

# MERCURY METALS

## SPECIFICATION FOR SINGLE SKIN WALL AND/OR ROOF CLADDING

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### PART 1 – GENERAL

#### 1.1 – GENERAL REQUIREMENTS

1. Division 1, General Requirements, Supplementary General Requirements and Instruction to bidders are part of this specification and shall apply as if repeated here.
2. The requirements for Goods and Services Tax and Provincial Sales Tax are outlined in the General Requirements.

#### 1.2 – SCOPE OF WORK

1. Furnish all materials, labor, equipment and services, necessary for the detailed design erection drawings, shop drawings, fabrication and erection of the complete wall and/or roof cladding as shown or called for in the tender documents.
2. Supply and install accessories where shown or called for by the tender documents.
3. Cut and flash penetrations through the wall and/or roof cladding shown on drawings.

#### 1.3 – SHOP DRAWINGS

1. Submit erection drawings in accordance with General Conditions.
2. Erection drawings shall show clearly the location of various cladding units, section designations, finishes, quantities, fastener specifics and any other information required for erection purposes.
3. Shop drawings shall be signed and sealed by a Specialty Engineer, a Registered Engineer familiar with sheet metal panels components and systems.
4. The Specialty Engineer shall submit the required documentation covering the specified work and conduct field inspections as he deems to be required to assure work is performed in accordance with the shop drawings.

#### 1.4 – WORK NOT INCLUDED

1. Structural steel girts, or other supports, for wall cladding.
2. Structural steel purlins, or other supports, for the roof cladding.
3. Structural framing, or reinforcement, for doors, sash, penetrations or other openings
4. Base angles and caulking of same.
5. Gutters, downspouts, coping trim, cant or parapet flashing, unless shown or called for on the tender documents as being supplied by this division.
6. Overall design of wall and/or roof system for adherence to rainscreen principles, water penetration, internal condensation, air and vapour barriers, insulation design and collateral material selection.

#### 1.5 – STANDARDS

1. Design wall and/or roof cladding in accordance with the latest edition of:
  - i. CAN/C.S.A. – S 136 for the Design of Cold Formed Steel Structural Members.
  - ii. Specified loads, load factors and load distributions shall be in accordance with the National Building code of Canada unless otherwise stated.

#### 1.6 – DESIGN CRITERIA

1. Design wall and/or roof cladding using Limit States Design.
2. Design wall and/or roof cladding to resist:
  - i. Live and dead loads as specified and shown on tender drawings.
  - ii. Net uplift and suction loads as specified and shown on tender drawings.
3. Deflection of wall cladding is not to exceed 1/90 of the span for the specified live loading while deflection of roof cladding is not to exceed 1/180 of the span of the specified live loading.
4. Where possible, span cladding over four or more structural supports (3 continuous spans).

# SPECIFICATION FOR SINGLE SKIN WALL AND/OR ROOF CLADDING

5. For exposed metal roof cladding ensure the following minimum roof slopes are being maintained.
  - i. Screwed roof systems – 1 in 12
  - ii. Standing seam roof systems – 1 in 48
6. Standing seam roof systems shall have a shear device to endure transfer of shear loads into the supporting structure.
7. The supporting structure shall provide the floor deck a minimum bearing width equal to the cladding profile depth, but not less than 1.5”.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

1. Manufacturer shall be a member of Good Standing with the Canadian Sheet Steel Building Institute (C.S.S.B.I.).
2. Fabrication from ASTM A 653M SQ (structural quality) grade 230 galvanized steel with a zinc coating of Z275 galvanized as designated by ASTM A653M.
3. Profile designation shall be Mercury \_\_\_\_\_ complete with prefinish colour QC- \_\_\_\_\_.
4. Minimum design thickness shall be \_\_\_\_\_mm (\_\_\_\_\_in).
5. Prefinished sheet steel, in addition to meeting the requirements of 2.1.2, shall have a 2-coat (minimum) Silicone Modified Polyester Paint System factory applied, cured by baking, using colours of proven durability for exterior exposure.
6. Trim shall be fabricated from the same material, thickness and finish as the respective wall or roof cladding.
7. E.P.T. closures shall be provided, where indicated on the tender documents, to close off the flutes of the cladding at head, sill, base and eaves.
8. Fasteners for attaching cladding to structural framing or other structural supports, for attaching flashing to cladding, and for joining cladding components together shall be as recommended by the Specialty Engineer.
9. Polybutylene Mastic tape caulking of suitable thickness and width will be supply with the cladding panels for the sealing of side and end lap joints.
10. Insulation shall be Metal Building Insulation with a thickness of \_\_\_\_\_ mm (\_\_\_\_\_ in ) complete with a laminated vapour barrier consisting of \_\_\_\_\_ complete with 52 mm ( 2 in ) side taps for folding and stapling.

## **PART 3 – EXECUTION**

### **3.1 STORAGE OF MATERIAL ON SITE**

1. Steel sheet cladding shall normally be delivered to the jobsite as required for erection, but if site storage becomes necessary, suitable storage areas shall be provided by the general contractor as close to the building site as is practicable. Preferably this storage shall be under cover.
2. When outdoor storage is unavoidable:
  - a. Use good quality covers, other than plastic, loosely shrouded over stacks and firmly anchored to prevent wind blow-off;
  - b. Tilt bundles for drainage;
  - c. Ventilate bundles but do not allow the entry of wind driven precipitation;
  - d. Block bundles off ground for effective ventilation;
  - e. Block bundles to prevent sagging;
  - f. Store away from chemically aggressive substances (e.g. salt, cement, fertilizer) away from materials that could contaminate the surface (e.g. diesel oil, paint, grease) and away from traffic.
3. Moisture can cause wet storage staining of metallic coated and pre-finished material and usually occurs as a result of:
  - a. Condensation from high humidity air and/or temperature cycling;
  - b. Wet shipping conditions;
  - c. Wind driven rain penetration (outdoor storage).

The usual progression is from water staining to unsightly white staining (dark grey to dull lack on aluminum-zinc alloy coated sheet) to red rust. On material where wet storage staining has occurred, it should be noted that, except for aesthetic considerations, a nominal amount of staining is not detrimental to the functioning of the product.

### 3.2 INSTALLATION

1. All erection work shall be carried out by trained erection crews all in accordance with the fabricator's and these specifications.
2. Examine and obtain all necessary measurements of previously executed work which may effect the work of this Division.
3. Report any discovered discrepancies to the Architect/Engineer so that instructions may be given for the necessary remedial work.
4. Exercise care in unpacking, moving, storing, handling and placing panels to prevent damage likely to impair the adequacy or appearance of the material in the finished structure.
5. Sheet steel cladding shall be adjusted to final position before being permanently fastened to structural supports.
6. End laps shall be located over supports. Minimum end laps shall be:
  - i. 50mm for wall cladding
  - ii. 100mm for roof cladding used on roofs with a slope of 4 in 12 or more
  - iii. as per fabricators specifications for roofs sloping less than 4 in 12.
7. Sidelaps shall be sealed with continuous lengths of taped caulking where specified and shall be connected at intervals not exceeding 600mm.
8. Openings, and any necessary flashing, shall be provided as called for by the tender documents.
9. If additional openings not shown or called for by the tender documents are required, such openings shall be cut and flashed by the erector, but the cost of such extra work shall be charged to the buyer.
10. When cutting or drilling prefinished material, care shall be exercised to ensure that cuttings do not remain to rust on exposed prefinished surfaces. Where practicable, cutting and drilling shall be conducted so that cuttings do not strike or accumulate on exposed cladding surfaces.

### 3.3 TOUCH-UP AND CLEANING

1. The contractor shall remove undue grime and dirt from cladding by dry wiping the panels as the material is erected.
2. At completion of the work of this Division, remove any excess materials, debris and equipment pertaining to the work of this Division, from the site.

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## GENERAL NOTES for ROOF CLADDING

IMPERIAL - L.S.D.

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### DESIGN CRITERIA:

The properties listed in the following tables are based on one foot panel width. The properties of the steel profiles have been computed in accordance with CSA - S136-94 for limit states design.

