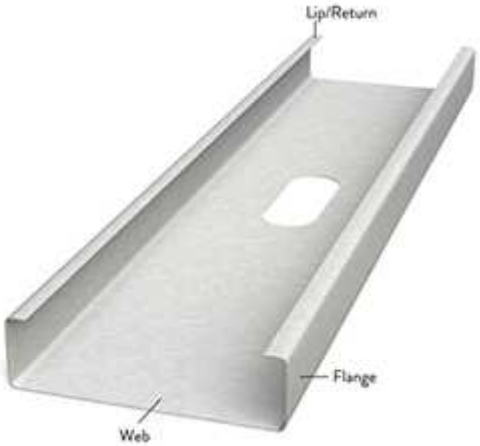
RAM SALES LLC
Superior Roll Forming & Steel Manufacturing

PRODUCT SUBMITTAL SHEET
TECH SUPPORT: 305.634.0012

PRODUCT CATEGORY:	STRUCTURAL STUD
PRODUCT NUMBER:	250S137-43
COATING:	CP60



PHYSICAL PROPERTIES

WEB DEPTH:	2.5000 IN.
FLANGE HEIGHT:	1.3800 IN.
DESIGN THICKNESS:	0.0451 IN.
YIELD:	33 KSI
WEIGHT:	0.8700 LB/LFT

GROSS SECTION PROPERTIES

CROSS SECTIONAL AREA (A):	0.2550 IN.
MOMENT OF INERTIA (LX):	0.2610 IN.
RADIUS OF GYRATION (RX):	1.0110 IN.
GROSS MOMENT OF INERTIA: (LY)	0.0670 IN.
GROSS RADIUS OF GYRATION (RY):	0.5110 IN.

EFFECTIVE SECTION PROPERTIES

MOMENT OF INERTIA (LX):	0.2610 IN.
SECTION MODULOS (SX):	0.2050 IN.
ALLOWABLE BENDING MOMENT (MA):	4.53 IN-LBS.

TORSONAL PROPERTIES

ST VENANT TORSION CONSTANT (JX1000):	0.1730 IN.
WARPING CONSTANT (CW):	0.0960 IN.
DISTANCE FROM SHEAR CENTER TO NUETRAL AXIAS (X0):	-1.1290 IN.
RADI OF GRYRATION (RO):	1.5990 IN.
TORSIONAL FLEXURL CONSTANT (B):	0.5010 IN.

SECTION PROPERTIES TABLE NOTES:

1) WHERE AISI S100-07 WITH S2-100 SUPPLEMENT IS REFERENCED, IT IS THE "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", 2007 EDITION WITH 2010 SUPPLEMENT, WITH US PROVISIONS.

2) EFFECTIVE PROPERTIES INCORPORATE THE STRENGTH INCREASE FROM THE COLD WORK OF FORMING AS APPLICABLE PER AISI A7.2.

3) TABULATED GROSS PROPERTIES INCLUDING TORSIONAL PROPERTIES ARE BASED ON FULL-UNREDUCED CROSS SECTION OF THE TRACKS.

4) FOR DEFLECTION CALCULATIONS, USE THE EFFECTIVE MOMENT OF INERTIA.

5) ALLOWABLE MOMENT INCLUDES COLD-WORK OF FORMING.

6) WEB DEPTH FOR TRACK SECTIONS IS EQUAL TO THE NOMINAL HEIGHT PLUS 2 TIMES THE DESIGN THICKNESS PLUS THE BEND RADIUS. HEMS ON NON-STRUCTURAL RACK SECTIONS ARE IGNORED.

7) FOR THE STEELS THAT HAVE BOTH 33KSI AND 50 KSI LISTIING, IF THE DESIGN IS BASED UPON 50 KSKI, THE STEELS NEEEDS TO BE SPECIFIED.

8) WEB DEPTH FOR TRACK SECTIONS IS EQUAL TO THE NOMINAL HEIGHT PLUS 2 TIMES THE DESIGN THICKNESS PLUS THE BEND RADIUS

9) G90 IS SUBJECT TO MATERIAL AVAILABILITY.

