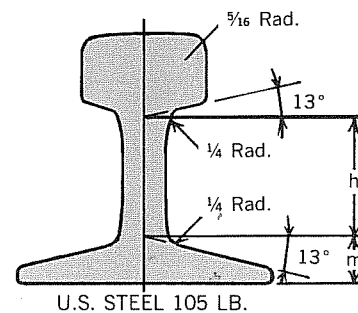


BETHLEHEM 104 LB.



U.S. STEEL 105 LB.

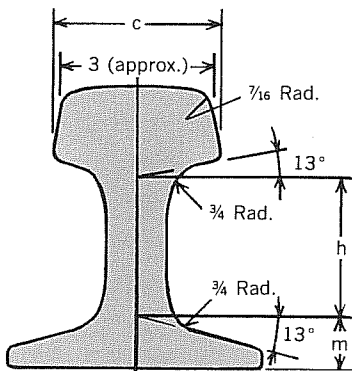
Dimension nomenclature on sketch of A.S.C.E. rail also applies to the other rails.

Type	Desig. (wt. per Yard)	Depth of Section d	Base Width b	Head Width c	Head Radius r	Base Thickness m	Web Depth h	Web Thickness t	L Web Radius (Gage) g	Web Radius R	Area of Section A	Base to Neutral Axis y	Elastic Properties Axis X-X		
													I	S-head in. ³	S-base in. ³
A.S.C.E.	20	2 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₂	12	7/16	1 ¹ / ₂	1/4	1 ¹ / ₄	12	2.00	1.26	1.93	1.41	1.53
A.S.C.E.	25	2 ³ / ₄	2 ³ / ₄	1 ¹ / ₂	12	3 ¹ / ₄	1 ³ / ₄	1 ⁵ / ₈	1 ¹ / ₄	12	2.40	1.33	2.50	1.76	1.88
A.S.C.E.	30	3 ¹ / ₈	3 ¹ / ₈	1 ¹ / ₁₆	12	1 ⁷ / ₃₂	1 ² / ₃₂	2 ¹ / ₄	1 ² / ₁₆	12	3.00	1.52	4.10	2.55	2.69
A.S.C.E.	40	3 ¹ / ₂	3 ¹ / ₂	1 ⁷ / ₈	12	5/8	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₁₆	12	3.94	1.68	6.54	3.59	3.89
A.S.C.E.	60	4 ¹ / ₄	4 ¹ / ₄	2 ³ / ₈	12	4 ⁹ / ₃₂	2 ¹ / ₄	3 ¹ / ₄	1 ² / ₃₂	12	5.93	2.05	14.60	6.64	7.12
A.S.C.E.	70	4 ⁵ / ₈	4 ⁵ / ₈	2 ⁷ / ₁₆	12	1 ³ / ₁₆	2 ¹ / ₃₂	3 ³ / ₄	2 ³ / ₄	12	6.81	2.22	19.70	8.19	8.87
A.S.C.E.	75	4 ¹ / ₁₆	4 ¹ / ₁₆	2 ¹ / ₃₂	12	2 ⁷ / ₃₂	2 ³ / ₄	1 ⁷ / ₃₂	2 ¹ / ₈	12	7.33	2.30	22.86	9.10	9.94
A.S.C.E.	80	5	5	2 ¹ / ₂	12	7/8	2 ⁵ / ₈	3 ⁵ / ₄	2 ³ / ₁₆	12	7.86	2.38	26.38	10.07	11.08
A.S.C.E.	85	5 ³ / ₁₆	5 ³ / ₁₆	2 ⁹ / ₁₆	12	5 ⁷ / ₃₂	2 ³ / ₄	9/16	2 ¹ / ₄	12	8.33	2.47	30.07	11.08	12.17
A.S.C.E.	90	5 ³ / ₈	5 ³ / ₈	2 ⁵ / ₈	12	5 ⁹ / ₃₂	2 ⁵ / ₈	9/16	2 ² / ₁₆	12	8.83	2.55	34.39	12.19	13.49
A.S.C.E.	100	5 ³ / ₄	5 ³ / ₄	2 ³ / ₄	12	3 ¹ / ₃₂	3 ⁵ / ₄	9/16	2 ¹ / ₂	12	9.84	2.73	43.97	14.55	16.11
Crane *1	104	5	5	2 ¹ / ₂	12	1 ¹ / ₁₆	2 ⁷ / ₁₆	1	2 ⁷ / ₁₆	3 ¹ / ₂	10.3	2.21	29.8	10.7	13.5
Crane *2	105	5 ³ / ₁₆	5 ³ / ₁₆	2 ⁹ / ₁₆	12	1	2 ¹ / ₃₂	1 ⁵ / ₁₆	2 ³ / ₁₆	12	10.3	2.41	34.4	12.4	14.3
Crane *3	135	5 ³ / ₄	5 ³ / ₁₆	3 ⁷ / ₁₆	14	1 ¹ / ₁₆	2 ¹ / ₁₆	1 ¹ / ₄	2 ¹ / ₃₂	12	13.3	2.81	50.6	17.2	18.0
Crane *1	171	6	6	4.3	Flat	1 ¹ / ₄	2 ³ / ₄	1 ¹ / ₄	2 ⁵ / ₈	Vert.	16.8	3.01	73.4	24.5	24.4
Crane *3	175	6	6	4 ¹ / ₄	18	1 ⁵ / ₄	3 ³ / ₄	1 ¹ / ₂	2 ¹ / ₃₂	Vert.	17.1	3.02	70.2	23.5	23.3