### Cs COEFFICIENT OF STRESS:

To determine the maximum uniform factored load, governed by design stress, and not covered by the load tables, proceed as follows;

a) Simple Span:

$$\frac{Cs \text{ ( mid-span )}}{(\text{span in feet})^2} \quad \text{psf}$$

b) Double Span: use the lessor of the following;

i)  $\frac{Cs \text{ ( support )}}{(\text{span in feet})^2} \quad \text{psf}$

ii)  $\frac{Cs \text{ ( mid-span )}}{(\text{span in feet})^2} \times 1.77 \quad \text{psf}$

c) Triple Span: use the lessor of the following;

i)  $\frac{Cs \text{ ( support )}}{(\text{span in feet})^2} \times 1.25 \quad \text{psf}$

ii)  $\frac{Cs \text{ ( mid-span )}}{(\text{span in feet})^2} \times 1.56 \quad \text{psf}$

**To determine the maximum specified uniform loads, as listed in the load tables, divide the results of the equations by 1.5.**

The loads determined by these formulas are for positive exterior loading on the exterior sheet in the normal position. For negative exterior loading on the exterior sheet in the normal position, or positive exterior loading on the inverted position; interchange the mid-span properties with the support properties.

### COEFFICIENT OF DEFLECTION:

To determine the maximum load governed by deflection limitations, and not covered by the load tables, proceed as follows:

a) Simple Span:

$$\frac{Cd}{(\text{span in feet})^3} \quad \text{psf}$$

b) Double Span:

$$\frac{Cd}{(\text{span in feet})^3} \times 2.4 \quad \text{psf}$$

c) Triple Span:

$$\frac{Cd}{(\text{span in feet})^3} \times 1.89 \quad \text{psf}$$

# MERCURY METALS

## GENERAL NOTES for ROOF CLADDING

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The normal allowable deflections are as follows:

Roof Cladding:  $L / 180$

### WEB CRIPPLING:

Reactions at exterior and/or interior supports shall be equal or less than the factored bearing resistance shown on each load table. To determine the maximum uniform factored load, governed by web crippling, and not covered by the load tables, proceed as follows:

Exterior bearing:  $2 \times \frac{\text{EXT Bearing Resistance}}{(\text{span in feet})}$

Interior bearing:  $\frac{\text{INT Bearing Resistance}}{(\text{span in feet})}$

**To determine the maximum specified uniform loads, as listed in the load tables, divide the results of the equations by 1.5.**

### SPAN TABLE UNITS AND USE:

- a) The allowable spans shown in the load tables are in feet.
- b) The "A" column provides the allowable specified load capacity based on strength.
- c) The "B" column provides the allowable specified load capacity based on serviceability based on deflection requirements shown on each load table sheet.
- d) The table lists the lower value of bending capacity or web bearing resistance. The load is expressed in *Italics* when bearing capacity governs.
- e) The loads shown in the tables are specified loads and have not been factored. Strength capacity in column "A" should be checked against the following formula:

$$\text{Specified Load in Table} > / = [\text{Specified Live Load}] + [0.833 \times \text{Specified Dead Load}]$$

- f) The load tables are based on the material grades and strengths shown on each load table.
- g) The minimum recommended roof slope for roof cladding systems with "through screw application" is 1 in 12.
- h) In addition to normal gravity loads, significant negative or uplift wind pressures and sliding shear forces can be applied to the roof system. The roof field and sidelaps must be adequately fastened to prevent failure due to uplift and shear forces. Resistance to these forces will depend on the following factors.
  - 1) Regional wind forces.
  - 2) Roof shape and slope angles.
  - 3) Cladding profile, gauge, and subgirt system ( if applicable )
  - 4) The nature ( wood, steel, plywood, concrete ) and spacing of the underlying substructure.It is important that the design of the substructure has taken in consideration the gravity, uplift and shear forces that will be applied from the exterior roof system and that adequate fastening of the substructure to the primary structural framing has been reviewed.

For assistance contact your Mercury Metals representative.

# MERCURY METALS

## GENERAL NOTES for ROOF CLADDING

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### DESIGN CRITERIA:

The properties listed in the following tables are based on one meter panel width. The properties of the steel profiles have been computed in accordance with CSA - S136-94 for limit states design.

### Cs COEFFICIENT OF STRESS:

To determine the maximum uniform factored load, governed by design stress, and not covered by the load tables, proceed as follows;

a) Simple Span:

$$\frac{Cs \text{ ( mid-span )}}{(\text{span in meters})^2} \quad \text{kPa}$$

b) Double Span: use the lessor of the following;

i)  $\frac{Cs \text{ ( support )}}{(\text{span in meters})^2} \quad \text{kPa}$

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Exterior bearing:  $2 \times \frac{\text{EXT Bearing Resistance}}{(\text{span in meters})}$

Interior bearing:  $\frac{\text{INT Bearing Resistance}}{(\text{span in meters})}$

**To determine the maximum specified uniform loads, as listed in the load tables, divide the results of the equations by 1.5.**

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- The table lists the lower value of bending capacity or web bearing resistance. The load is expressed in *Italics* when bearing capacity governs.
- The loads shown in the tables are specified loads and have not been factored. Strength capacity in column "A" should be checked against the following formula:

$$\text{Specified Load in Table} > / = [\text{Specified Live Load}] + [0.833 \times \text{Specified Dead Load}]$$

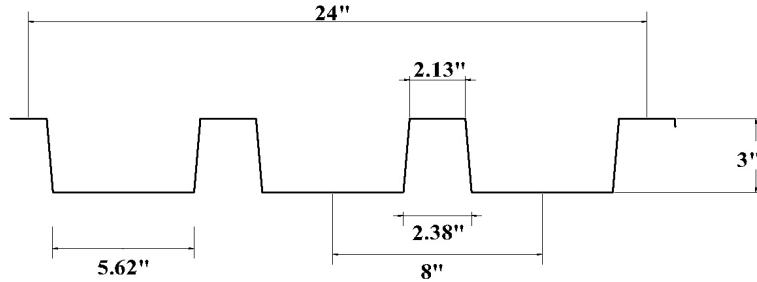
- The load tables are based on the material grades and strengths shown on each load table.
- The minimum recommended roof slope for roof cladding systems with "through screw application" is 1 in 12.
- In addition to normal gravity loads, significant negative or uplift wind pressures and sliding shear forces can be applied to the roof system. The roof field and sidelaps must be adequately fastened to prevent failure due to uplift and shear forces. Resistance to these forces will depend on the following factors.
  - Regional wind forces.
  - Roof shape and slope angles.
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  - The nature ( wood, steel, plywood, concrete ) and spacing of the underlying substructure.It is important that the design of the substructure has taken in consideration the gravity, uplift and shear forces that will be applied from the exterior roof system and that adequate fastening of the substructure to the primary structural framing has been reviewed.

For assistance contact your Mercury Metals representative.

# MERCURY METALS LTD.

Imperial - L.S.D. S136-94

## Mercury CL BOLD-RIB R



### Properties for Mercury CL BOLD-RIB R ( Per foot width)

Gauge Number	Base Steel Nominal Thickness	Weight	Overall Depth	MID - SPAN					SUPPORT					Coeff. of Bearing Resist. 3"			
				Section Modulus		Coeff. of Stress	Moment of Inertia		Section Modulus		Coeff. of Stress	Moment of Inertia		L / 180	EXT	INT	
	Inches	PSF	Inches	Sm	In3	Csm	Im	In4	Ss	In3	Css	Is	In4				
24	0.024	1.790	3	0.3271		6477		0.7028		0.2610		5168		0.4942	61295	0.50	0.70
22	0.030	2.160	3	0.4627		9162		0.9281		0.3660		7247		0.6620	80944	0.74	1.18
20	0.036	2.590	3	0.5649		11185		1.0679		0.4763		9431		0.8392	93137	1.01	1.77
18	0.048	3.440	3	0.7785		15414		1.4164		0.7282		14418		1.2168	123531	1.68	3.32

### Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.024		0.030		0.036		0.048		0.024		0.030		0.036		0.048		0.024		0.030		0.036		0.048	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
7.0	88	*	125	*	152	*	210	*	67	*	99	*	128	*	196	*	67	*	112	*	160	*	245	*
7.5	77	*	109	*	133	*	183	*	61	*	86	*	112	*	171	*	63	*	105	*	140	*	214	*
8.0	67	*	95	*	117	*	161	*	54	*	75	*	98	*	150	*	59	*	94	*	123	*	188	*
8.5	60	*	85	*	103	*	142	*	48	*	67	*	87	*	133	*	55	*	84	*	109	*	166	*
9.0	53	*	75	*	92	*	127	*	43	*	60	*	78	*	119	*	52	*	75	*	97	*	148	*
9.5	48	*	68	*	83	*	114	*	38	*	54	*	70	*	107	*	48	*	67	*	87	*	133	*
10.0	43	*	61	*	75	*	103	*	34	*	48	*	63	*	96	*	43	*	60	*	79	*	120	*
10.5	39	*	55	*	68	*	93	*	31	*	44	*	57	*	87	*	39	*	55	*	71	*	109	*
11.0	36	*	50	*	62	*	85	*	28	*	40	*	52	*	79	*	36	*	50	*	65	*	99	*
11.5	33	*	46	*	56	*	78	*	26	*	37	*	48	*	73	*	33	*	46	*	59	*	91	*
12.0	30	*	42	*	52	*	71	71	24	*	34	*	44	*	67	*	30	*	42	*	55	*	83	*
12.5	28	*	39	*	48	48	66	63	22	*	31	*	40	*	62	*	28	*	39	*	50	*	77	*

#### Mercury CL BOLD-RIB R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( 8 ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

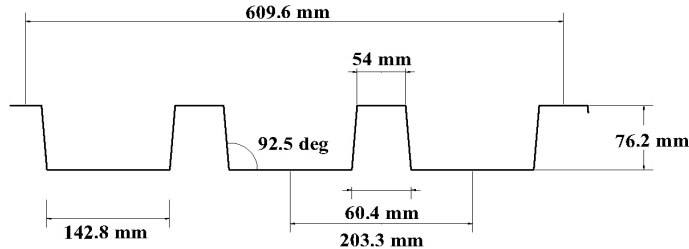
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi).
- 5) Also available in 0.060 and .075 inch thickness. Contact your Mercury Metals representative.

# MERCURY METALS LTD.

Metric - L.S.D. S136-94

## Mercury CL BOLD-RIB R



### Properties for Mercury CL BOLD-RIB R

( Per meter width )

Gauge Number	Base Steel Nominal Thickness mm	Weight Kpa	Overall Depth mm	MID - SPAN			SUPPORT			Coeff. of Deflect. L / 180	Bearing Resist. for 76mm	
				Section Modulus Sm	Coeff. of Stress Csm	Moment of Inertia mm <sup>3</sup>	Section Modulus Ss	Coeff. of Stress Css	Moment of Inertia mm <sup>3</sup>		EXT	INT
				x10 <sup>3</sup>		x10 <sup>3</sup>	x10 <sup>3</sup>		x10 <sup>3</sup>			
24	0.61	0.0856	76.2	17.588	29.1257	9.598	14.035	23.2420	674.8	83.13	7.26	10.3
22	0.76	0.1033	76.2	24.875	41.1930	12.673	19.676	32.5835	904.1	109.77	10.7	17.2
20	0.91	0.1239	76.2	30.371	50.2944	14.583	25.605	42.0190	1146.0	126.31	14.8	25.8
18	1.22	0.1646	76.2	41.856	69.3135	19.343	39.146	64.8258	1661.4	167.55	24.5	48.5

### Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.61		0.76		0.91		1.22		0.61		0.76		0.91		1.22		0.61		0.76		0.91		1.22	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
2.0	4.8	*	6.9	*	8.4	*	11.6	*	3.4	*	5.4	*	7.0	*	10.8	*	3.4	*	5.7	*	8.6	*	13.5	*
2.2	4.0	*	5.7	*	6.9	*	9.5	*	3.1	*	4.5	*	5.8	*	8.9	*	3.1	*	5.2	*	7.2	*	11.2	*
2.4	3.4	*	4.8	*	5.8	*	8.0	*	2.7	*	3.8	*	4.9	*	7.5	*	2.9	*	4.7	*	6.1	*	9.4	*
2.6	2.9	*	4.1	*	5.0	*	6.8	*	2.3	*	3.2	*	4.1	*	6.4	*	2.6	*	4.0	*	5.2	*	8.0	*
2.8	2.5	*	3.5	*	4.3	*	5.9	*	2.0	*	2.8	*	3.6	*	5.5	*	2.4	*	3.5	*	4.5	*	6.9	*
3.0	2.2	*	3.1	*	3.7	*	5.1	*	1.7	*	2.4	*	3.1	*	4.8	*	2.2	*	3.0	*	3.9	*	6.0	*
3.2	1.9	*	2.7	*	3.3	*	4.5	*	1.5	*	2.1	*	2.7	*	4.2	*	1.9	*	2.7	*	3.4	*	5.3	*
3.4	1.7	*	2.4	*	2.9	*	4.0	*	1.3	*	1.9	*	2.4	*	3.7	*	1.7	*	2.3	*	3.0	*	4.7	*
3.6	1.5	*	2.1	*	2.6	*	3.6	3.6	1.2	*	1.7	*	2.2	*	3.3	*	1.5	*	2.1	*	2.7	*	4.2	*
3.8	1.3	*	1.9	*	2.3	2.3	3.2	3.1	1.1	*	1.5	*	1.9	*	3.0	*	1.3	*	1.9	*	2.4	*	3.7	*
4.0	1.2	*	1.7	1.7	2.1	2.0	2.9	2.6	1.0	*	1.4	*	1.8	*	2.7	*	1.2	*	1.7	*	2.2	*	3.4	*
4.2	1.1	1.1	1.6	1.5	1.9	1.7	2.6	2.3	0.9	*	1.2	*	1.6	*	2.4	*	1.1	*	1.5	*	2.0	*	3.1	*

#### Mercury CL BOLD-RIB R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

4) Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).

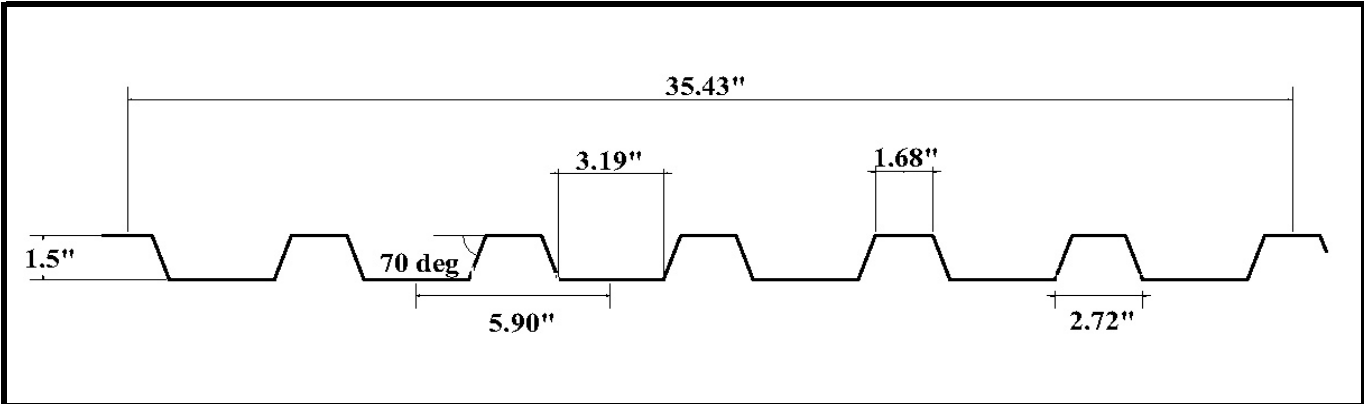
5) Also available in 1.52 and 1.91 mm thickness. Contact your Mercury Metals representative.

