-1.059	2.649	-
600T200-30(S)[3]	6.141	2.000	0.0312	33	33	0.312	1.06	1.725	0.562	2.352	0.114	0.605	-	-	-	-	0.101	0.753	-1.058	2.649	-
600T250-18(S)[3,4]	6.122	2.500	0.0188	33	33	0.207	0.70	1.214	0.397	2.423	0.128	0.786	-	-	-	-	0.024	0.831	-1.458	2.935	-
600T250-27(S)[1,3]	6.136	2.500	0.0283	33	33	0.311	1.06	1.828	0.596	2.423	0.192	0.784	-	-	-	-	0.083	1.246	-1.453	2.933	-
600T250-30(S)[3]	6.141	2.500	0.0312	33	33	0.343	1.17	2.016	0.657	2.424	0.211	0.784	-	-	-	-	0.111	1.373	-1.452	2.932	-
600T300-18(S)[3,4]	6.122	3.000	0.0188	33	33	0.226	0.77	1.389	0.454	2.481	0.210	0.965	-	-	-	-	0.027	1.355	-1.872	3.254	-
600T300-27(S)[1,3]	6.136	3.000	0.0283	33	33	0.340	1.15	2.092	0.682	2.482	0.315	0.963	-	-	-	-	0.091	2.035	-1.867	3.252	-
600T300-30(S)[3]	6.141	3.000	0.0312	33	33	0.374	1.27	2.307	0.751	2.483	0.347	0.962	-	-	-	-	0.122	2.243	-1.866	3.251	-

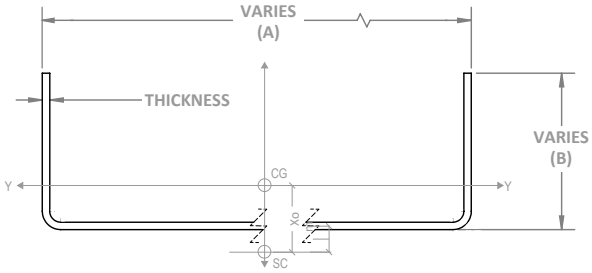
[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.
[2] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 260 BUT IS LESS THAN 300. BEARING AND INTERMEDIATE STIFFENERS MUST BE PROVIDED IN ACCORDANCE WITH AISI S100.
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.
[4] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 300. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

6" STANDARD STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

6" STANDARD STRUCTURAL TRACK PROPERTIES

	Gross Properties												Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in^4)	R_o (in^4)	β
600T125-33(S)	6.146	1.250	0.0346	33	45	0.294	1.00	1.428	0.465	2.204	0.034	0.339	1.258	0.297	5.868	622.380	0.117	0.238	-0.517	2.289	0.949
600T125-43(S)	6.161	1.250	0.0451	33	45	0.383	1.30	1.861	0.604	2.205	0.044	0.337	1.768	0.461	9.113	1377.130	0.260	0.307	-0.513	2.288	0.950
600T125-54(S)	6.198	1.250	0.0566	50	65	0.480	1.63	2.344	0.756	2.209	0.054	0.335	2.241	0.592	17.735	2728.340	0.513	0.384	-0.508	2.291	0.951
600T125-68(S)	6.250	1.250	0.0713	50	65	0.605	2.06	2.969	0.950	2.215	0.067	0.332	2.934	0.858	25.692	5350.290	1.025	0.483	-0.503	2.296	0.952
600T150-33(S)	6.146	1.500	0.0346	33	45	0.311	1.06	1.590	0.517	2.260	0.057	0.426	1.334	0.303	5.985	622.380	0.124	0.390	-0.684	2.399	0.919
600T150-43(S)	6.161	1.500	0.0451	33	45	0.406	1.38	2.072	0.673	2.261	0.073	0.424	1.890	0.474	9.358	1377.130	0.275	0.504	-0.680	2.398	0.920
600T150-54(S)	6.198	1.500	0.0566	50	65	0.509	1.73	2.611	0.843	2.266	0.091	0.422	2.400	0.609	18.237	2728.340	0.543	0.633	-0.675	2.401	0.921
600T150-68(S)	6.250	1.500	0.0713	50	65	0.641	2.18	3.309	1.059	2.273	0.113	0.419	3.162	0.891	26.675	5350.290	1.086	0.797	-0.669	2.406	0.923
600T189-33(S)	6.146	1.890	0.0346	33	45	0.338	1.15	1.842	0.599	2.333	0.108	0.565	1.509	0.334	6.592	622.390	0.135	0.727	-0.965	2.588	0.861
600T189-43(S)	6.161	1.890	0.0451	33	45	0.441	1.50	2.401	0.779	2.334	0.140	0.563	2.033	0.559	11.038	1377.130	0.299	0.943	-0.961	2.586	0.862
600T189-54(S)	6.198	1.890	0.0566	50	65	0.553	1.88	3.027	0.977	2.340	0.174	0.561	2.586	0.710	21.247	2728.340	0.590	1.185	-0.956	2.589	0.864
600T189-68(S)	6.250	1.890	0.0713	50	65	0.696	2.37	3.840	1.229	2.349	0.217	0.558	3.461	0.961	28.775	5350.290	1.180	1.498	-0.949	2.594	0.866
600T200-33(S)	6.146	2.000	0.0346	33	45	0.346	1.18	1.913	0.623	2.352	0.126	0.604	1.542	0.333	6.585	622.380	0.138	0.847	-1.048	2.645	0.843
600T200-43(S)	6.161	2.000	0.0451	33	45	0.451	1.53	2.494	0.810	2.353	0.163	0.602	2.076	0.565	11.157	1377.130	0.306	1.098	-1.044	2.643	0.844
600T200-54(S)	6.198	2.000	0.0566	50	65	0.565	1.92	3.145	1.015	2.359	0.204	0.600	2.641	0.717	21.479	2728.340	0.604	1.381	-1.038	2.646	0.846
600T200-68(S)	6.250	2.000	0.0713	50	65	0.712	2.42	3.990	1.277	2.367	0.254	0.597	3.540	0.973	29.120	5350.290	1.206	1.746	-1.031	2.650	0.849
600T239-33(S)[3]	6.146	2.390	0.0346	33	45	0.373	1.27	2.165	0.705	2.410	0.206	0.744	-	-	-	-	0.149	1.347	-1.362	2.866	-
600T239-43(S)	6.161	2.390	0.0451	33	45	0.486	1.65	2.823	0.916	2.411	0.267	0.742	2.228	0.565	11.166	1377.130	0.329	1.775	-1.348	2.860	0.778
600T239-54(S)	6.198	2.390	0.0566	50	65	0.610	2.07	3.561	1.149	2.417	0.333	0.740	2.828	0.735	22.001	2728.340	0.651	2.235	-1.342	2.862	0.780
600T239-68(S)	6.250	2.390	0.0713	50	65	0.768	2.61	4.520	1.447	2.427	0.417	0.737	3.802	1.009	30.194	5350.290	1.301	2.831	-1.334	2.866	0.783
600T250-33(S)[3]	6.146	2.500	0.0346	33	45	0.380	1.29	2.236	0.728	2.424	0.233	0.783	-	-	-	-	0.152	1.520	-1.451	2.932	-
600T250-43(S)	6.161	2.500	0.0451	33	45	0.496	1.69	2.916	0.946	2.425	0.303	0.781	2.269	0.563	11.127	1377.130	0.336	2.004	-1.436	2.925	0.759
600T250-54(S)	6.198	2.500	0.0566	50	65	0.622	2.12	3.678	1.187	2.432	0.377	0.779	2.881	0.732	21.918	2728.340	0.664	2.523	-1.430	2.927	0.761
600T250-68(S)	6.250	2.500	0.0713	50	65	0.783	2.67	4.670	1.495	2.442	0.472	0.776	3.871	1.017	30.461	5350.290	1.327	3.198	-1.422	2.931	0.765
600T289-33(S)[3]	6.146	2.890	0.0346	33	45	0.407	1.39	2.488	0.810	2.471	0.347	0.923	-	-	-	-	0.163	2.247	-1.772	3.177	-
600T289-43(S)[3]	6.161	2.890	0.0451	33	45	0.531	1.80	3.244	1.053	2.472	0.450	0.921	-	-	-	-	0.360	2.919	-1.767	3.175	-
600T289-54(S)	6.198	2.890	0.0566	50	65	0.666	2.27	4.095	1.321	2.480	0.562	0.918	3.060	0.724	21.669	2728.340	0.711	3.732	-1.750	3.171	0.695
600T289-68(S)	6.250	2.890	0.0713	50	65	0.839	2.85	5.201	1.664	2.490	0.703	0.915	4.102	1.046	31.313	5350.290	1.421	4.735	-1.742	3.174	0.699
600T300-33(S)[3]	6.146	3.000	0.0346	33	45	0.415	1.41	2.559	0.833	2.483	0.384	0.962	-	-	-	-	0.166	2.485	-1.864	3.250	-
600T300-43(S)[3]	6.161	3.000	0.0451	33	45	0.541	1.84	3.337	1.083	2.484	0.498	0.960	-	-	-	-	0.367	3.229	-1.859	3.248	-
600T300-54(S)	6.198	3.000	0.0566	50	65	0.679	2.31	4.212	1.359	2.492	0.622	0.957	3.108	0.722	21.610	2728.340	0.725	4.129	-1.842	3.243	0.677
600T300-68(S)	6.250	3.000	0.0713	50	65	0.855	2.91	5.351	1.712	2.502	0.778	0.955	4.164	1.053	31.529	5350.290	1.448	5.239	-1.834	3.246	0.681

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

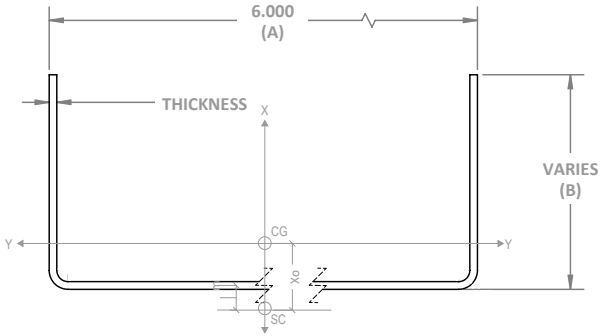
6" NARROW STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations



6" NARROW STRUCTURAL TRACK PROPERTIES

	Gross Properties												Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
600T125-33(N)	6.000	1.25	0.0346	33	45	0.289	0.98	1.346	0.449	2.158	0.034	0.341	1.188	0.289	5.711	638.070	0.115	0.225	-0.523	2.247	0.946
600T125-43(N)	6.000	1.25	0.0451	33	45	0.376	1.28	1.743	0.581	2.154	0.043	0.339	1.653	0.447	8.828	1415.670	0.255	0.289	-0.520	2.242	0.946
600T125-54(N)	6.000	1.25	0.0566	50	65	0.469	1.60	2.162	0.721	2.147	0.054	0.338	2.064	0.570	17.050	2822.880	0.501	0.356	-0.518	2.234	0.946
600T125-68(N)	6.000	1.25	0.0713	50	65	0.587	2.00	2.682	0.894	2.137	0.066	0.336	2.648	0.814	24.366	5350.290	0.995	0.439	-0.514	2.224	0.947
600T150-33(N)	6.000	1.5	0.0346	33	45	0.306	1.04	1.500	0.500	2.213	0.056	0.429	1.262	0.295	5.826	638.070	0.122	0.369	-0.692	2.358	0.914
600T150-43(N)	6.000	1.5	0.0451	33	45	0.398	1.36	1.943	0.648	2.209	0.073	0.427	1.750	0.512	10.125	1415.670	0.270	0.474	-0.689	2.353	0.914
600T150-54(N)	6.000	1.5	0.0566	50	65	0.498	1.69	2.412	0.804	2.202	0.090	0.425	2.190	0.644	19.293	2822.880	0.531	0.586	-0.686	2.345	0.914
600T150-68(N)	6.000	1.5	0.0713	50	65	0.623	2.12	2.995	0.998	2.193	0.112	0.423	2.857	0.846	25.323	5350.290	1.055	0.724	-0.683	2.336	0.915
600T199-33(N)	6.000	1.99	0.0346	33	45	0.340	1.16	1.802	0.601	2.302	0.124	0.603	1.449	0.326	6.433	638.070	0.136	0.790	-1.052	2.601	0.837
600T199-43(N)	6.000	1.99	0.0451	33	45	0.442	1.51	2.334	0.778	2.297	0.160	0.602	1.942	0.541	10.696	1415.670	0.300	1.018	-1.049	2.596	0.837
600T199-54(N)	6.000	1.99	0.0566	50	65	0.553	1.88	2.902	0.967	2.291	0.199	0.600	2.435	0.682	20.403	2822.880	0.591	1.262	-1.046	2.589	0.837
600T199-68(N)	6.000	1.99	0.0713	50	65	0.693	2.36	3.609	1.203	2.283	0.248	0.598	3.201	0.913	27.347	5350.290	1.174	1.565	-1.043	2.580	0.837
600T249-33(N)[3]	6.000	2.49	0.0346	33	45	0.375	1.27	2.109	0.703	2.373	0.229	0.782	-	-	-	-	0.150	1.421	-1.456	2.892	-
600T249-43(N)	6.000	2.49	0.0451	33	45	0.488	1.66	2.734	0.911	2.368	0.297	0.781	2.121	0.549	10.848	1415.670	0.331	1.863	-1.443	2.881	0.749
600T249-54(N)	6.000	2.49	0.0566	50	65	0.610	2.07	3.402	1.134	2.362	0.370	0.779	2.653	0.710	21.247	2822.880	0.651	2.313	-1.441	2.875	0.749
600T249-68(N)	6.000	2.49	0.0713	50	65	0.764	2.60	4.236	1.412	2.355	0.461	0.777	3.506	0.956	28.619	5350.290	1.295	2.873	-1.437	2.866	0.749
600T299-33(N)[3]	6.000	2.99	0.0346	33	45	0.409	1.39	2.417	0.806	2.430	0.378	0.960	-	-	-	-	0.163	2.327	-1.872	3.214	-
600T299-43(N)[3]	6.000	2.99	0.0451	33	45	0.533	1.81	3.134	1.045	2.426	0.490	0.959	-	-	-	-	0.361	3.007	-1.868	3.209	-
600T299-54(N)	6.000	2.99	0.0566	50	65	0.666	2.27	3.902	1.301	2.420	0.610	0.957	2.864	0.699	20.916	2822.880	0.711	3.792	-1.855	3.196	0.663
600T299-68(N)	6.000	2.99	0.0713	50	65	0.835	2.84	4.862	1.621	2.413	0.762	0.955	3.775	0.990	29.627	5350.290	1.415	4.718	-1.852	3.188	0.663

[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

8" STUD PROPERTIES

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:

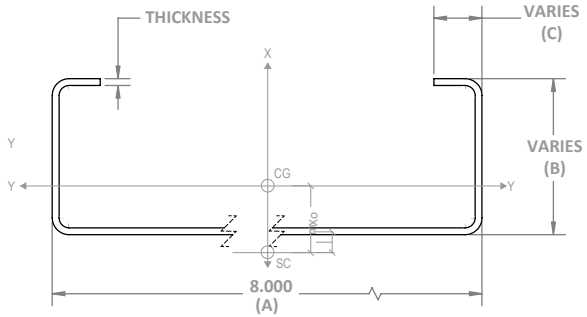
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant

Effective Properties:

I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
M_{da} = Allowable Distortional Buckling Moment at Kϕ = 0
V_{ag} = Allowable Shear Force in Web (Unpunched)
V_{anet} = Allowable Shear Force in Web (Punched)
* Effective properties are for the members without punchouts. Allowable moment is the lesser of M_{al} and M_{ad}.
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:

CRC punchouts are min. 12" from leading edge
CRC punchouts are min. 24" o.c.
Use the effective moment of inertia for deflection calculations



8" STUD PROPERTIES

							Gross Properties							Effective Properties						Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Lip Width (C) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	M_{da} (in-k)	V_{ag} (lb)	V_{anet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	R_o (in^6)	β
800S162-33[1]	8.000	1.625	0.5	0.0346	33	45	0.414	1.41	3.582	0.896	2.943	0.125	0.550	3.384	0.710	14.027	12.608	474.000	474.000	0.165	1.630	-0.936	3.137	0.911
800S162-43	8.000	1.625	0.5	0.0451	33	45	0.537	1.83	4.633	1.158	2.937	0.160	0.546	4.500	1.019	20.141	18.328	1051.150	1051.150	0.364	2.076	-0.926	3.128	0.912
800S162-54	8.000	1.625	0.5	0.0566	50	65	0.670	2.28	5.736	1.434	2.927	0.194	0.539	5.600	1.229	36.791	32.812	2091.280	2091.280	0.715	2.539	-0.914	3.113	0.914
800S162-68	8.000	1.625	0.5	0.0713	50	65	0.836	2.84	7.089	1.772	2.913	0.235	0.530	7.070	1.663	49.803	45.109	4220.730	3367.370	1.416	3.093	-0.899	3.094	0.916
800S200-33[1]	8.000	2.000	0.625	0.0346	33	45	0.448	1.52	4.096	1.024	3.023	0.227	0.712	4.096	0.816	16.120	14.523	474.000	474.000	0.179	2.971	-1.288	3.363	0.853
800S200-43	8.000	2.000	0.625	0.0451	33	45	0.582	1.98	5.302	1.325	3.018	0.292	0.708	5.302	1.293	25.541	20.986	1051.150	1051.150	0.395	3.797	-1.278	3.353	0.855
800S200-54	8.000	2.000	0.625	0.0566	50	65	0.726	2.47	6.573	1.643	3.009	0.357	0.701	6.573	1.499	44.867	37.371	2091.280	2091.280	0.775	4.663	-1.265	3.338	0.856
800S200-68	8.000	2.000	0.625	0.0713	50	65	0.907	3.09	8.141	2.035	2.996	0.435	0.692	8.141	1.993	59.661	51.118	4220.730	3367.370	1.537	5.712	-1.248	3.319	0.859
800S250-43	8.000	2.500	0.625	0.0451	33	45	0.627	2.13	6.015	1.504	3.097	0.500	0.893	6.015	1.313	25.953	22.058	1051.150	1051.150	0.425	6.374	-1.675	3.632	0.787
800S250-54	8.000	2.500	0.625	0.0566	50	65	0.783	2.66	7.465	1.866	3.088	0.614	0.886	7.378	1.525	45.658	39.129	2091.280	2091.280	0.836	7.850	-1.661	3.617	0.789
800S250-68	8.000	2.500	0.625	0.0713	50	65	0.978	3.33	9.261	2.315	3.077	0.752	0.877	9.240	2.059	61.650	53.754	4220.730	3367.370	1.658	9.653	-1.644	3.597	0.791
800S300-54	8.000	2.000	0.625	0.0566	50	65	0.839	2.86	8.358	2.090	3.156	0.960	1.069	7.862	1.535	45.960	40.224	2091.280	2091.280	0.896	12.076	-2.073	3.924	0.721
800S300-68	8.000	2.000	0.625	0.0713	50	65	1.050	3.57	10.382	2.595	3.145	1.179	1.060	10.082	2.145	64.213	55.467	4220.730	3367.370	1.779	14.888	-2.055	3.904	0.723

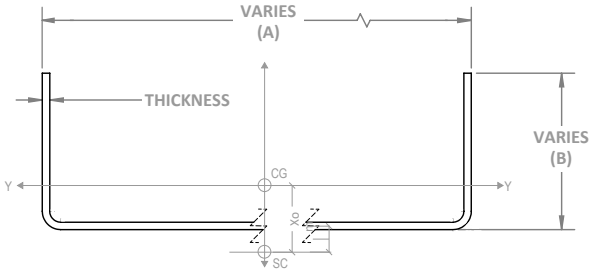
[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.