LEED CREDITS MR 2: CONSTRUCTION WASTE MATERIAL-RAM SALES, LLC STEEL FRAMING IS 100% RECYCLEABLE

LEED CREDITS MR 4: RAM SALES, LLC STEEL FRAMING IS FORMED WITH A MINIMUM 25.5% POST CONSUMER AND 6.8% PRE-CONSUMER CONTENT

PROJECT INFORMATION	CONTRACTOR INFORMATION	ARCHITECT INFORMATION
NAME:	NAME:	NAME:
ADDRESS:	CONTACT:	CONTACT:
	PHONE:	PHONE:
	FAX:	FAX:

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COMPOSITE LIMITING HEIGHTS

SPACING	5 PSF			15 PSF			20 PSF			25 PSF		
INCHES	L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	19' 0"	15' 1"	13' 2"	11' 9"	10' 3"	8' 8"	10' 8"	9' 4"	7' 10"	9' 11"	8' 8"	7' 4"
16	17' 3"	13' 8"	11' 11"	10' 8"	9' 4"	7' 10"	9' 9"	8' 6"	7' 2"	9' 0"	7' 10"	6' 8"
24	15' 1"	11' 11"	10' 5"	9' 4"	8' 2"	6' 11"	8' 6"	7' 5"	6' 3"	7' 9"	6' 11"	5' 10"

SPACING	30 PSF			35 PSF			40 PSF			50 PSF		
INCHES	L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	9' 4"	8' 2"	6' 11"	8' 10"	7' 9"	6' 6"	8' 6"	7' 5"	6' 3"			
16	8' 6"	7' 5"	6' 3"	8' 1"	7' 0"	5' 11"	7' 6"	6' 9"	5' 8"			
24	7' 1"	6' 6"	5' 6"	6' 7"	6' 2"	5' 2"	6' 2"	5' 11"	5' 0"			

WALL HEIGHT TABLE NOTES

1. LATERAL LOADS HAVE NOT BEEN MODIFIED FOR STRENGTH CHECKS: FULL LOADS ARE APPLIED.
2. CALCULATED PROPERTIES ARE BASED ON AISI S100-07 WITH S2-10 SUPPLEMENT, NORTH AMERICAN SPECIFICATION FOR COLD-FORMED STEEL STRUCTURAL MEMBERS.
3. THE 5 PSF LIVE LOAD HAS NOT BEEN REDUCED FOR DEFLECTION CHECKS. FOR 15 PSF OR HIGHER WIND PRESSURE, READ THE NOTE BELOW.
4. 15 PSF AND HIGHER WIND PRESSURES HAVE BEEN MULTIPLIED BY 0.7 FOR DEFLECTION DETERMINATION, IN ACCORDANCE WITH FOOTNOTE F OF IBC TABLE 1604.3. THE 5 PSF LOAD HAS NOT BEEN REDUCED FOR DEFLECTION.
5. LIMITING HEIGHTS ARE BASED ON CONTINUOUS SUPPORT OF EACH FLANGE OVER THE FULL LENGTH OF THE STUD.
6. LIMITING HEIGHTS ARE BASED ON STEEL PROPERTIES ALONE (NON-COMPOSITE).
7. WEB CRIPPLING CHECKS ARE BASED ON END-ONE FLANGE LOADING CONDITION USING 1-INCH END BEARING.
8. END SHEAR AND WEB CRIPPLING CAPACITY HAVE NOT BEEN REDUCED FOR PUNCHOUTS. PUNCHOUTS ARE ASSUMED TO BE ATLEAST 10-INCHS FROM THE END OF MEMBERS, IN ACCORDANCE WITH ASTM C955, SECTION 4.6.
9. WHERE LIMITING HEIGHTS ARE FOLLOWED BY "E", WEB STIFFENERS ARE REQUIRED.

GENERAL NOTES FOR ALL TABLES

1. WHERE AISI S100-07 WITH S2-10 SUPPLEMENT IS REFERENCED, IT IS THE "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", 2007 EDITION WITH 2010 SUPPLEMENT, WITH US PROVISIONS.

2. THE STRENGTH INCREASE FROM COLD WORK OF FORMING HAS BEEN INCORPORATED FOR FLEXURAL STRENGTH PER SECTION A7.2 OF AISI S100-07 WITH S2-10.