09/98

# MERCURY METALS

Imperial - L.S.D. S136-94

Mercury CL 900 R



## Properties for Mercury CL 900 R ( Per foot width)

Gauge Number	Base Steel Nominal Thickness Inches	Weight PSF	Overall Depth Dd Inches	MID - SPAN						SUPPORT						Coeff. of Deflect.		Bearing Resis.1.5" K / FT.	
				Section Modulus		Coeff. of Stress Csm	Moment of Inertia		Section Modulus		Coeff. of Stress Css	Moment of Inertia		L / 180	EXT	INT			
				Sm	In3		Im	In4	Ss	In3		Is	In4						
24	0.024	1.380	1.47	0.1331		2635	0.1290	0.1352		2677	0.1201	11253	0.48	0.92					
22	0.030	1.650	1.48	0.1801		3566	0.1695	0.1832		3627	0.1594	14781	0.75	1.42					
20	0.036	1.990	1.49	0.2292		4538	0.2031	0.2231		4417	0.1982	17712	1.08	2.03					

## Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.024		0.030		0.036		0.024		0.030		0.036		0.024		0.030		0.036							
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B						
4.0	110	*	149	*	189	*			112	*	151	*	184	*			139	*	189	*	230	*		
4.5	87	*	117	*	149	*			88	*	119	*	145	*			110	*	149	*	182	*		
5.0	70	*	95	*	121	*			71	*	97	*	118	*			89	*	121	*	147	*		
5.5	58	*	79	*	100	106			59	*	80	*	97	*			74	*	100	*	122	*		
6.0	49	*	66	*	84	82			50	*	67	*	82	*			62	*	84	*	102	*		
6.5	42	41	56	54	72	64			42	*	57	*	70	*			53	*	72	*	87	*		
7.0	36	33	49	43	62	52			36	*	49	*	60	*			46	*	62	*	75	*		
7.5	31	27	42	35	54	42			32	*	43	*	52	*			40	*	54	*	65	*		
8.0	27	22	37	29	47	35			28	*	38	*	46	*			35	*	47	*	58	*		
8.5	24	18	33	24	42	29			25	*	33	*	41	*			31	*	42	*	51	*		
9.0	22	15	29	20	37	24			22	*	30	*	36	*			28	*	37	*	45	*		
9.5	19	13	26	17	34	21			20	*	27	*	33	*			25	25	33	33	41	39		

### Mercury CL 900 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

<u>DEFLECTION</u>	<u>MULTIPLIER</u>
L / 240	0.75
L / 360	0.5

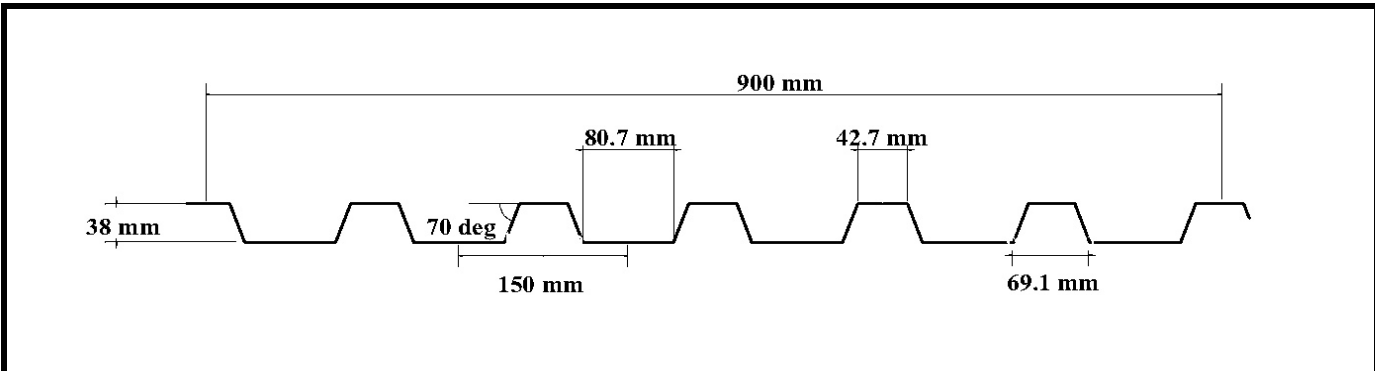
4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi ).

5) Also available in .048 and 0.060 inch thicknesses. See your Mercury Metals representative.

# MERCURY METALS

Metric - L.S.D. S139-94

Mercury CL 900 R



## Properties for Mercury CL 900 R ( Per meter width )

Gauge Number	Base Steel Nominal Thickness mm	Weight Kpa	Overall Depth Dd mm	MID - SPAN				SUPPORT				Coeff. of Deflect. L / 180	Bearing Resist.	
				Section Modulus		Coeff. of Stress	Moment of Inertia	Section Modulus		Coeff. of Stress	Moment of Inertia		for 38 mm	
				Sm	mm <sup>3</sup>	Csm	lm	mm <sup>4</sup>	Ss	mm <sup>3</sup>	Css		ls	mm <sup>4</sup>
				x10 <sup>3</sup>			x10 <sup>3</sup>	x10 <sup>3</sup>		x10 <sup>3</sup>				
24	0.61	0.6600	36.9	7.138	11.8205	175.9	7.248	12.0027	163.7	15.24	7.11	13.7		
22	0.76	0.0789	37.1	9.660	15.9970	231.1	9.841	16.2967	217.3	20.02	11.1	21.1		
20	0.91	0.0952	37.2	12.296	20.3622	277.3	11.987	19.8505	270.5	24.02	16.1	30.2		

## Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.61		0.76		0.91		0.61		0.76		0.91		0.61		0.76		0.91							
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B						
1.2			5.5	*	7.4	*	9.4	*			5.6	*	7.5	*	9.2	*			6.9	*	9.4	*	11.5	*
1.4			4.0	*	5.4	*	6.9	*			4.1	*	5.5	*	6.8	*			5.1	*	6.9	*	8.4	*
1.6			3.1	*	4.2	*	5.3	*			3.1	*	4.2	*	5.2	*			3.9	*	5.3	*	6.5	*
1.8			2.4	*	3.3	*	4.2	4.1			2.5	*	3.4	*	4.1	*			3.1	*	4.2	*	5.1	*
2.0			2.0	1.9	2.7	2.5	3.4	3.0			2.0	*	2.7	*	3.3	*			2.5	*	3.4	*	4.1	*
2.2			1.6	1.4	2.2	1.9	2.8	2.3			1.7	*	2.2	*	2.7	*			2.1	*	2.8	*	3.4	*
2.4			1.4	1.1	1.9	1.4	2.4	1.7			1.4	*	1.9	*	2.3	*			1.7	*	2.4	*	2.9	*
2.6			1.2	0.9	1.6	1.1	2.0	1.4			1.2	*	1.6	*	2.0	*			1.5	*	2.0	*	2.4	*
2.8			1.0	0.7	1.4	0.9	1.7	1.1			1.0	*	1.4	*	1.7	*			1.3	1.3	1.7	1.7	2.1	2.1
3.0			0.9	0.6	1.2	0.7	1.5	0.9			0.9	*	1.2	*	1.5	*			1.1	1.1	1.5	1.4	1.8	1.7
3.2			0.8	0.5	1.0	0.6	1.3	0.7			0.8	*	1.1	*	1.3	*			1.0	0.9	1.3	1.2	1.6	1.4
3.4			0.7	0.4	0.9	0.5	1.2	0.6			0.7	*	0.9	*	1.1	*			0.9	0.7	1.2	1.0	1.4	1.2

### Mercury CL 900 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

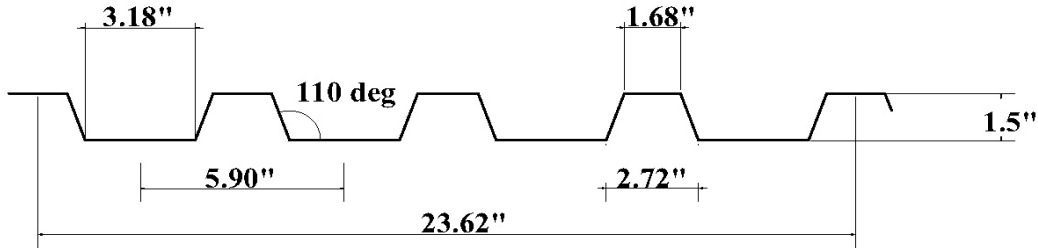
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).
- 5) Also available in 1.22 and 1.52 mm thickness. See your Mercury Metals representative.