IRENE STEEL

8" STANDARD STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

8" STANDARD STRUCTURAL TRACK PROPERTIES

						Gross Properties							Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
800T125-33(S)[1]	8.146	1.250	0.0346	33	45	0.363	1.24	2.896	0.711	2.824	0.036	0.313	2.441	0.407	8.034	465.290	0.145	0.456	-0.439	2.875	0.977
800T125-43(S)	8.161	1.250	0.0451	33	45	0.473	1.61	3.773	0.925	2.824	0.046	0.311	3.484	0.640	12.652	1029.750	0.321	0.589	-0.436	2.874	0.977
800T125-54(S)	8.198	1.250	0.0566	50	65	0.594	2.02	4.745	1.158	2.827	0.057	0.309	4.426	0.824	24.662	2038.940	0.634	0.735	-0.432	2.877	0.978
800T125-68(S)	8.250	1.250	0.0713	50	65	0.748	2.54	5.998	1.454	2.833	0.070	0.307	5.956	1.216	36.395	4087.290	1.267	0.920	-0.427	2.881	0.978
800T150-33(S)[1]	8.146	1.500	0.0346	33	45	0.381	1.29	3.180	0.781	2.891	0.060	0.397	2.569	0.414	8.177	465.290	0.152	0.752	-0.588	2.977	0.961
800T150-43(S)	8.161	1.500	0.0451	33	45	0.496	1.69	4.144	1.016	2.891	0.077	0.395	3.689	0.655	12.947	1029.750	0.336	0.972	-0.584	2.976	0.961
800T150-54(S)	8.198	1.500	0.0566	50	65	0.622	2.12	5.214	1.272	2.896	0.096	0.393	4.692	0.844	25.266	2038.940	0.664	1.215	-0.580	2.979	0.962
800T150-68(S)	8.250	1.500	0.0713	50	65	0.783	2.67	6.594	1.599	2.902	0.119	0.390	6.361	1.255	37.582	4087.290	1.327	1.526	-0.575	2.984	0.963
800T189-33(S)[1]	8.146	1.890	0.0346	33	45	0.407	1.39	3.624	0.890	2.982	0.115	0.532	2.744	0.422	8.335	465.290	0.163	1.406	-0.842	3.144	0.928
800T189-43(S)	8.161	1.890	0.0451	33	45	0.531	1.81	4.723	1.158	2.983	0.149	0.530	3.970	0.672	13.278	1029.750	0.360	1.822	-0.838	3.143	0.929
800T189-54(S)	8.198	1.890	0.0566	50	65	0.666	2.27	5.946	1.451	2.988	0.186	0.528	5.056	0.866	25.941	2038.940	0.711	2.284	-0.833	3.146	0.930
800T189-68(S)	8.250	1.890	0.0713	50	65	0.839	2.85	7.524	1.824	2.995	0.231	0.525	6.910	1.300	38.920	4087.320	1.421	2.877	-0.827	3.151	0.931
800T200-33(S)[1]	8.146	2.000	0.0346	33	45	0.415	1.41	3.749	0.921	3.005	0.135	0.571	2.789	0.424	8.370	465.290	0.166	1.638	-0.917	3.194	0.918
800T200-43(S)	8.161	2.000	0.0451	33	45	0.541	1.84	4.887	1.198	3.006	0.175	0.569	4.043	0.676	13.352	1029.750	0.367	2.124	-0.913	3.193	0.918
800T200-54(S)	8.198	2.000	0.0566	50	65	0.679	2.31	6.152	1.501	3.011	0.218	0.567	5.149	0.872	26.092	2038.940	0.725	2.664	-0.908	3.196	0.919
800T200-68(S)	8.250	2.000	0.0713	50	65	0.855	2.91	7.786	1.888	3.019	0.272	0.564	7.052	1.310	39.220	4087.290	1.448	3.357	-0.902	3.201	0.921
800T239-33(S)[1,3]	8.146	2.390	0.0346	33	45	0.442	1.50	4.194	1.030	3.080	0.222	0.709	-	-	-	-	0.176	2.617	-1.204	3.382	-
800T239-43(S)	8.161	2.390	0.0451	33	45	0.576	1.96	5.466	1.340	3.081	0.288	0.707	4.517	0.739	14.608	1029.750	0.391	3.434	-1.192	3.378	0.875
800T239-54(S)	8.198	2.390	0.0566	50	65	0.723	2.46	6.884	1.679	3.086	0.359	0.705	5.718	0.959	28.725	2038.940	0.772	4.313	-1.187	3.381	0.877
800T239-68(S)	8.250	2.390	0.0713	50	65	0.910	3.10	8.716	2.113	3.095	0.449	0.702	7.464	1.547	46.319	4087.320	1.542	5.446	-1.180	3.386	0.879
800T250-33(S)[1,3]	8.146	2.500	0.0346	33	45	0.450	1.53	4.319	1.060	3.099	0.252	0.748	-	-	-	-	0.179	2.953	-1.286	3.438	-
800T250-43(S)	8.161	2.500	0.0451	33	45	0.586	1.99	5.629	1.380	3.100	0.326	0.746	4.593	0.739	14.600	1029.750	0.397	3.877	-1.274	3.433	0.862
800T250-54(S)	8.198	2.500	0.0566	50	65	0.735	2.50	7.090	1.730	3.106	0.407	0.744	5.816	0.959	28.706	2038.940	0.785	4.870	-1.268	3.436	0.864
800T250-68(S)	8.250	2.500	0.0713	50	65	0.926	3.15	8.978	2.177	3.114	0.509	0.741	7.588	1.560	46.718	4087.290	1.569	6.151	-1.261	3.441	0.866
800T289-33(S)[1,3]	8.146	2.890	0.0346	33	45	0.477	1.62	4.763	1.169	3.161	0.376	0.888	-	-	-	-	0.190	4.359	-1.585	3.646	-
800T289-43(S)[3]	8.161	2.890	0.0451	33	45	0.621	2.11	6.208	1.521	3.162	0.488	0.886	-	-	-	-	0.421	5.661	-1.580	3.644	-
800T289-54(S)	8.198	2.890	0.0566	50	65	0.779	2.65	7.822	1.908	3.168	0.608	0.884	6.148	0.957	28.638	2038.940	0.832	7.198	-1.566	3.643	0.815
800T289-68(S)	8.250	2.890	0.0713	50	65	0.981	3.34	9.908	2.402	3.177	0.761	0.881	8.038	1.553	46.483	4087.320	1.663	9.101	-1.558	3.647	0.818
800T300-33(S)[1,3]	8.146	3.000	0.0346	33	45	0.484	1.65	4.888	1.200	3.177	0.416	0.927	-	-	-	-	0.193	4.819	-1.671	3.708	-
800T300-43(S)[3]	8.161	3.000	0.0451	33	45	0.631	2.15	6.372	1.562	3.178	0.540	0.925	-	-	-	-	0.428	6.260	-1.667	3.706	-
800T300-54(S)	8.198	3.000	0.0566	50	65	0.792	2.69	8.028	1.959	3.184	0.675	0.923	6.237	0.956	28.619	2038.940	0.845	7.960	-1.652	3.704	0.801
800T300-68(S)	8.250	3.000	0.0713	50	65	0.997	3.39	10.171	2.466	3.194	0.844	0.920	8.160	1.548	46.358	4087.290	1.690	10.067	-1.644	3.708	0.804

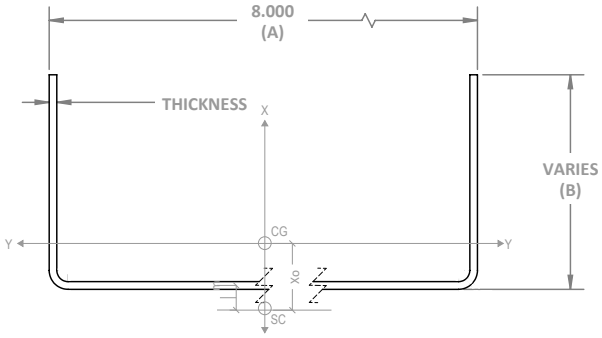
[1] WEB HEIGHT-TO-THICKNESS RATIO (h/t) EXCEEDS 200 BUT IS LESS THAN 260. WEB MUST HAVE BEARING STIFFENERS AT ALL SUPPORT POINTS AND CONCENTRATED LOADS IN ACCORDANCE WITH AISI 100. NO HOLES OR POST ROLL TREATMENTS ARE PERMITTED IN THE WEB AT THESE LOCATIONS.
[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

8" NARROW STRUCTURAL TRACK PROPERTIES

Gross Properties:
I_x = Moment of Inertia of cross-section about the x-axis
S_x = Section Modulus about the x-axis
R_x = Radius of Gyration of cross-section about the x-axis
I_y = Moment of Inertia of cross-section about the y-axis
R_y = Radius of Gyration of cross-section about the y-axis
* Gross properties are based on the full, unreduced cross section, away from post roll treatments.

Torsional Properties:
J = St Vincent Torsional Constant (J x 1000)
C_w = Warping Constant
X_o = Dist. From Shear Center to Neutral Axis
R_o = Radii of Gyration
β = Torsional Flexural Constant



Effective Properties:
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
S_{xe} = Effective Section Modulus about the x-axis
M_a = Allowable Bending Moment
V_{ag} = Allowable Shear Force in Web (Unpunched)
* Stress increase due to cold work of forming was incorporated in the provided effective section properties and allowable moment capacities.

Notes:
Track width = stud web + (design thickness x 2) + design inside corner radius
Use the effective moment of inertia for deflection calculations

8" NARROW STRUCTURAL TRACK PROPERTIES

	Gross Properties											Effective Properties				Torsional Properties				
Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength Fy (ksi)	Ult Strength Fu (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	R_y (in)	I_{xe} (in^4)	S_{xe} (in^3)	M_a (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^4)	X_o (in^4)	R_o (in^4)	β
800T125-33(N)[1]	8.000	1.25	0.0346	33	45	0.358	1.22	2.766	0.691	2.779	0.036	0.315	2.340	0.399	7.877	474.000	0.143	0.438	-0.444	2.832	0.976
800T125-43(N)	8.000	1.25	0.0451	33	45	0.466	1.59	3.586	0.896	2.774	0.046	0.313	3.321	0.626	12.366	1051.150	0.316	0.563	-0.441	2.827	0.976
800T125-54(N)	8.000	1.25	0.0566	50	65	0.582	1.98	4.458	1.115	2.767	0.057	0.312	4.172	0.801	23.976	2091.280	0.622	0.695	-0.438	2.819	0.976
800T125-68(N)	8.000	1.25	0.0713	50	65	0.730	2.48	5.544	1.386	2.756	0.070	0.309	5.511	1.171	35.056	4220.730	1.237	0.857	-0.435	2.808	0.976
800T150-33(N)[1]	8.000	1.5	0.0346	33	45	0.375	1.28	3.040	0.760	2.846	0.060	0.399	2.464	0.406	8.018	474.000	0.150	0.721	-0.594	2.934	0.959
800T150-43(N)	8.000	1.5	0.0451	33	45	0.488	1.66	3.942	0.986	2.841	0.077	0.397	3.518	0.641	12.657	1051.150	0.331	0.928	-0.591	2.929	0.959
800T150-54(N)	8.000	1.5	0.0566	50	65	0.611	2.08	4.904	1.226	2.834	0.096	0.396	4.427	0.821	24.569	2091.280	0.652	1.148	-0.588	2.921	0.959
800T150-68(N)	8.000	1.5	0.0713	50	65	0.765	2.60	6.105	1.526	2.824	0.119	0.394	5.896	1.210	36.219	4220.730	1.297	1.421	-0.585	2.911	0.960
800T199-33(N)[1]	8.000	1.99	0.0346	33	45	0.409	1.39	3.578	0.895	2.957	0.133	0.570	2.673	0.415	8.205	474.000	0.163	1.550	-0.919	3.148	0.915
800T199-43(N)	8.000	1.99	0.0451	33	45	0.533	1.81	4.642	1.160	2.952	0.172	0.568	3.853	0.660	13.051	1051.150	0.361	1.999	-0.916	3.143	0.915
800T199-54(N)	8.000	1.99	0.0566	50	65	0.666	2.27	5.779	1.445	2.945	0.214	0.566	4.856	0.847	25.369	2091.280	0.711	2.481	-0.913	3.135	0.915
800T199-68(N)	8.000	1.99	0.0713	50	65	0.835	2.84	7.203	1.801	2.937	0.266	0.564	6.542	1.263	37.799	4220.730	1.415	3.081	-0.909	3.125	0.915
800T249-33(N)[1,3]	8.000	2.49	0.0346	33	45	0.444	1.51	4.127	1.032	3.049	0.248	0.747	-	-	-	-	0.177	2.800	-1.289	3.394	-
800T249-43(N)	8.000	2.49	0.0451	33	45	0.578	1.97	5.355	1.339	3.045	0.321	0.746	4.361	0.725	14.320	1051.150	0.392	3.660	-1.278	3.385	0.858
800T249-54(N)	8.000	2.49	0.0566	50	65	0.723	2.46	6.672	1.668	3.038	0.400	0.744	5.458	0.936	28.035	2091.280	0.772	4.549	-1.275	3.378	0.858
800T249-68(N)	8.000	2.49	0.0713	50	65	0.907	3.08	8.323	2.081	3.030	0.499	0.742	7.028	1.486	44.496	4220.730	1.536	5.660	-1.272	3.369	0.858
800T299-33(N)[1,3]	8.000	2.99	0.0346	33	45	0.479	1.63	4.676	1.169	3.126	0.411	0.926	-	-	-	-	0.191	4.577	-1.676	3.666	-
800T299-43(N)[3]	8.000	2.99	0.0451	33	45	0.623	2.12	6.069	1.517	3.122	0.532	0.925	-	-	-	-	0.422	5.919	-1.673	3.660	-
800T299-54(N)	8.000	2.99	0.0566	50	65	0.779	2.65	7.565	1.891	3.116	0.664	0.923	5.859	0.933	27.927	2091.280	0.832	7.449	-1.661	3.649	0.793
800T299-68(N)	8.000	2.99	0.0713	50	65	0.978	3.33	9.444	2.361	3.108	0.829	0.921	7.546	1.504	45.038	4220.730	1.657	9.281	-1.657	3.640	0.793

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[3] FLANGE WIDTH-TO-THICKNESS RATIO (b/t) EXCEEDS 60. ALLOWABLE DESIGN VALUES FOR THESE MEMBERS ARE OUTSIDE THE SCOPE OF THIS REPORT AND MAY BE DETERMINED IN ACCORDANCE WITH SECTION B4.2 OF AISI 100.