3. THE EFFECTIVE MOMENT OF INERTIA FOR DEFLECTION IS CALCULATED AT A STRESS WHICH RESULTS IN A SECTION MODULUS SUCH THAT THE STRESS TIMES THE SECTION MODULUS AT THAT STRESS IS EQUAL TO THE ALLOWABLE MOMENT. AISI S100-07 WITH S2-10 SPECIFICATION PROCEDURE FOR SERVICEABILITY DETERMINATION HAS BEEN USED. INCREASES IN THE EFFECTIVE MOMENT OF INERTIA (IXE) MAY BE POSSIBLE AT LOWER STRESS LEVELS. ANY MODIFIED VALUES WOULD BE REQUIRED TO BE CALCULATED BY A QUALIFIED ENGINEER.

4. VARIOUS SECTIONS MAY BE MANUFACTURED WITH YIELD POINTS OF 33 OR 50 KSI. THE YIELD POINT USED FOR CALCULATIONS ARE LISTED IN THE TABLES.

5. FOR SECTIONS AVAILABLE IN BOTH 33 AND 50 KSI, THE SPECIFIER MUST BE CLEARLY INDICATE WHICH YIELD POINT IS REQUIRED. FOR EX. 362S162-68 (50KSI).

6. WHEN PROVIDED, FACTORY PUNCHOUTS WILL BE LOCATED ALONG THE CENTERLINE OF THE WEBS OF THE MEMBERS AND WILL HAVE A MINIMUM CENTER-TO-CENTER SPACING OF 24 INCHES. PUNCHOUTS FOR MEMBERS GREATER THAT 2.5 INCHES DEEP ARE A MAXIMUM OF 1.5 INCHES WIDE X 4 INCHES LONG. MEMBERS WITH DEPTHS 2.5 INCHES AND SMALLER ARE MAXIMUM OF 3/4 INCHES WIDE X 4 INCHES LONG.

DEFINITIONS OF STRUCTURAL PROPERTY SYMBOLS

GROSS PROPERTIES

IX: MOMENT OF INERTIA OF GROSS SECTION ABOUT THE X-X AXIS (STRONG AXIS).

SX: SECTION MODULUS ABOUT THE X-X AXIS (STRONG AXIS).

RX: RADIUS OF GYRATION OF THE GROSS SECTION ABOUT THE X-X AXIS.

IY: MOMENT OF INERTIA OF GROSS SECTION ABOUT THE Y-Y AXIS (WEAK AXIS).

RY: RADIUS OF GYRATION OF THE GROSS SECTION ABOUT THE Y-Y AXIS.

EFFECTIVE PROPERTIES

XE: EFFECTIVE MOMENT OF INERTIA ABOUT THE X-AXIS.

SXE: EFFECTIVE SECTION MODULUS ABOUT THE X-X AXIS (STRONG AXIS) STRESS = FY.

MA: ALLOWABLE BENDING MOMENT - BASED ON THE EFFECTIVE SECTION MODULUS AND THE ALLOWABLE STRESS INCLUDING THE STRENGTH INCREASE FROM THE COLD-WORK OF FORMING (SECTION A7.2) WHERE APPLICABLE.

MAD: ALLOWABLE BENDING MOMENT - BASED ON DISTORTIONAL BUCKING STRENGTH CALCULATED PER AISI SECTION C3.1.4

VAG: ALLOWABLE STRONG AXIS SHEAR AWAY FROM PUNCHOUT, CALCULATED IN ACCORDANCE WITH AISI SECTION C3.2.1.

VANET: ALLOWABLE STRONG AXIS SHEAR AT PUNCHOUT, CALCULATED IN ACCORDANCE WITH AISI SECTION C3.2.2

TORSIONAL AND OTHER PROPERTIES

J: ST. VENANT TORSIONAL CONSTANT.

CW: TORSIONAL WARPING CONSTANT.

M: DISTANCE FROM SHEAR CENTER TO MID-PLANE OF WEB.

XO: DISTANCE FROM THE SHEAR CENTER TO THE CENTROID ALONG THE PRINCIPAL X-AXIS.

RO: POLAR RADIUS OF GYRATION ABOUT THE CENTROIDAL PRINCIPAL AXIS.

B: 1-(XO/RO)2

LU: THE LONGEST WEAK AXIS (LY) AND TORSIONAL (LT) UNBRACED LENGTH AT WHICH LATERAL TORSIONAL BUCKLING IS RESTRAINED IN ACCORDANCE WITH AISI C3.1.2.1