# MERCURY METALS

Imperial - L.S.D. S136-94

Mercury CL 600 R



## Properties for Mercury CL 600 R ( Per foot width)

Gauge Number	Base Steel Nominal Thickness Inches	Weight PSF	Overall Depth Dd Inches	MID - SPAN					SUPPORT					Coeff. of Deflect.		Bearing Resis.1.5" K / FT.	
				Section Modulus		Coeff. of Stress	Moment of Inertia		Section Modulus		Coeff. of Stress	Moment of Inertia		L / 180	EXT	INT	
				Sm	In3	Csm	Im	In4	Ss	In3	Css	Is	In4				
26	0.018	1.150	1.46	0.1109		2196		0.1092	0.1116		2210		0.1003	9521	0.36	0.71	
24	0.024	1.380	1.47	0.1331		2635		0.1290	0.1352		2677		0.1201	11253	0.48	0.92	
22	0.030	1.650	1.48	0.1801		3566		0.1695	0.1832		3627		0.1594	14781	0.75	1.42	
20	0.036	1.990	1.49	0.2292		4538		0.2031	0.2231		4417		0.1982	17712	1.08	2.03	

## Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.018		0.024		0.030		0.036		0.018		0.024		0.030		0.036		0.018		0.024		0.030		0.036	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
4.0	92	*	110	*	149	*	189	*	92	*	112	*	151	*	184	*	115	*	139	*	189	*	230	*
4.5	72	*	87	*	117	*	149	*	73	*	88	*	119	*	145	*	91	*	110	*	149	*	182	*
5.0	59	*	70	*	95	*	121	*	59	*	71	*	97	*	118	*	74	*	89	*	121	*	147	*
5.5	48	*	58	*	79	*	100	106	49	*	59	*	80	*	97	*	61	*	74	*	100	*	122	*
6.0	41	*	49	*	66	*	84	82	41	*	50	*	67	*	82	*	51	*	62	*	84	*	102	*
6.5	35	35	42	41	56	54	72	64	35	*	42	*	57	*	70	*	44	*	53	*	72	*	87	*
7.0	30	28	36	33	49	43	62	52	30	*	36	*	49	*	60	*	38	*	46	*	62	*	75	*
7.5	26	23	31	27	42	35	54	42	26	*	32	*	43	*	52	*	33	*	40	*	54	*	65	*
8.0	23	19	27	22	37	29	47	35	23	*	28	*	38	*	46	*	29	*	35	*	47	*	58	*
8.5	20	16	24	18	33	24	42	29	20	*	25	*	33	*	41	*	25	*	31	*	42	*	51	*
9.0	18	13	22	15	29	20	37	24	18	*	22	*	30	*	36	*	23	*	28	*	37	*	45	*
9.5	16	11	19	13	26	17	34	21	16	*	20	*	27	*	33	*	20	*	25	25	33	33	41	39

### Mercury CL 600 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

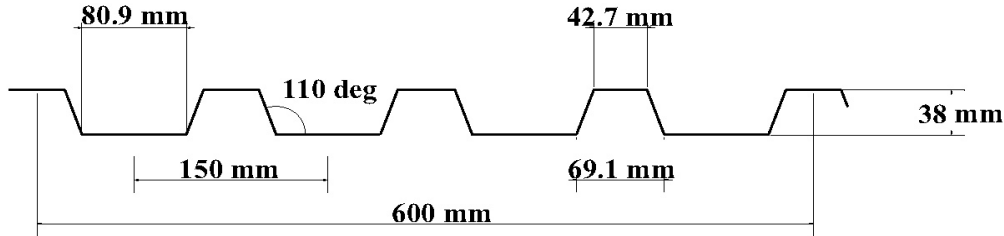
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi ).

# MERCURY METALS

Metric - L.S.D. S139-94

Mercury CL 600 R



## Properties for Mercury CL 600 R

( Per meter width )

Gauge Number	Base Steel Nominal Thickness mm	Weight Kpa	Overall Depth Dd mm	MID - SPAN			SUPPORT			Coeff. of Deflect. L / 180	Bearing Resist. for 38 mm		
				Section Modulus Sm mm <sup>3</sup> x10 <sup>3</sup>	Coeff. of Stress Csm	Moment of Inertia Im mm <sup>4</sup> x10 <sup>3</sup>	Section Modulus Ss mm <sup>3</sup> x10 <sup>3</sup>	Coeff. of Stress Css	Moment of Inertia Is mm <sup>4</sup> x10 <sup>3</sup>		L / 180	EXT	INT
26	0.46	0.0550	36.8	5.946	9.8499	148.8	5.985	9.9112	136.6	12.89	5.43	10.5	
24	0.61	0.6600	36.9	7.138	11.8205	175.9	7.248	12.0027	163.7	15.24	7.11	13.7	
22	0.76	0.0789	37.1	9.660	15.9970	231.1	9.841	16.2967	217.3	20.02	11.1	21.1	
20	0.91	0.0952	37.2	12.296	20.3622	277.3	11.987	19.8505	270.5	24.02	16.1	30.2	

## Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.46		0.61		0.76		0.91		0.46		0.61		0.76		0.91		0.46		0.61		0.76		0.91	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1.2	4.6	*	5.5	*	7.4	*	9.4	*	4.6	*	5.6	*	7.5	*	9.2	*	5.7	*	6.9	*	9.4	*	11.5	*
1.4	3.4	*	4.0	*	5.4	*	6.9	*	3.4	*	4.1	*	5.5	*	6.8	*	4.2	*	5.1	*	6.9	*	8.4	*
1.6	2.6	*	3.1	*	4.2	*	5.3	*	2.6	*	3.1	*	4.2	*	5.2	*	3.2	*	3.9	*	5.3	*	6.5	*
1.8	2.0	*	2.4	*	3.3	*	4.2	4.1	2.0	*	2.5	*	3.4	*	4.1	*	2.5	*	3.1	*	4.2	*	5.1	*
2.0	1.6	1.6	2.0	1.9	2.7	2.5	3.4	3.0	1.7	*	2.0	*	2.7	*	3.3	*	2.1	*	2.5	*	3.4	*	4.1	*
2.2	1.4	1.2	1.6	1.4	2.2	1.9	2.8	2.3	1.4	*	1.7	*	2.2	*	2.7	*	1.7	*	2.1	*	2.8	*	3.4	*
2.4	1.1	0.9	1.4	1.1	1.9	1.4	2.4	1.7	1.1	*	1.4	*	1.9	*	2.3	*	1.4	*	1.7	*	2.4	*	2.9	*
2.6	1.0	0.7	1.2	0.9	1.6	1.1	2.0	1.4	1.0	*	1.2	*	1.6	*	2.0	*	1.2	*	1.5	*	2.0	*	2.4	*
2.8	0.8	0.6	1.0	0.7	1.4	0.9	1.7	1.1	0.8	*	1.0	*	1.4	*	1.7	*	1.1	1.1	1.3	1.3	1.7	1.7	2.1	2.1
3.0	0.7	0.5	0.9	0.6	1.2	0.7	1.5	0.9	0.7	*	0.9	*	1.2	*	1.5	*	0.9	0.9	1.1	1.1	1.5	1.4	1.8	1.7
3.2	0.6	0.4	0.8	0.5	1.0	0.6	1.3	0.7	0.6	*	0.8	*	1.1	*	1.3	*	0.8	0.7	1.0	0.9	1.3	1.2	1.6	1.4
3.4	0.6	0.3	0.7	0.4	0.9	0.5	1.2	0.6	0.6	*	0.7	*	0.9	*	1.1	*	0.7	0.6	0.9	0.7	1.2	1.0	1.4	1.2

### Mercury CL 600 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

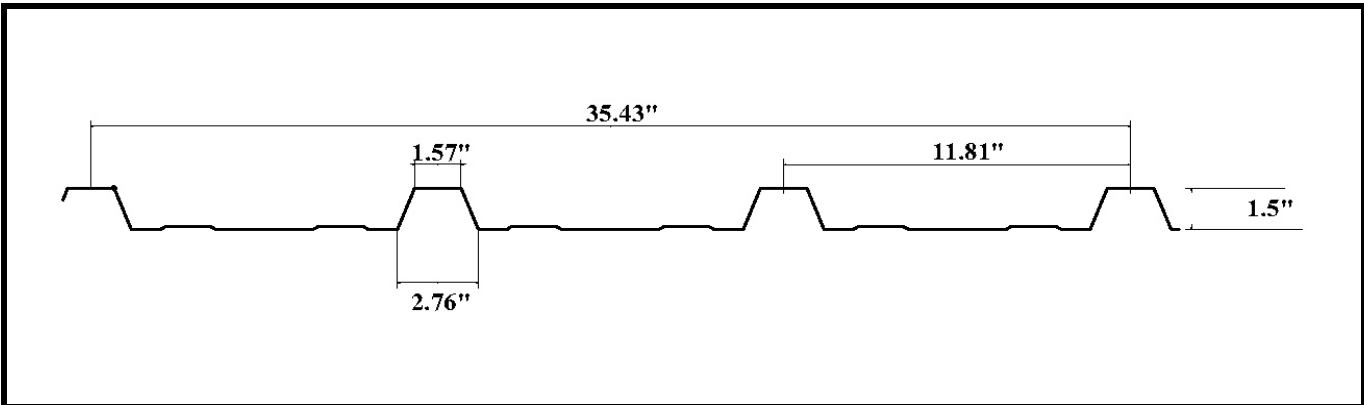
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).