IRENE STEEL

STUDS - RECOMMENDED COIL WIDTHS

Member	Recommended Coil Width (in.)
162S125	4.25

Member	Recommended Coil Width (in.)
250S125	5.125
250S162	6.5

Member	Recommended Coil Width (in.)
350S125	6.125
350S162	7.375
350S200	8.375
350S250	9.375

Member	Recommended Coil Width (in.)
362S125	6.25
362S162	7.5
362S200	8.5
362S250	9.5
362S300	10.5

Member	Recommended Coil Width (in.)
400S125	6.625
400S162	7.875
400S200	8.875
400S250	9.875
400S300	10.875

Member	Recommended Coil Width (in.)
550S125	8.125
550S162	9.375
550S200	10.375

Member	Recommended Coil Width (in.)
600S125	8.625
600S162	9.875
600S200	10.875
600S250	11.875
600S300	12.875

Member	Recommended Coil Width (in.)
800S162	11.875
800S200	12.875
800S250	13.875
800S300	14.875

IRENE STEEL

STANDARD TRACKS - RECOMMENDED COIL WIDTHS

Member	Recommended Coil Width (in.)
162T125 (S)	4.125
162T150 (S)	4.625

Member	Recommended Coil Width (in.)
250T125 (S)	5
250T150 (S)	5.5
250T200 (S)	6.5
250T250 (S)	7.5

Member	Recommended Coil Width (in.)
350T125 (S)	6
350T150 (S)	6.5
350T200 (S)	7.5
350T250 (S)	8.5

Member	Recommended Coil Width (in.)
362T125 (S)	6.125
362T150 (S)	6.625
362T189 (S)	7.5
362T200 (S)	7.625
362T239 (S)	8.5
362T250 (S)	8.625
362T289 (S)	9.5
362T300 (S)	9.625

Member	Recommended Coil Width (in.)
400T125 (S)	6.5
400T150 (S)	7
400T189 (S)	7.875
400T200 (S)	8
400T239 (S)	8.875
400T250 (S)	9
400T289 (S)	9.875
400T300 (S)	10

Member	Recommended Coil Width (in.)
550T125 (S)	8
550T150 (S)	8.5
550T200 (S)	9.5
550T250 (S)	10.5
550T300 (S)	11.5

Member	Recommended Coil Width (in.)
600T125 (S)	8.5
600T150 (S)	9
600T189 (S)	9.875
600T200 (S)	10
600T239 (S)	10.875
600T250 (S)	11
600T289 (S)	11.875
600T300 (S)	12

Member	Recommended Coil Width (in.)
800T125 (S)	10.5
800T150 (S)	11
800T189 (S)	11.875
800T200 (S)	12
800T239 (S)	12.875
800T250 (S)	13
800T289 (S)	13.875
800T300 (S)	14

IRENE STEEL

NARROW TRACKS - RECOMMENDED COIL WIDTHS

Member	Recommended Coil Width (in.)
362T125 (N)	6
362T150 (N)	6.5
362T199 (N)	7.5
362T249 (N)	8.5
362T299 (N)	9.5

Member	Recommended Coil Width (in.)
400T125 (N)	6.375
400T150 (N)	6.875
400T199 (N)	7.875
400T249 (N)	8.875
400T299 (N)	9.875

Member	Recommended Coil Width (in.)
600T125 (N)	8.375
600T150 (N)	8.875
600T199 (N)	9.875
600T249 (N)	10.875
600T299 (N)	11.875

Member	Recommended Coil Width (in.)
800T125 (N)	10.375
800T150 (N)	10.875
800T199 (N)	11.875
800T249 (N)	12.875
800T299 (N)	13.875

Disclaimer:

The coil widths contained in this document are provided for reference purposes only and are not guaranteed to be accurate, complete, or suitable for any specific application. This document reflects information available as of August 13, 2025 and is subject to change without notice.

The approved Irene Steel Manufacturer is solely responsible for verifying all coil widths, mill certifications, dimensional tolerances, material grades, and any other applicable specifications prior to production or use. The purchasing party is solely responsible for ensuring that all coil orders:

- Meet the required Quality Assurance/Quality Control (QA/QC) standards, including but not limited to dimensional accuracy, material grade compliance, surface finish, and mechanical performance characteristics; and
- Are fully compatible with the intended manufacturing processes, machine capabilities, and performance requirements.

Coil widths listed are provided by Irene Steel based on approved program specifications and manufacturing standards. While the information is believed to be accurate as of August 13, 2025, it is the sole responsibility of the independent manufacturer to verify all coil dimensions, mill certifications, and related specifications prior to production or use. This document is intended solely for use by the parties to the applicable purchase agreement and may not be relied upon by third parties.

All orders are subject to the terms and conditions of the applicable purchase agreement, which shall govern in the event of any discrepancy. By placing an order or utilizing the information herein, both parties acknowledge and accept these responsibilities, and waive any claim against the provider of this document for errors, omissions, or resulting damages.

CEMCO® 490 Osage Street, Denver, CO 80204, PH: (303) 572-3626

Expanding Your Solutions

CUSTOMER COPY

Bill of Lading

SHIPMENT: 923679-1

SHIPMENT DATE	CARRIER	VEHICLE #	UNIT #
10/15/2024	TCI TRANSPORTATION DEDICATED		

SHIP FROM: CEMCO
490 Osage Street
Denver,CO,80204

SHIP TO: VAPCO INC - SO VALLEY PREFAB - LITTLETON, CO
11511 E. Caley Ave
Centennial, CO, 80111
CONTACT PH: 303-791-7212

STOP NO **1**

RECEIVING HOURS:

LINE#	SHIPPED QTY	FOOTAGE	PART NUMBER	DESCRIPTION	WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	CHARGES (FOR CARRIER USE)

VAPCO INC - SO VALLEY PREFAB - LITTLETON, CO Sales Order: 2486435 - Customer PO: 31591 Expected Delivery: 10/11/24

1	13976 LBS	1,754	G14 8.5000	2710493	13,976	2710493 2710464 2710465 2710494
Packaging : 2 @3,532/ LBS, 2 @3,456/ LBS						
2	7296 LBS	1,721	G14 8.8750	2710466	7,296	2710466 2710495
Packaging : 1 @3,688/ LBS, 1 @3,608/ LBS						
3	12223 LBS	1,754	G14 9.8750	2710491	12,223	2710491 2710462 2710566
Packaging : 1 @4,105/ LBS, 1 @4,015/ LBS, 1 @4,103/ LBS						
4	4192 LBS	1,490	G14 11.8750	2708618	4,192	2708618
Packaging : 1 @4,192/ LBS						

TOTAL FOOTAGE: 6,719	PACKAGING TOTAL: 10	TOTAL WEIGHT:37,687

NOTES

****DRIVERS ARE RESPONSIBLE FOR VERIFYING LOAD WEIGHTS ****

Received 10/15

Corporate Office
13191 Crossroads Parkway N, Suite 325, City of Industry, CA 91746, PH: 800-775-2362, FAX: 626-330-7598

Printed On : 10/14/2024 03:01 PM | Bill of Lading | Printed By : Jim Larkin

Page 1 of 2

CEMCO
Expanding Your Solutions
490 Osage Street, Denver, CO 80204, PH: (303) 572-3626

Bill of Lading

SHIPMENT: 923679-1

SHIPMENT DATE	CARRIER	VEHICLE #	UNIT #
10/15/2024	TCI TRANSPORTATION DEDICATED		

CUSTOMER SIGNATURE		DRIVER'S SIGNATURE	
NAME	DATE	DRIVER NAME Terry	DRIVER PHONE

The property described below is in good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route of said destination. By acceptance of the load, Carrier undertakes the sole responsibility for the load's safe delivery to the assigned delivery location. Carrier warrants and guarantees the safe delivery of the load to its determined delivery location. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property,that every service to be performed hereunder shall be subject to all terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1)In Uniform Freight Classifications in effect on the date hereof, it this is a rail or rail-water shipment,or (2) in the applicable motor classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns. If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper'sweight. Shipper's imprint in lieu of stamp: not a part of bill of lading approved by the Interstate Commerce Commission. Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding. **This is to certify that the named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.** Transportation company has examined the load and accepts the manner in which it is placed on the trailer.

Initial Here

Corporate Office
13191 Crossroads Parkway N, Suite 325, City of Industry, CA 91746, PH: 800-775-2362, FAX: 626-330-7598

Genealogy

TAG NUMBER
2703546(Break)
2703546A(Slit)
2710491(On Hand)
2710492(On Hand)
2710493(On Hand)
2710494(On Hand)
2710495(On Hand)
2710496(Slit)
2710520(On Hand)
2710521(On Hand)
2710522(On Hand)
2710523(On Hand)
2710524(On Hand)

Associations

RECORD TYPE	RECORD #	DATE
Purchase Order	441583	07/23/2024
Tag received into inventory		
NUCOR		

CEMCO
Expanding Your Solutions
490 Osage Street,Denver,Colorado,80204,
PH:(303) 572-3626

Mill Certification Detail

TAG NUMBER	CLASS CODE	THICKNESS	WIDTH	WEIGHT	LENGTH	COATING
2703546	G14	0.0679	48.1250	27,520	2,414	G60

HEAT NUMBER	YIELD KSI	TENSILE KSI	ELONGATION KSI
2245843	63.70	86.20	26.00

ACCREDITED
TL 316

Tests Conducted by CEMCO ENGINEERING
(an independent IAS accredited testing laboratory)
1001-A Pittsburg/Antioch Hwy, Pittsburg CA 94565
P: 925.473.9340, F: 925.473.9124
Email: testingservices@cemcosteel.com

Manufacturing Locations:
263 Covina Lane, Industry CA 91744 P: 626.369.3564
1001A Pittsburg/Antioch Hwy, Pittsburg CA 94565 P: 925.473.9340
490 Osage Street, Denver CO 80204 P: 303.572.3626
8600 Will Rogers Blvd, Ft. Worth TX 76140 P: 817.568.1525

Remarks
Tested in accordance with ASTM A370-12.
Yield @ 0.2% offset.

Steel Standards
ASTM A653/A653M-15 and ASTM A1003/A1003M-15

Test Equipment
Load Frame: UNITED SFM-30-E
Load Cell: UNITED U-30K-PQST, S/N TVI103167
Displacement Sensor: United EZ.2-2 Extensometer with 2" gauge length

Disclaimer
The results presented in this report relate to steel samples identified by Heat Lot No. Several coils can be represented by a single Heat Lot No. A margin of error of 2% is allowed for application to test results due to sampling uncertainty.This report may not be altered and can be reproduced only in its entirety.