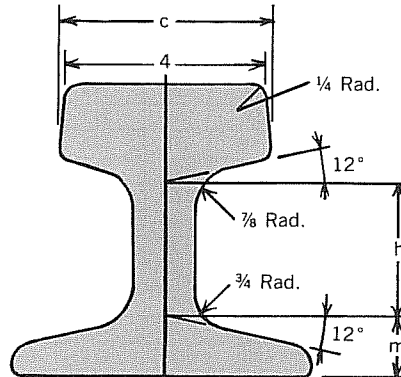
* 1 Bethlehem * 2 U.S. Steel * 3 Bethlehem & U.S. Steel.

- REFERENCES:**
- "Manual of Steel Construction," Eighth (1980) Edition, American Institute of Steel Construction, Inc., New York.
 - "Bethlehem Trackwork," Bethlehem Steel Corporation, Bethlehem, Pa., Catalog 2341.
 - "C.M.A.A." Specification No. 70, Revised 1975. Crane Manufacturers Association of American, Inc., Pittsburgh, Pa., 1975.

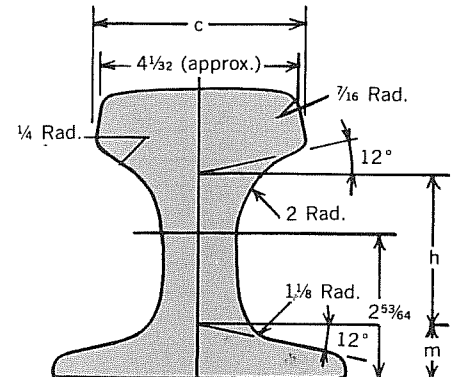
CRANE RAILS



U.S. STEEL & BETHLEHEM 135 LB.



BETHLEHEM 171 LB.



U.S. STEEL & BETHLEHEM 175 LB.

GUIDE FOR MAXIMUM BRIDGE AND TROLLEY WHEEL LOADINGS, LBS. (P)

C.M.A.A. Service Class	Wheel Dia. (D) Inches	RAIL SECTION									
		ASCE 20#	ASCE 25#	ASCE 30#	ASCE 40#	ASCE 60 & 70#	ASCE 80 & 85# Beth. 104# USS 105#	ASCE 100#	BETH. & USS 135#	BETH. & USS 175#	Bethlehem 171#
Class A1 & A2 INFREQUENT SERVICE	8	10800	12800	13610	16000						
	9	12150	14400	15310	18000	25200					
	10	13500	16000	17010	20000	28000					
	12		19200	20410	24000	33600	36000	40800			
	15			25510	30000	42000	45000	51000			
	18			30610	36000	50400	54000	61200			
	21				42000	58800	63000	71400	75600	105000	117600
	24					67200	72000	81600	86400	120000	134400
Class B LIGHT SERVICE	8										
	9										
	10										
	12										
	15										
	18										
	21										
	24										
Class C MODERATE SERVICE	8										
	9										
	10										
	12										
	15										
	18										
	21										
	24										
Class D HEAVY DUTY SERVICE	8	9450	11200	11900	14000						
	9	10630	12600	13390	15750	22050					
	10	11820	14000	14880	17500	24500					
	12		16800	17860	21000	29400	31500	35700			
	15			22320	26250	36750	39380	44630			
	18			26790	31500	44100	47250	53550			
	21				36750	51450	55130	62480	66150	91880	102900
	24					58800	63000	71400	75600	105000	117600
Class E SEVERE DUTY-CYCLE SERVICE	8	8100	9600	10200	12000						
	9	9120	10800	11480	13500	18900					
	10	10130	12000	12760	15000	21000					
	12		14400	15310	18000	25200	27000	30600			
	15			19130	22500	31500	33750	38250			
	18			22960	27000	37800	40500	45900			
	21				31500	44100	47250	53550	56700	78750	88200
	24					50400	54000	61200	64800	90000	100800
Effective Width of Rail Head(W) Inches (Top of head minus corner radii)		.844	1.000	1.063	1.250	1.750	1.875	2.125	2.250	3.125	3.500

NOTE: The loading limits for Class E are also recommended wherever travel speeds exceed 400 f.p.m.

NOTES: Figures based on acceptable cast chilled iron, or rolled, forged, or cast steel properly heat treated. Figures do not include any allowance for impact. For unusual conditions, consideration must be given to other factors that are not included in the simple formula on which the table figures are based.