# MERCURY METALS

Imperial - L.S.D. S136-94

Mercury CL 912 R



## Properties for Mercury CL 912 R ( Per foot width)

Gauge Number	Base Steel Nominal Thickness	Weight	Overall Depth	MID - SPAN						SUPPORT						Coeff. of Deflect.		Bearing Resis. 1.5" K / FT.	
				Section Modulus		Coeff. of Stress	Moment of Inertia		Section Modulus		Coeff. of Stress	Moment of Inertia		L / 180	EXT	INT			
				Sm	In3		Csm	Im	In4	Ss		In3	Css				Is	In4	
26	0.018	1.090	1.46	0.0605		1198	0.0756	0.0576		1141	0.0523	6596	0.18	0.35					
24	0.024	1.300	1.47	0.0726		1438	0.0899	0.0702		1390	0.0651	7841	0.24	0.46					
22	0.030	1.570	1.48	0.0981		1942	0.1189	0.0922		1826	0.0951	10368	0.37	0.71					
20	0.036	1.880	1.49	0.1247		2469	0.1424	0.1128		2233	0.1305	12419	0.54	1.02					

## Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.018		0.024		0.030		0.036		0.018		0.024		0.030		0.036		0.018		0.024		0.030		0.036	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
4.0	50	*	60	*	81	*	103	*	48	*	58	*	76	*	93	*	59	*	72	*	95	*	116	*
4.5	39	*	47	*	64	*	81	*	38	*	46	*	60	*	74	*	47	*	57	*	75	*	92	*
5.0	32	*	38	*	52	*	66	*	30	*	37	*	49	*	60	*	38	*	46	*	61	*	74	*
5.5	26	*	32	*	43	*	54	*	25	*	31	*	40	*	49	*	31	*	38	*	50	*	62	*
6.0	22	*	27	*	36	*	46	*	21	*	26	*	34	*	41	*	26	*	32	*	42	*	52	*
6.5	19	*	23	*	31	*	39	*	18	*	22	*	29	*	35	*	22	*	27	*	36	*	44	*
7.0	16	*	20	*	26	*	34	*	16	*	19	*	25	*	30	*	19	*	24	*	31	*	38	*
7.5	14	*	17	*	23	*	29	29	14	*	16	*	22	*	26	*	17	*	21	*	27	*	33	*
8.0	12	*	15	15	20	20	26	24	12	*	14	*	19	*	23	*	15	*	18	*	24	*	29	*
8.5	11	11	13	13	18	17	23	20	11	*	13	*	17	*	21	*	13	*	16	*	21	*	26	*
9.0	10	9	12	11	16	14	20	17	9	*	11	*	15	*	18	*	12	*	14	*	19	*	23	*
9.5	9	8	11	9	14	12	18	14	8	*	10	*	13	*	16	*	11	*	13	*	17	*	21	*

### Mercury CL 912 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

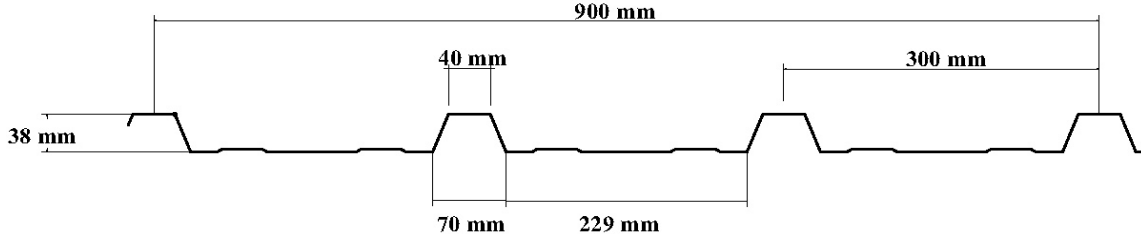
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi ).

# MERCURY METALS

Metric - L.S.D. S136-94

Mercury CL 912 R



## Properties for Mercury CL 912 R

( Per meter width )

Gauge Number	Base Steel Nominal Thickness mm	Weight Kpa	Overall Depth mm	MID - SPAN				SUPPORT				Coeff. of Deflect. L / 180	Bearing Resist. for 38 mm	
				Section Modulus		Coeff. of Stress	Moment of Inertia		Section Modulus		Coeff. of Stress		Moment of Inertia	
				Sm	mm <sup>3</sup>	Csm	Im	mm <sup>4</sup>	Ss	mm <sup>3</sup>	Css		Is	mm <sup>4</sup>
26	0.46	0.0522	36.8	3.252	5.3850	103.3	3.096	5.1270	71.5	8.94	2.66	5.14		
24	0.61	0.0622	36.9	3.903	6.4636	122.8	3.774	6.2497	88.9	10.63	3.41	6.68		
22	0.76	0.0751	37.1	5.274	8.7339	162.3	4.957	8.2086	129.8	14.06	5.46	10.3		
20	0.91	0.0900	37.2	6.704	11.1022	194.4	6.064	10.0427	178.2	16.84	7.88	14.8		

## Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.46		0.61		0.76		0.91		0.46		0.61		0.76		0.91		0.46		0.61		0.76		0.91	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1.2	2.5	*	3.0	*	4.0	*	5.1	*	2.4	*	2.9	*	3.8	*	4.6	*	2.9	*	3.6	*	4.8	*	5.8	*
1.4	1.8	*	2.2	*	3.0	*	3.8	*	1.7	*	2.1	*	2.8	*	3.4	*	2.2	*	2.7	*	3.5	*	4.3	*
1.6	1.4	*	1.7	*	2.3	*	2.9	*	1.3	*	1.6	*	2.1	*	2.6	*	1.7	*	2.0	*	2.7	*	3.3	*
1.8	1.1	*	1.3	*	1.8	*	2.3	*	1.1	*	1.3	*	1.7	*	2.1	*	1.3	*	1.6	*	2.1	*	2.6	*
2.0	0.9	*	1.1	*	1.5	*	1.9	*	0.9	*	1.0	*	1.4	*	1.7	*	1.1	*	1.3	*	1.7	*	2.1	*
2.2	0.7	*	0.9	*	1.2	*	1.5	*	0.7	*	0.9	*	1.1	*	1.4	*	0.9	*	1.1	*	1.4	*	1.7	*
2.4	0.6	0.6	0.7	*	1.0	1.0	1.3	1.2	0.6	*	0.7	*	1.0	*	1.2	*	0.7	*	0.9	*	1.2	*	1.5	*
2.6	0.5	0.5	0.6	0.6	0.9	0.8	1.1	1.0	0.5	*	0.6	*	0.8	*	1.0	*	0.6	*	0.8	*	1.0	*	1.2	*
2.8	0.5	0.4	0.5	0.5	0.7	0.6	0.9	0.8	0.4	*	0.5	*	0.7	*	0.9	*	0.5	*	0.7	*	0.9	*	1.1	*
3.0	0.4	0.3	0.5	0.4	0.6	0.5	0.8	0.6	0.4	*	0.5	*	0.6	*	0.7	*	0.5	*	0.6	*	0.8	*	0.9	*
3.2	0.4	0.3	0.4	0.3	0.6	0.4	0.7	0.5	0.3	*	0.4	*	0.5	*	0.7	*	0.4	*	0.5	*	0.7	*	0.8	*
3.4	0.3	0.2	0.4	0.3	0.5	0.4	0.6	0.4	0.3	*	0.4	*	0.5	*	0.6	*	0.4	0.4	0.5	0.5	0.6	*	0.7	*

### Mercury CL 912 R Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

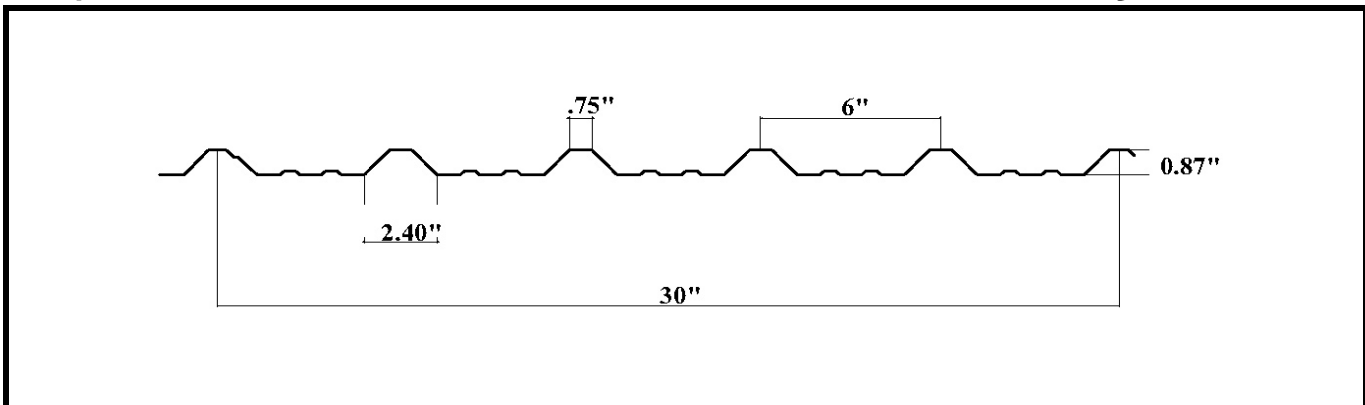
DEFLECTION	MULTIPLIER
L / 240	0.75
L / 360	0.5

- 4) Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).