CEMCO Testing Technician
Ernesto Hipolito
Senior Lab Technician

I certify that the material described herein has been manufactured in accordance with the requirements of the referenced specification, and the test results conform to the specification requirements.

Page 1

MANIFEST BILL OF LADING-LONG FORM

Bill of Lading 1398504 9/08/24
Load Request 1487442

Ship CALIFORNIA EXPANDED METAL
To C/O CEMCO RAILROAD SPUR
490 OSAGE STREET
DENVER, CO 80201

Sold CALIFORNIA EXPANDED METAL
To 13181-13191 CROSSROADS PKWY N
STE 325
CITY OF INDUSTRY, CA 91746
UNITED STATES

Delivery Route BNSF-MEMPH-UP
Carrier BNSF RAILROAD

Prp,Col,Div Prepaid
Vehicle Number TILX40308

Ticket# 1487442

STCC CODE: 33-123-32

Customer P/O 441583

Coil #	Heat	Order#	Prodct	Description			Weight	
1984913.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,910	2703545
	Len 2,455			Part SPOT	Galv Coating Weight	G60		
1984915.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,520	2703546
	Len 2,414			Part SPOT	Galv Coating Weight	G60		
1984916.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,380	2703547
	Len 2,405			Part SPOT	Galv Coating Weight	G60		
1984918.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,790	2703564
	Len 2,444			Part SPOT	Galv Coating Weight	G60		
1984920.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,520	2703565
	Len 2,418			Part SPOT	Galv Coating Weight	G60		
1984922.0000	2245843	G483325-1	CRGLV	.0679 MIN X 48.0000 MIN	A653 SS GR50CL1		27,850	2703566
	Len 2,447			Part SPOT	Galv Coating Weight	G60		

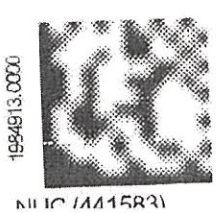
Totals for P/O 441583
Total Weight 165,970.00 (pounds)
Total Weight 82.99 (net tons)
Number of Coils 6

Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	V	Nb	N	Ti	B	Ca
2245843	.230	1.00	.010	.0017	.02	.07	.02	.03	.01	.003	.03	.003	.000	.006	.001	.000	.002

Final totals Melted and Manufactured in USA
Charged Weight 165,970.00 (pounds)
Charged Weight 82.99 (net tons)
Number Of Coils 6

9/24/24
J Robin Pettyjohn

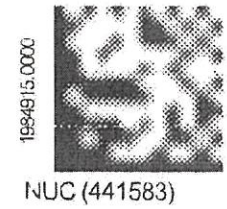
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2703545 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,910	2,455

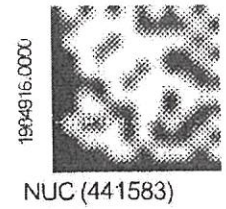


NUC (441583)

2703546 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,520	2,414

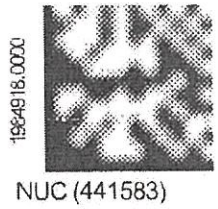


NUC (441583)

2703547 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,380	2,405

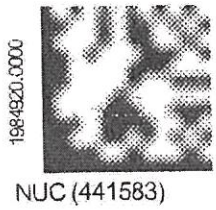


NUC (441583)

2703564 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,790	2,444

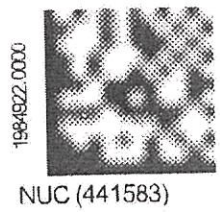


NUC (441583)

2703565 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,520	2,418



NUC (441583)

2703566 SEP 24

G14 48.1250"

COATING	WEIGHT	LENGTH
G60	27,850	2,447

PO# 441583

TILX 040308

J Robin Pettygrove

9/24/24

IRENE STEEL

COIL VERIFICATION LOG

Date	Coil Number	Nom. Thickness	Coating	Min. Coated Thickness	Actual Coated Thickness	OK / NG
00/00/00	123456	68	G60	0.06872	0.069	OK
00/00/00	123456	68	G60	0.06872	0.067	NG

Nominal Thickness (mils)	Min. Base Metal Thickness (in.)	G40 Min. Coated Thickness (in.)	G60 Min. Coated Thickness (in.)	G90 Min. Coated Thickness (in.)
18	0.0179	0.0186	NA	NA
27	0.0269	0.0276	NA	NA
30	0.0296	0.0303	NA	NA
33	0.0329	NA	0.0339	0.0344
43	0.0428	NA	0.0438	0.0443
54	0.0538	NA	0.0548	0.0553
68	0.0677	NA	0.0687	0.0692

[1] Coated materials thickness assumes 0.00034 in. per side for G40. 0.00051 in. per side for G60, and 0.00076 in. per side for G90.

IRENE STEEL

PROFILE DIMENSION VERIFICATION LOG

STRUCTURAL STUD

MACHINE Irene Pro

DATE 5/12/2025

MEMBER PROFILE, COATING 600S162-68, G60

(STRUCTURAL STUDS ARE 33 MIL PROFILES OR GREATER)

DIMENSION A - LENGTH

ORDERED LENGTH, in.	120	
MAX LENGTH, in. (+3/32)	120 3/32	
MIN LENGTH, in. (-3/32)	119 29/32	OK/NG?
ACTUAL LENGTH, in.	120 3/16	NG

DIMENSION B - WEB DEPTH

PRESCRIBED WIDTH (OUTSIDE)	6	
MAX WIDTH, in. (+1/32, .031)	6.031	
MIN WIDTH, in. (-1/32, .031)	5.969	OK/NG?
ACTUAL WIDTH, in.	6.025	OK

DIMENSION C - FLARE/OVERBEND

FLANGE 1	OK/NG?
1/16" SHIM FITS IN GAP? (NG)	OK
FLANGE 2	OK/NG?
1/16" SHIM FITS IN GAP? (NG)	OK

DIMENSION D - HOLE CENTER WIDTH

FLANGE 1	OK/NG?
EDGE OF PUNCH ON TOL. RANGE MARK? (OK)	OK
FLANGE 2	OK/NG?
EDGE OF PUNCH ON TOL. RANGE MARK? (OK)	OK

DIMENSION F - CROWN

	OK/NG?
1/16" SHIM FITS IN GAP? (NG)	OK

DIMENSION G/H - CAMBER/BOW

ORDERED LENGTH, in.	120	
MAX CAMBER/BOW, in.	1/8	OK/NG?
ACT. CAMBER/BOW, in.	1/16	OK

DIMENSION J - FLANGE WIDTH

PRESCRIBED WIDTH	1.625	1.625	
MAX WIDTH, in. (+1/8, .125)	1.750	1.750	
MIN WIDTH, in. (-1/16, .063)	1.562	1.562	OK/NG?
ACTUAL WIDTH, in.	1.615	1.597	OK
	OPERATOR SIDE	OPPOSITE SIDE	

DIMENSION K - STIFFENING LIP WIDTH

PRESCRIBED WIDTH	0.5	0.5	
MAX WIDTH, in. (+1/8, .125)	0.625	0.625	
MIN WIDTH, in. (-1/32, .031)	0.469	0.469	OK/NG?
ACTUAL WIDTH, in.	0.570	0.601	OK
	OPERATOR SIDE	OPPOSITE SIDE	

SIGNATURE

IRENE STEEL

PROFILE DIMENSION VERIFICATION LOG

STRUCTURAL TRACK

MACHINE Irene Pro

DATE 5/12/2025

MEMBER PROFILE, COATING 600T199-68(N), G60

(STRUCTURAL TRACKS ARE 33 MIL PROFILES OR GREATER)

DIMENSION A - LENGTH

ORDERED LENGTH, in.	120	
MAX LENGTH, in. (+1/2)	120 1/2	
MIN LENGTH, in. (-1/4)	119 3/4	OK/NG?
ACTUAL LENGTH, in.	120 1/16	OK

DIMENSION B - WEB DEPTH

PRESCRIBED WIDTH (OUTSIDE)	6	
MAX WIDTH, in. (+1/8, .125)	6.125	
MIN WIDTH, in. (+1/32, .031)	6.031	OK/NG?
ACTUAL WIDTH, in.	6.012	OK

DIMENSION C - FLARE/OVERBEND

FLANGE 1	OK/NG?
GAP @ B.O. TRACK LEG & SQUARE? (NG)	OK
1/16" SHIM FITS IN GAP @ T.O. TRACK? (NG)	OK
IF NG, 3/32" SHIM FIT? (NG)	OK
FLANGE 2	OK/NG?
GAP @ B.O. TRACK LEG & SQUARE? (NG)	OK
1/16" SHIM FITS IN GAP @ T.O. TRACK? (NG)	OK
IF NG, 3/32" SHIM FIT? (NG)	OK

DIMENSION F - CROWN

	OK/NG?
1/16" SHIM FITS IN GAP? (NG)	OK

DIMENSION G/H - CAMBER/BOW

ORDERED LENGTH, in.	120	
MAX CAMBER/BOW, in.	5/16	OK/NG?
ACT. CAMBER/BOW, in.	1/4	OK

DIMENSION J - FLANGE WIDTH

PRESCRIBED WIDTH	1.5	1.5	
MAX WIDTH, in. (+1/4, .25)	1.750	1.750	
MIN WIDTH, in. (-1/16, .063)	1.437	1.437	OK/NG?
ACTUAL WIDTH, in.	1.623	1.623	OK
	OPERATOR SIDE	OPPOSITE SIDE	

SIGNATURE

IRENE STEEL

PROFILE DIMENSION VERIFICATION LOG

NONSTRUCTURAL STUD

MACHINE	Irene	
DATE	5/12/2025	
MEMBER PROFILE, COATING	600S125-30, G60	
	(NONSTRUCTURAL STUDS ARE 30 MIL PROFILES OR SMALLER)	

DIMENSION A - LENGTH

ORDERED LENGTH, in.	120	
MAX LENGTH, in. (+1/8)	120 1/8	
MIN LENGTH, in. (-1/4)	119 3/4	OK/NG?
ACTUAL LENGTH, in.	120 1/16	OK

DIMENSION B - WEB DEPTH

PRESCRIBED WIDTH (OUTSIDE)	6	
MAX WIDTH, in. (+1/32, .031)	6.031	
MIN WIDTH, in. (-1/32, .031)	5.969	OK/NG?
ACTUAL WIDTH, in.	6.012	OK

DIMENSION C - FLARE/OVERBEND

FLANGE 1		OK/NG?
1/16" SHIM FITS IN GAP? (NG)		OK
FLANGE 2		OK/NG?
1/16" SHIM FITS IN GAP? (NG)		OK

DIMENSION D - HOLE CENTER WIDTH

FLANGE 1		OK/NG?
EDGE OF PUNCH ON TOL. RANGE MARK? (OK)		OK
FLANGE 2		OK/NG?
EDGE OF PUNCH ON TOL. RANGE MARK? (OK)		OK

DIMENSION F - CROWN

		OK/NG?
1/8" SHIM FITS IN GAP? (NG)		OK

DIMENSION G/H - CAMBER/BOW

ORDERED LENGTH, in.	120	
MAX CAMBER/BOW, in.	5/16	OK/NG?
ACT. CAMBER/BOW, in.	1/16	OK

DIMENSION J - FLANGE WIDTH

PRESCRIBED WIDTH	1.25	1.25	
MAX WIDTH, in. (+1/8, .125)	1.375	1.375	
MIN WIDTH, in. (-1/16, .063)	1.187	1.187	OK/NG?
ACTUAL WIDTH, in.	1.200	1.200	OK
	OPERATOR SIDE	OPPOSITE SIDE	

DIMENSION K - STIFFENING LIP WIDTH

PRESCRIBED WIDTH	0.188	0.188	
MAX WIDTH, in. (+1/8, .125)	0.313	0.313	
MIN WIDTH, in. (-1/32, .031)	0.157	0.157	OK/NG?
ACTUAL WIDTH, in.	0.200	0.200	OK
	OPERATOR SIDE	OPPOSITE SIDE	

SIGNATURE

IRENE STEEL

PROFILE DIMENSION VERIFICATION LOG

NONSTRUCTURAL TRACK

MACHINE	Irene		
DATE	5/12/2025		
MEMBER PROFILE, COATING	600T150-30(S), G60		
	(NONSTRUCTURAL TRACKS ARE 30 MIL PROFILES OR SMALLER)		
DIMENSION A - LENGTH			
ORDERED LENGTH, in.	120		
MAX LENGTH, in. (+1)	121		
MIN LENGTH, in. (-1/4)	119 3/4		OK/NG?
ACTUAL LENGTH, in.	120 1/16		OK
DIMENSION B - WEB DEPTH			
PRESCRIBED WIDTH (OUTSIDE)	6.141		
MAX WIDTH, in. (+1/8, .125)	6.266		
MIN WIDTH, in. (-0)	6.141		OK/NG?
ACTUAL WIDTH, in.	6.15		OK
DIMENSION C - FLARE/OVERBEND			
FLANGE 1			OK/NG?
GAP @ B.O. TRACK LEG & SQUARE? (NG)			OK
1/16" SHIM FITS IN GAP @ T.O. TRACK? (NG)			OK
IF NG, 3/16" SHIM FIT? (NG)			OK
FLANGE 2			OK/NG?
GAP @ B.O. TRACK LEG & SQUARE? (NG)			OK
1/16" SHIM FITS IN GAP @ T.O. TRACK? (NG)			OK
IF NG, 3/16" SHIM FIT? (NG)			OK
DIMENSION F - CROWN			
			OK/NG?
1/8" SHIM FITS IN GAP? (NG)			OK
DIMENSION G/H - CAMBER/BOW			
ORDERED LENGTH, in.	120		
MAX CAMBER/BOW, in.	5/16		OK/NG?
ACT. CAMBER/BOW, in.	3/16		OK
DIMENSION J - FLANGE WIDTH			
PRESCRIBED WIDTH	1.5	1.5	
MAX WIDTH, in. (+1/2, .5)	2.000	2.000	
MIN WIDTH, in. (-1/16, .063)	1.437	1.437	OK/NG?
ACTUAL WIDTH, in.	1.650	1.650	OK
	OPERATOR SIDE	OPPOSITE SIDE	
SIGNATURE			

IRENE STEEL

BIANNUAL QUALITY ASSURANCE VERIFICATION

DATE: _____

REVIEW COMPLETED BY:

COMPANY: _____

NAME: _____

TITLE: _____

REVIEW OBSERVATIONS:

Current Quality Control Program (QCP) on file? _____

Coils stored such that they are protected from the elements? _____

Coil labels in compliance with section 3.04 of QCP? _____

Coil documentation and traceability in compliance with section 3.03 of QCP? _____

Machine operator knows how to complete coil verification per section 4.01 of QCP? _____

Coil verification log is up to date per section 4.01.A.5 of QCP? _____

Measurement tools in good working condition? _____

Machine operator knows how to complete quality checks per section 4.03 of QCP? _____

Profile verification log is up to date per section 4.03.A.3 of QCP? _____

ADDITIONAL NOTES / ACTION REQUIRED:

Next Review Date: _____

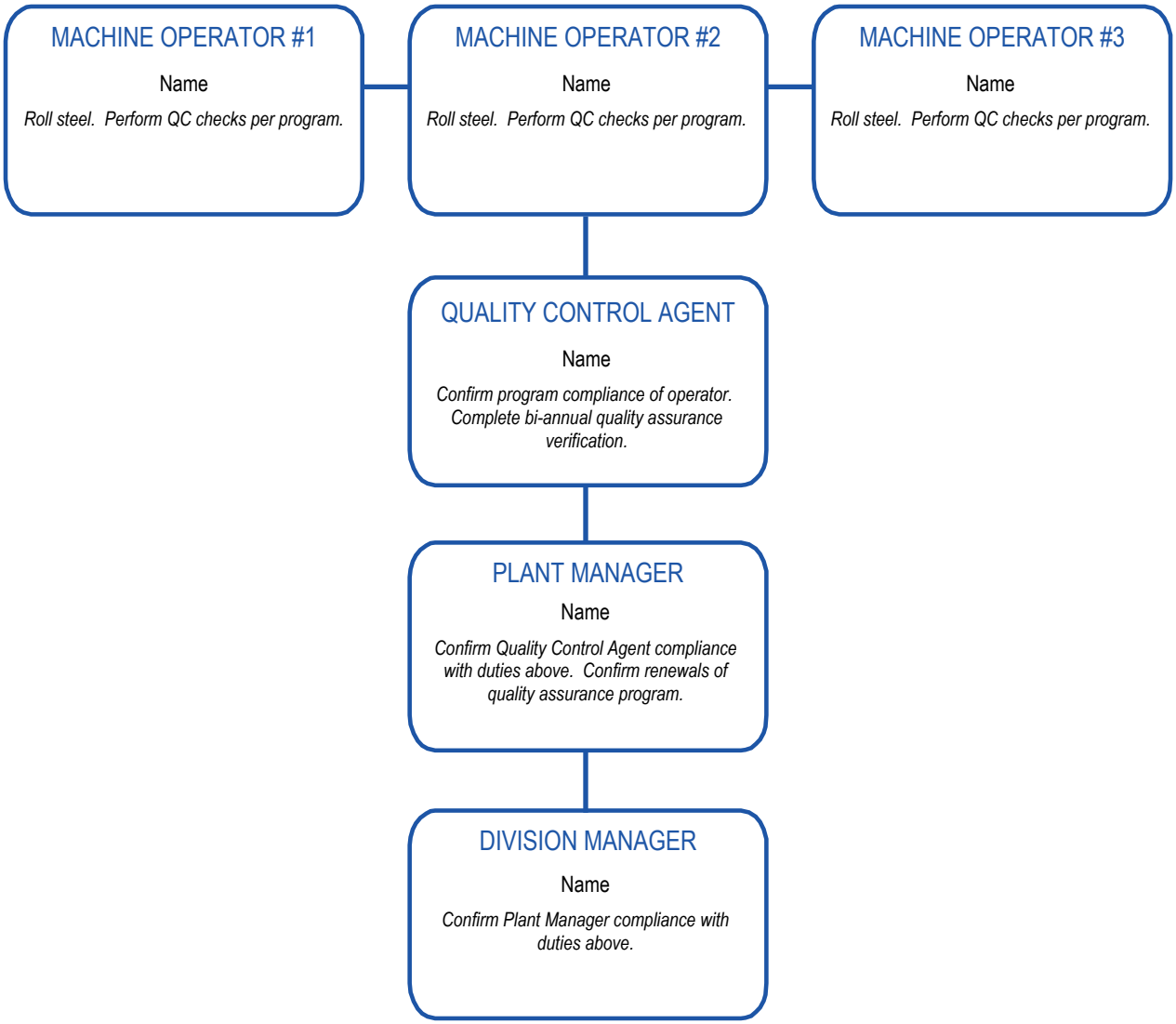
IRENE STEEL

by

MANUFACTURER

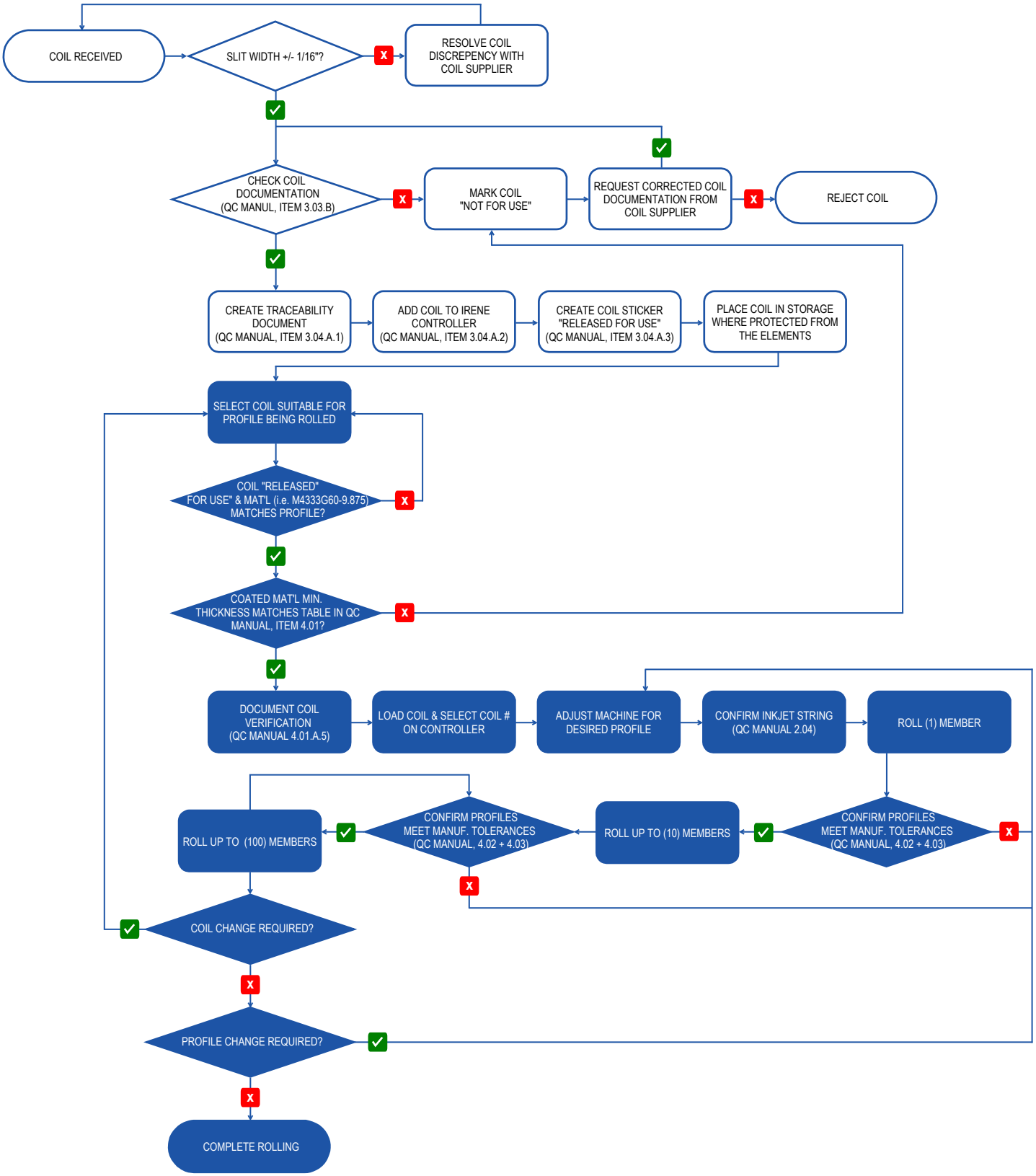
DATE

ORGANIZATION CHART



IRENE STEEL

QUALITY CONTROL FLOW CHART



Certificate

Issued to: South Valley Prefab

Manufacturing Location: 11511 E Caley Ave
Centennial, CO 80111

This certifies that the manufacturer listed is an approved manufacturer for Irene Steel and is in good standing within the Irene Steel Program. Certificate holder is entitled to all rights and privileges to manufacture light gauge steel framing members within the program.