# MERCURY METALS

Imperial - L.S.D. S136-94

Mercury D-306 R



## Properties for Mercury D-306 R

( Per foot width )

Gauge Number	Base Steel Nominal Thickness Inches	Weight PSF	Overall Depth Inches	MID - SPAN						SUPPORT						Coeff. of Deflect. L / 180	Bearing Resist. 2" K / FT.	
				Section Modulus		Coeff. of Stress Csm	Moment of Inertia		Section Modulus		Coeff. of Stress Css	Moment of Inertia		EXT	INT			
				Sm	In3		Im	In4	Ss	In3		Is	In4					
29	0.0135	0.662	0.875	0.0311		616	0.0190	0.0242		479	0.0118	1657	0.17	0.28				
26	0.018	0.882	0.875	0.0430		851	0.0255	0.0359		711	0.0168	2224	0.29	0.51				
24	0.024	1.176	0.875	0.0560		1109	0.0331	0.0559		1107	0.0206	2887	0.47	0.94				
22	0.030	1.470	0.875	0.0687		1360	0.0405	0.0710		1406	0.0306	3532	0.69	1.49				

## Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.0135		0.018		0.024		0.030		0.0135		0.018		0.024		0.030		0.0135		0.018		0.024		0.030	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1.5	155	*	252	*	329	*	403	*	122	*	211	*	328	*	417	*	122	*	228	*	410	*	521	*
2.0	103	*	142	*	185	*	227	*	80	*	118	*	184	*	234	*	92	*	148	*	231	*	293	*
2.5	66	*	91	*	118	*	145	*	51	*	76	*	118	*	150	*	64	*	95	*	148	*	187	*
3.0	46	*	63	*	82	*	101	*	35	*	53	*	82	*	104	*	44	*	66	*	102	*	130	*
3.5	34	*	46	*	60	*	74	*	26	*	39	*	60	*	77	*	33	*	48	*	75	*	96	*
4.0	26	26	35	35	46	45	57	55	20	*	30	*	46	*	59	*	25	*	37	*	58	*	73	*
4.5	20	18	28	24	37	32	45	39	16	*	23	*	36	*	46	*	20	*	29	*	46	*	58	*
5.0	16	13	23	18	30	23	36	28	13	*	19	*	30	*	37	*	16	*	24	*	37	*	47	*
5.5	14	10	19	13	24	17	30	21	11	*	16	*	24	*	31	*	13	*	20	*	30	*	39	*
6.0	11	8	16	10	21	13	25	16	9	*	13	*	20	*	26	*	11	*	16	*	26	25	33	31
6.5	10	6	13	8	17	11	21	13	8	*	11	*	17	*	22	*	9	*	14	*	22	20	28	24
7.0	8	5	12	6	15	8	19	10	7	*	10	*	15	*	19	*	8	*	12	12	19	16	24	19

### Mercury D-306 R Load Table Notes

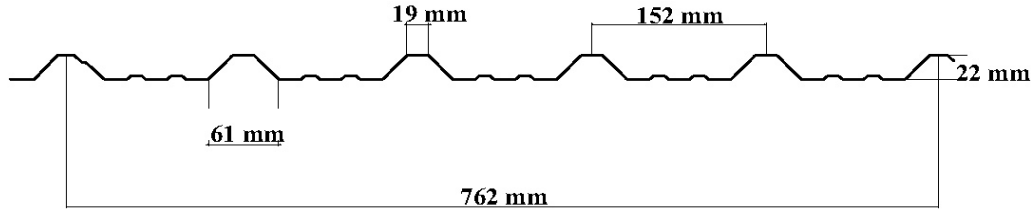
- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

<u>DEFLECTION</u>	<u>MULTIPLIER</u>
L / 240	0.75
L / 360	0.5
- 4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi ).

# MERCURY METALS

Metric - L.S.D. S136-94

Mercury D-306 R



## Properties for Mercury D-306 R

( Per meter width )

Gauge Number	Base Steel Nominal Thickness	Weight	Overall Depth	MID - SPAN				SUPPORT				Coeff. of Deflect.	Bearing Resist.		
				Section Modulus	Coeff. of Stress	Moment of Inertia		Section Modulus	Coeff. of Stress	Moment of Inertia			for 50 mm		
	mm	Kpa	mm	Sm	mm <sup>3</sup>	Csm	lm	mm <sup>4</sup>	Ss	mm <sup>3</sup>	Css	ls	mm <sup>4</sup>	L/180	kN / M
				x10 <sup>3</sup>			x10 <sup>3</sup>		x10 <sup>3</sup>			x10 <sup>3</sup>		EXT	INT
29	0.34	0.0317	22.2	1.669	2.7639	26.0	1.302	2.1561	16.1	2.2485	2.54	4.02			
26	0.46	0.0422	22.2	2.311	3.8270	34.8	1.930	3.1961	23.0	3.0105	4.16	7.48			
24	0.61	0.0563	22.2	3.110	4.9862	45.3	3.005	4.0768	26.8	3.9206	6.83	13.7			
22	0.76	0.0704	22.2	3.691	6.1123	55.2	3.816	6.3193	41.8	4.7844	10.0	21.8			

## Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.34		0.46		0.61		0.76		0.34		0.46		0.61		0.76		0.34		0.46		0.61		0.76	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0.4	8.5	*	14	*	20.8	*	25.5	*	6.7	*	12	*	17.0	*	26.3	*	6.7	*	12	*	21.2	*	32.9	*
0.6	5.1	*	7.1	*	9.2	*	11.3	*	4.0	*	5.9	*	7.5	*	11.7	*	4.5	*	7.4	*	9.4	*	14.6	*
0.8	2.9	*	4.0	*	5.2	*	6.4	*	2.2	*	3.3	*	4.2	*	6.6	*	2.8	*	4.2	*	5.3	*	8.2	*
1.0	1.8	*	2.6	*	3.3	*	4.1	*	1.4	*	2.1	*	2.7	*	4.2	*	1.8	*	2.7	*	3.4	*	5.3	*
1.2	1.3	1.3	1.8	1.7	2.3	2.3	2.8	2.8	1.0	*	1.5	*	1.9	*	2.9	*	1.2	*	1.8	*	2.4	*	3.7	*
1.4	0.9	0.8	1.3	1.1	1.7	1.4	2.1	1.7	0.7	*	1.1	*	1.4	*	2.1	*	0.9	*	1.4	*	1.7	*	2.7	*
1.6	0.7	0.5	1.0	0.7	1.3	1.0	1.6	1.2	0.6	*	0.8	*	1.1	*	1.6	*	0.7	*	1.0	*	1.3	*	2.1	*
1.8	0.6	0.4	0.8	0.5	1.0	0.7	1.3	0.8	0.4	*	0.7	*	0.8	*	1.3	*	0.6	*	0.8	*	1.0	*	1.6	1.6
2.0	0.5	0.3	0.6	0.4	0.8	0.5	1.0	0.6	0.4	*	0.5	*	0.7	*	1.1	*	0.4	*	0.7	0.7	0.8	*	1.3	1.1
2.2	0.4	0.2	0.5	0.3	0.7	0.4	0.8	0.4	0.3	*	0.4	*	0.6	*	0.9	*	0.4	0.4	0.6	0.5	0.7	0.7	1.1	0.8
2.4	0.3	0.2	0.4	0.2	0.6	0.3	0.7	0.3	0.2	*	0.4	*	0.5	*	0.7	*	0.3	0.3	0.5	0.4	0.6	0.5	0.9	0.7
2.6	0.3	0.1	0.4	0.2	0.5	0.2	0.6	0.3	0.2	*	0.3	*	0.4	*	0.6	*	0.3	0.2	0.4	0.3	0.5	0.4	0.8	0.5