IRENE STEEL

DocuSigned by:
EF5570EE7DEE461...
Managing Member

8/28/2024
Date

IRENE STEEL

DIM B - WEB WIDTH (NONSTRUCTURAL)

STUDS - 18-30 MIL

STUD TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162S	1.625	1.656	1.594
250S	2.500	2.531	2.469
350S	3.500	3.531	3.469
362S	3.625	3.656	3.594
400S	4.000	4.031	3.969
550S	5.500	5.531	5.469
600S	6.000	6.031	5.969

TRACK - 18 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162T	1.747	1.872	1.747
250T	2.622	2.747	2.622
350T	3.622	3.747	3.622
362T	3.747	3.872	3.747
400T	4.122	4.247	4.122
550T	5.622	5.747	5.622
600T	6.122	6.247	6.122

TRACK - 27 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162T	1.761	1.886	1.761
250T	2.636	2.761	2.636
350T	3.636	3.761	3.636
362T	3.761	3.886	3.761
400T	4.136	4.261	4.136
550T	5.636	5.761	5.636
600T	6.136	6.261	6.136

TRACK - 30 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162T	1.766	1.891	1.766
250T	2.641	2.766	2.641
350T	3.641	3.766	3.641
362T	3.766	3.891	3.766
400T	4.141	4.266	4.141
550T	5.641	5.766	5.641
600T	6.141	6.266	6.141

IRENE STEEL

DIM B - WEB WIDTH (STRUCTURAL)

STUDS - 33-68 MIL

STUD TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162S	1.625	1.656	1.594
250S	2.500	2.531	2.469
350S	3.500	3.531	3.469
362S	3.625	3.656	3.594
400S	4.000	4.031	3.969
550S	5.500	5.531	5.469
600S	6.000	6.031	5.969
800S	8.000	8.031	7.969

NARROW TRACK - 33-68 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
362T	3.625	3.656	3.594
400T	4.000	4.031	3.969
550T	5.500	5.531	5.469
600T	6.000	6.031	5.969
800T	8.000	8.031	7.969

* FOR NARROW TRACK, IT IS ADVISED TO USE THE SAME TOLERANCES AS STUDS INSTEAD OF THE TOLERANCES FOR STRUCTURAL TRACK GIVEN BY AISI IN TABLE A5-3. THE TOLERANCES FOR STUDS ARE MORE STRINGENT THAN THOSE FOR TRACK.

STANDARD TRACK - 33 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
162T	1.771	1.896	1.802
250T	2.646	2.771	2.677
350T	3.646	3.771	3.677
362T	3.771	3.896	3.802
400T	4.146	4.271	4.177
550T	5.646	5.771	5.677
600T	6.146	6.271	6.177
800T	8.146	8.271	8.177

STANDARD TRACK - 43 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
250T	2.661	2.786	2.692
350T	3.661	3.786	3.692
362T	3.786	3.911	3.817
400T	4.161	4.286	4.192
550T	5.661	5.786	5.692
600T	6.161	6.286	6.192
800T	8.161	8.286	8.192

STANDARD TRACK - 54 MIL

TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
250T	2.698	2.823	2.729
350T	3.698	3.823	3.729
362T	3.823	3.948	3.854
400T	4.198	4.323	4.229
550T	5.698	5.823	5.729
600T	6.198	6.323	6.229
800T	8.198	8.323	8.229

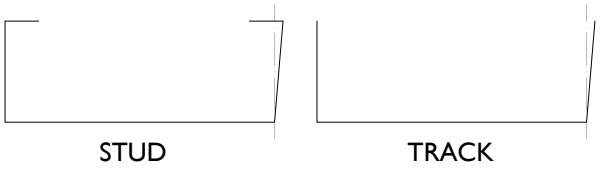
STANDARD TRACK - 68 MIL

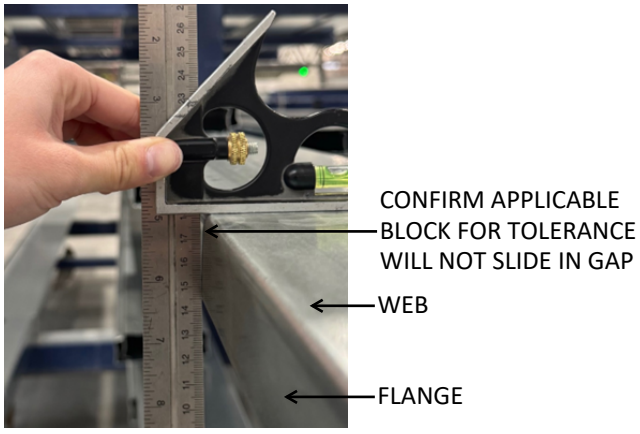
TRACK TYPE	WEB DEPTH	MAX. WIDTH	MIN. WIDTH
250T	2.750	2.875	2.781
350T	3.750	3.875	3.781
362T	3.875	4.000	3.906
400T	4.250	4.375	4.281
550T	5.750	5.875	5.781
600T	6.250	6.375	6.281
800T	8.250	8.375	8.281

IRENE STEEL

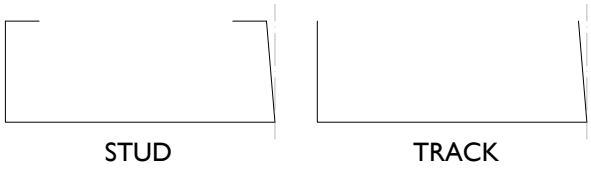
DIM C - FLARE/OVERBEND GUIDELINES

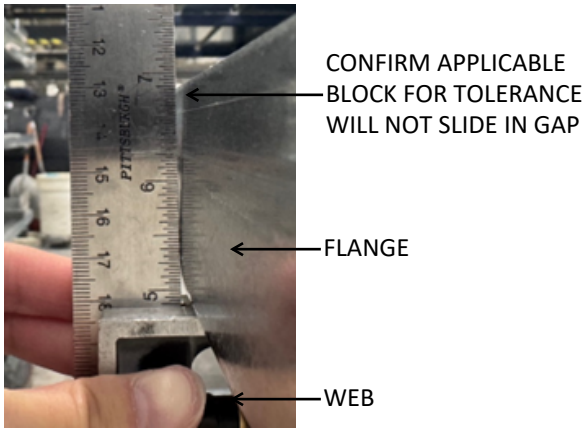
FLARE





OVERBEND





GAUGE BLOCKS REQUIRED FOR CHECKS

FLARE

STRUCTURAL (33MIL +)	
STUD	TRACK
1/16"	0"

NONSTRUCTURAL (18-30MIL)	
STUD	TRACK
1/16"	0"

OVERBEND

STRUCTURAL (33MIL +)	
STUD	TRACK
1/16"	3/32"

NONSTRUCTURAL (18-30MIL)	
STUD	TRACK
1/16"	3/16"

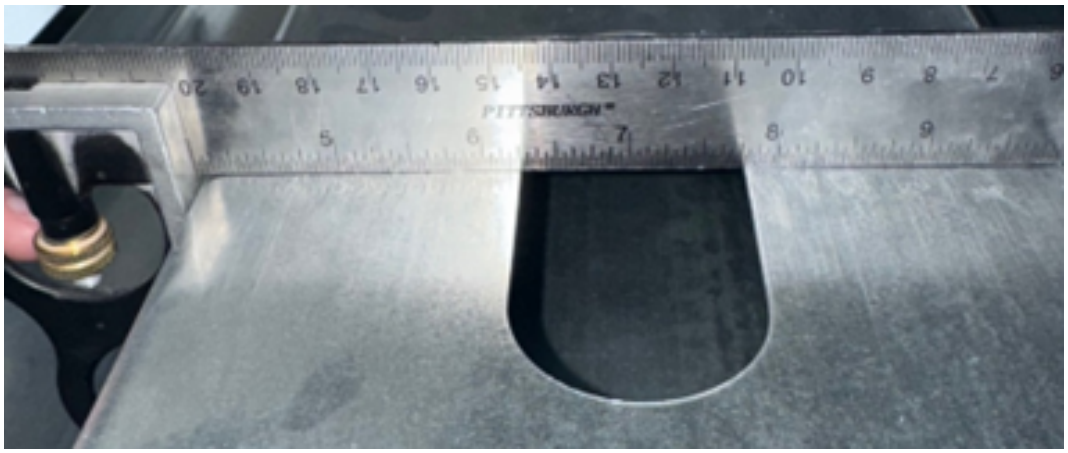
SIMPLIFIED CHECK

SIMPLIFIED CHECK PROCESS IS OUTLINED BELOW. THIS PROCESS HAS MORE STRINGENT TOLERANCES FOR EASE OF OPERATORS. IN THE EVENT THAT A MEMBER DOES NOT PASS, CHECK LESS STRINGENT TOLERANCES SHOWN ABOVE.

1. IF TRACK, CONFIRM NO FLARE.
2. ALIGN COMBINATION SQUARE ON WEB AS SHOWN IN PICTURE ABOVE ON EA FLANGE.
3. USE 1/16" BLOCK. CONFIRM THAT IT CANNOT PASS IN ANY GAP. EXCLUDES STUD/TRACK BEND RADII.

IRENE STEEL

DIM D - HOLE CENTER WIDTH GUIDELINES



USE COMBINATION SQUARE TO VERIFY HOLE PLACEMENT

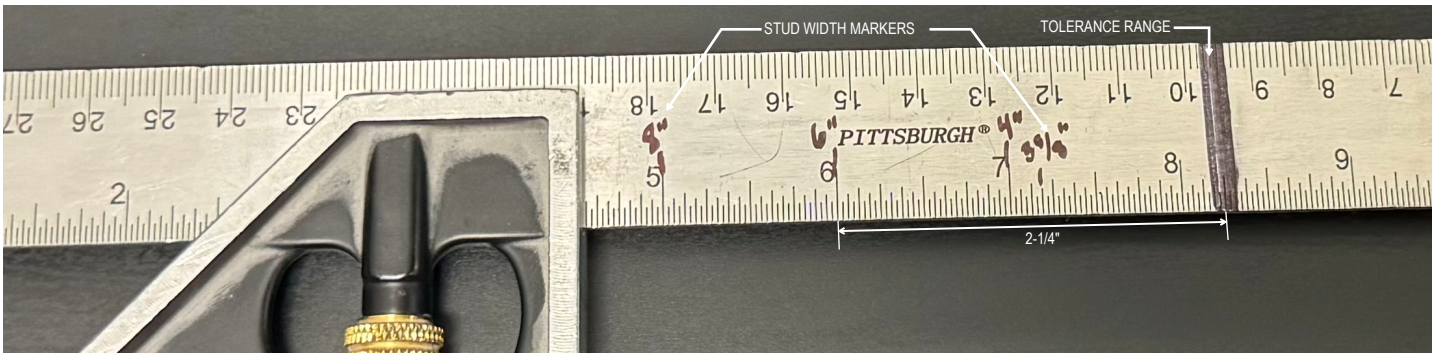
TOLERANCES REQUIREMENTS

STRUCTURAL (33MIL +)	NONSTRUCTURAL (18-30MIL)
+/- 1/16"	+/- 1/8"

SIMPLIFIED CHECK

1. MARK COMBINATION SQUARE AS SHOWN IN PHOTO BELOW BASED ON TOELRANCES ABOVE.
2. ADJUST SLIDER TO ALIGN WITH STUD WIDTH MARKED ON RULER. (I.E. MOVE TO 6" RULER MARK FOR 6" STUDS, 5" RULER MARK FOR 8" STUDS, 7" RULER MARK FOR 4" STUDS ETC.
3. PLACE SQUARE ON STUD PER PHOTO ABOVE. IF EDGE, OF PUNCH LANDS IN BLACKED OUT AREA OF THE RULER, IT IS ACCEPTABLE.
4. FLIP SQUARE AND REPEAT FOR ALTERNATE FLANGE.

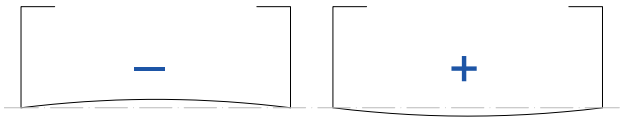
EXAMPLE FOR 3-5/8" AND WIDER STRUCTURAL STUDS



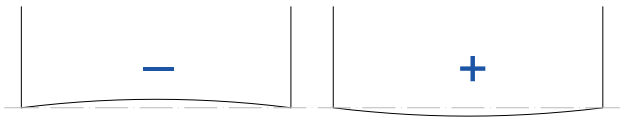
IRENE STEEL

DIM F - CROWN GUIDELINES

STUD



TRACK

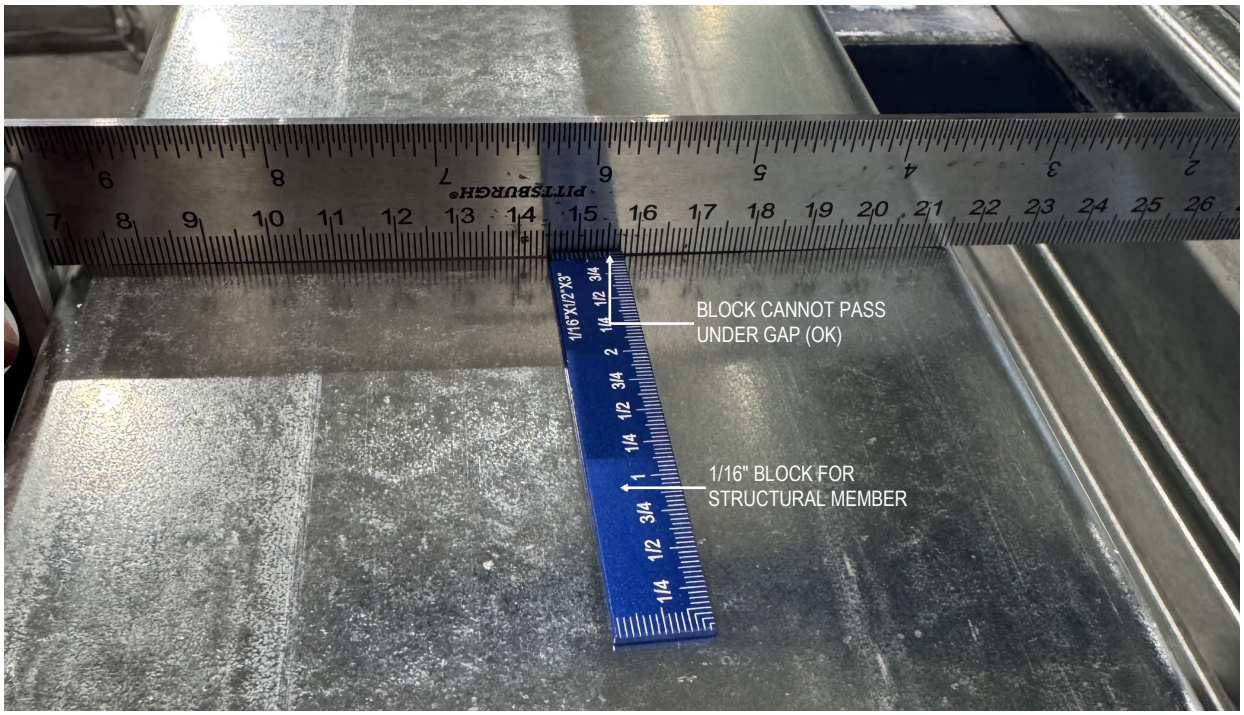


TOLERANCES REQUIREMENTS

STRUCTURAL (33MIL +)	NONSTRUCTURAL (18-30MIL)
+/- 1/16"	+/- 1/8"

SIMPLIFIED CHECK

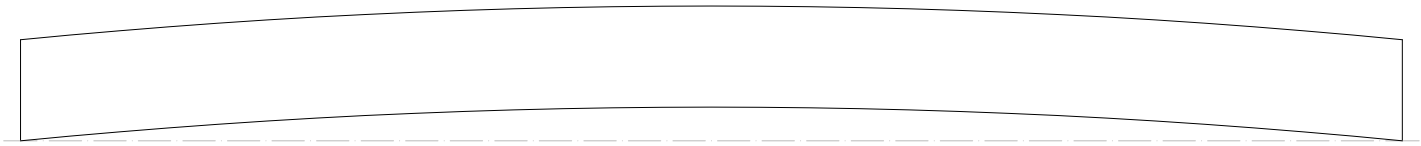
1. ALIGN COMBINATION SQUARE SO HANDLE IS FLUSH WITH FLANGE.
2. SLIDE DOWN ONTO WEB UNTIL IT TOUCHES HIGHEST POINT OF STEEL.
3. USE BLOCK ASSOCIATED WITH TOL. REQUIREMENT ABOVE TO CHECK CLEARANCE. IF BLOCK, CANNOT SLIDE UNDER SQUARE AT ANY POINT, MEMBER IS ACCEPTABLE.



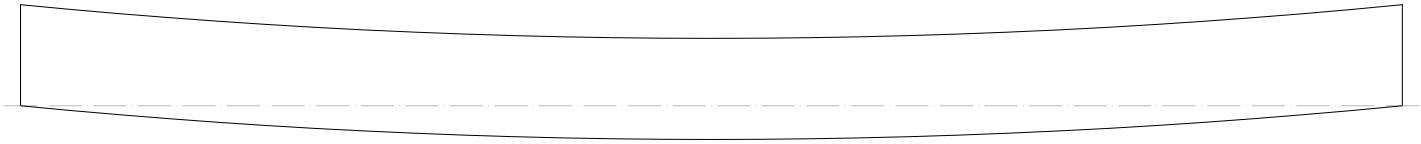
IRENE STEEL

DIM G/H - CAMBER/BOW GUIDELINES

CAMBER



BOW



TOLERANCE REQUIREMENTS

STRUCTURAL (33MIL +)		NONSTRUCTURAL (18-30MIL)	
STUD	TRACK	STUD	TRACK
1/8" PER 10'	1/32" PER 1' 1/2" MAX	1/32" PER 1' 1/2" MAX	1/32" PER 1' 1/2" MAX

SIMPLIFIED CHECK

1. LAY MEMBER ON FLAT SURFACE, WEB DOWN.
2. IF CAMBER PRESENT, MEASURE WIDEST GAP AND CONFIRM WITH TOLERANCES SHOWN ABOVE.
3. IF CAMBER NOT PRESENT, FLIP MEMBER SO FLANGES FACING DOWN AND MEASURE GAP (BOW) AT WIDEST POINT AND CONFIRM WITH TOLERANCE SHOWN ABOVE.

TOLERANCE CHECK AID

STRUCTURAL STUDS 1/8" PER 10'	
<=6'3	1/16
6'4 - 8'9	3/32
8'10 - 11'3	1/8
11'4 - 13'9	5/32
13'10 - 16'3	3/16
16'4 - 18'9	7/32
18'10 - 21'3	1/4
21'4 - 23'9	9/32
23'10 - 26'3	5/16
26'4 - 28'9	11/32
28'10 - 31'3	3/8
31'4 - 33'9	13/32
33'10 - 36'3	7/16
36'4 - 38'9	15/32
38'10 - 41'3	1/2

TRACKS NONSTRUCTURAL STUDS 1/32" PER 1'	
4	1/8"
5	5/32"
6	3/16"
7	7/32"
8	1/4"
9	9/32"
10	5/16"
11	11/32"
12	3/8"
13	13/32"
14	7/16"
15	15/32"
>= 16	1/2"

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DIMS J - FLANGE & K - STIFFENING LIP GUIDELINES

FLANGE

NONSTRUCTURAL STUDS

STUD TYPE	FLANGE WIDTH	MAX. WIDTH	MIN. WIDTH
S125	1.250	1.375	1.188

NONSTRUCTURAL TRACK

TRACK TYPE	FLANGE WIDTH	MAX. WIDTH	MIN. WIDTH
T125	1.250	1.750	1.188
T150	1.500	2.000	1.438
T200	2.000	2.500	1.938
T250	2.500	3.000	2.438
T300	3.000	3.500	2.938

STRUCTURAL STUDS

STUD TYPE	FLANGE WIDTH	MAX. WIDTH	MIN. WIDTH
S162	1.625	1.750	1.563
S200	2.000	2.125	1.938
S250	2.500	2.625	2.438
S300	3.000	3.125	2.938

STRUCTURAL TRACK

TRACK TYPE	FLANGE WIDTH	MAX. WIDTH	MIN. WIDTH
T125	1.250	1.500	1.188
T150	1.500	1.750	1.438
T189	1.890	2.140	1.828
T199	1.990	2.240	1.928
T200	2.000	2.250	1.938
T239	2.390	2.640	2.328
T249	2.490	2.740	2.428
T250	2.500	2.750	2.438
T289	2.890	3.140	2.828
T299	2.990	3.240	2.928
T300	3.000	3.250	2.938

STIFFENING LIP

NONSTRUCTURAL STUDS

STUD TYPE	LIP WIDTH	MAX. WIDTH	MIN. WIDTH
S125	0.188	0.313	0.157

STRUCTURAL STUDS

STUD TYPE	LIP WIDTH	MAX. WIDTH	MIN. WIDTH
S162	0.500	0.625	0.469
S200	0.625	0.750	0.594
S250	0.625	0.750	0.594
S300	0.625	0.750	0.594

MANUFACTURER

TOOL	SERIAL NUMBER	DATE CALIBRATED

IRENE STEEL

Customer Complaint Form

MANUFACTURER

CUSTOMER INFORMATION

CUSTOMER NAME: _____

CONTACT NAME: _____

CUSTOMER PHONE NUMBER: _____

CUSTOMER ADDRESS: _____

CUSTOMER P.O.: _____

COMPLAINT INFORMATION

COMPLAINT DATE: _____

SUBJECT OF COMPLAINT: _____

COMPLAINT DESCRIPTION:

RESOLUTION & ACTIONS TAKEN:

_____ _____

SIGNATURE DATE OF RESOLUTION

MANUFACTURER

PACKAGING PROCEDURES DESCRIPTION

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