### Mercury D-306 R Load Table Notes

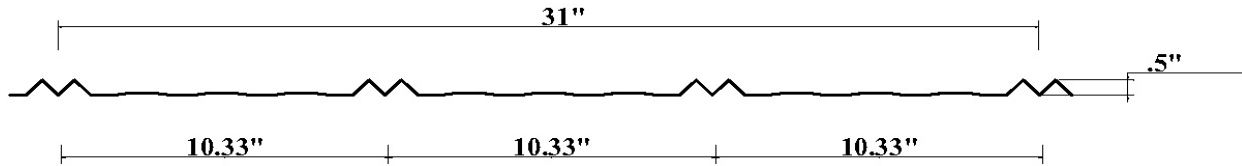
- Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- For deflection loads other than L / 180 multiply column 'B' by the following factors:

<u>DEFLECTION</u>	<u>MULTIPLIER</u>
L / 240	0.75
L / 360	0.5
- Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).

# MERCURY METALS

Imperial - L.S.D. S136-94

Mercury M RIB



## Properties for Mercury M RIB ( Per foot width )

Gauge Number	Base Steel Nominal Thickness Inches	Weight PSF	Overall Depth Inches	MID - SPAN					SUPPORT					Coeff. of Deflect.		Bearing Resist. 1" K / FT.	
				Section Modulus		Coeff. of Stress	Moment of Inertia		Section Modulus		Coeff. of Stress	Moment of Inertia		L / 180	EXT	INT	
				Sm	In3	Csm	Im	In4	Ss	In3	Css	Is	In4				
29	0.0135	0.594	0.5	0.0070		139		0.0029	0.0091		180		0.002	253	0.31	0.59	
26	0.018	0.853	0.5	0.0095		188		0.0039	0.0138		273		0.0029	340	0.52	1.11	
24	0.024	1.138	0.5	0.0126		250		0.0053	0.0212		420		0.0042	462	0.89	2.08	

## Specified Load Tables - psf

Span Ft.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.0135		0.018		0.024				0.0135		0.018		0.024				0.0135		0.018		0.024			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0.5	370	*	502	*	665	*			481	*	729	*	*	*			577	*	782	*	*	*		
1.0	92	*	125	*	166	*			120	*	182	*	280	*			144	*	196	*	259	*		
1.5	41	*	56	*	74	*			53	*	81	*	124	*			64	*	87	*	115	*		
2.0	23	*	31	*	42	*			30	*	46	*	70	*			36	*	49	*	65	*		
2.5	15	*	20	*	27	*			19	*	29	*	45	*			23	*	31	*	42	*		
3.0	10	9	14	13	18	17			13	*	20	*	31	*			16	*	22	*	29	*		
3.5	8	6	10	8	14	11			10	*	15	*	23	*			12	11	16	15	21	20		
4.0	6	4	8	5	10	7			8	*	11	*	17	17			9	7	12	10	16	14		
4.5	5	3	6	4	8	5			6	*	9	9	14	12			7	5	10	7	13	10		
5.0	4	2	5	3	7	4			5	5	7	7	11	9			6	4	8	5	10	7		
5.5	3	2	4	2	5	3			4	4	6	5	9	7			5	3	6	4	9	5		
6.0	3	1	3	2	5	2			3	3	5	4	8	5			4	2	5	3	7	4		

### Mercury M RIB Load Table Notes

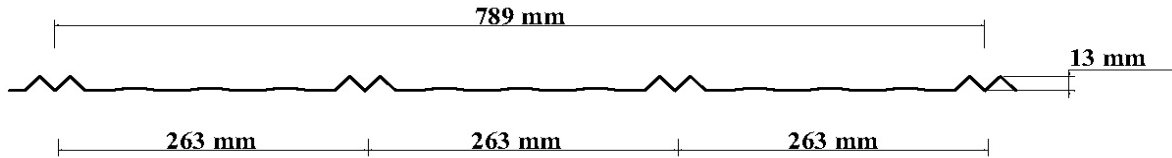
- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

<u>DEFLECTION</u>	<u>MULTIPLIER</u>
L / 240	0.75
L / 360	0.5
- 4) Load tables based on use of A653 Structural Quality Steel Sheet Grade 33 ( maximum stress 29.7 Ksi ).

# MERCURY METALS

Metric - L.S.D. S136-94

Mercury M RIB



## Properties for Mercury M RIB

( Per meter width )

Gauge Number	Base Steel Nominal Thickness	Weight	Overall Depth	MID - SPAN			SUPPORT			Coeff. of Deflect.	Bearing Resist.			
				Section Modulus	Coeff. of Stress	Moment of Inertia	Section Modulus	Coeff. of Stress	Moment of Inertia		for 25 mm			
				mm	Kpa	mm	Sm	mm <sup>3</sup>	Csm		lm	mm <sup>4</sup>	Ss	mm <sup>3</sup>
29	0.34	0.0284	13	0.0379	0.6276	4.0	0.489	0.8098	2.7	0.3437	1.89	3.61		
26	0.46	0.0408	13	0.2311	3.8270	34.8	1.930	3.1961	23.0	3.0105	4.16	7.48		
24	0.61	0.0545	13	0.3110	4.9862	45.3	3.005	4.0768	26.8	3.9206	6.83	13.7		

## Specified Load Tables - Kpa ( Kn/m<sup>2</sup> )

Span M.	ONE SPAN								TWO EQUAL SPANS								THREE EQUAL SPANS							
	0.34		0.46		0.61				0.34		0.46		0.61				0.34		0.46		0.61			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0.2	10.5	*	27.8	*	45.5	*			12	*	25	*	46	*			12	*	25	*	46	*		
0.3	4.6	*	18.5	*	30.4	*			6.0	*	17	*	30	*			7.3	*	17	*	30	*		
0.4	2.6	*	13.9	*	20.8	*			3.4	*	12	*	17.0	*			4.1	*	12	*	21.2	*		
0.5	1.7	*	10.2	*	13.3	*			2.2	*	8.5	*	10.9	*			2.6	*	10	*	13.6	*		
0.6	1.2	*	7.1	*	9.2	*			1.5	*	5.9	*	7.5	*			1.8	*	7.4	*	9.4	*		
0.7	0.9	*	5.2	*	6.8	*			1.1	*	4.3	*	5.5	*			1.3	*	5.4	*	6.9	*		
0.8	0.7	0.7	4.0	*	5.2	*			0.8	*	3.3	*	4.2	*			1.0	*	4.2	*	5.3	*		
0.9	0.5	0.5	3.1	*	4.1	*			0.7	*	2.6	*	3.4	*			0.8	*	3.3	*	4.2	*		
1.0	0.4	0.3	2.6	*	3.3	*			0.5	*	2.1	*	2.7	*			0.7	0.6	2.7	*	3.4	*		
1.2	0.3	0.2	1.8	1.7	2.3	2.3			0.4	*	1.5	*	1.9	*			0.5	0.4	1.8	*	2.4	*		
1.4	0.2	0.1	1.3	1.1	1.7	1.4			0.3	0.3	1.1	*	1.4	*			0.3	0.2	1.4	*	1.7	*		
1.6	0.2	0.1	1.0	0.7	1.3	1.0			0.2	0.2	0.8	*	1.1	*			0.3	0.2	1.0	*	1.3	*		

### Mercury M RIB Load Table Notes

- 1) Column 'A' - Loads based on stress. Column 'B' - Loads based on L / 180 deflection. ( \* ) denotes stress governs.
- 2) Table lists lower value of bending or bearing resistance. *Italic* denotes web crippling governs.
- 3) For deflection loads other than L / 180 multiply column 'B' by the following factors:

<u>DEFLECTION</u>	<u>MULTIPLIER</u>
L / 240	0.75
L / 360	0.5
- 4) Load tables based on use of A653M Structural Quality Steel Sheet Grade 230 ( maximum stress 207 Mpa ).