

HOT ROLLED CARBON STEEL BARS

GUIDE TO SELECTION

ASTM A-36

One of the most widely used carbon steel bar specifications for constructional purposes, with good mechanical and weldable properties. Minimum physical properties of 36,000 PSI yield strength and 58,000 PSI tensile strength.

COMPARISON CHART

Est. Min. Mechanical Properties
Based on 3/4" - 1 1/4" Rd. Bars

Analysis or Trade Name	Tensile Strength psi	Yield Strength psi	Elong. in 2"	Red. of Area	Brinell Hardness	Machinability Rating
ASTM A36	58,000	36,000	23	21		
M1020	55,000	30,000	25	50	111	50
1018, 1020	58,000	32,000	25	50	116	52
1042, 1045	82,000	45,000	16	40	163	56

MBQ

M-1020

MERCHANT QUALITY

A low carbon, general purpose, merchant quality steel, produced to wider carbon and manganese ranges than standard steels. Suitable for forming and welding.

SBQ

C-1020

SPECIAL QUALITY

A low carbon, general purpose, special quality machinery steel, suitable for ordinary hammer forging and case hardening. Readily weldable.

Organizations with Recognized Metal Standard Designation Systems

AISI - American Iron and Steel Institute

ASME - American Society of Mechanical Engineers

ASTM - American Society for Testing and Materials

SAE - Society of Automotive Engineers

HOT ROLLED ROUNDS

Standard Lengths 20 Ft. A-36



<i>Size in Inches</i>	<i>Lbs./Ft.</i>	<i>Size in Inches</i>	<i>Lbs./Ft.</i>
1/4	.17	1	2.67
5/16	.26	1 1/4	4.17
3/8	.38	1 1/2	6.01
7/16	.51	1 3/4	8.18
1/2	.67	2	10.68
5/8	1.04	2 1/2	16.69
3/4	1.50	3	24.03
7/8	2.04		

Standard Lengths 20 Ft. C1018/1020

Several sizes available in 1045

<i>Size in Inches</i>	<i>Lbs./Ft.</i>	<i>Size in Inches</i>	<i>Lbs./Ft.</i>
3 1/4	28.21	7 1/2	150.21
3 1/2	32.71	8	170.90
3 3/4	37.55	8 1/2	192.93
4	42.73	9	216.30
4 1/2	54.08	9 1/2	241.00
5	66.76	10	267.04
5 1/4	73.60	11	323.10
5 1/2	80.78	12	384.50
6	96.13	13	460.00
6 1/4	104.31	14	523.39
6 1/2	112.82	15	610.90
7	130.82	16	694.30
7 1/4	140.40		

HOT ROLLED SQUARES

Standard Lengths 20 Ft. A-36/Merchant



<i>Size in Inches</i>	<i>Lbs./Ft.</i>	<i>Size in Inches</i>	<i>Lbs./Ft.</i>
3/8	.48	2	13.60
1/2	.85	2 1/4	17.21
5/8	1.33	2 1/2	21.25
3/4	1.91	3	30.60
1	3.40	3 1/2	41.65
1 1/4	5.31	4	54.40
1 1/2	7.65	4 1/2	68.85
1 3/4	10.41		

REINFORCING BARS

FOR CONCRETE REINFORCEMENT

ASTM A-615 BARS



This specification covers deformed and plain billet-steel concrete-reinforcement bars. A deformed bar is defined as a bar that is intended for use as reinforcement in reinforced concrete construction. The surface of the bar is provided with lugs or protrusions (*deformations*) which inhibit longitudinal movement of the bar relative to the concrete which surrounds the bar in such construction and conform to the provisions of this specification.

Bar No.	Size	Grade	Lbs./ft.
3	.375	60	.38
4	.500	60	.67
5	.625	60	1.04
6	.750	60	1.50
7	.875	60	2.04
8	1.000	60	2.67

HOT ROLLED STRIP

MILD CARBON

Pickled & Oiled

Standard Lengths 20 Ft.



Size in Inches		Lbs./Ft.	Size in Inches		Lbs./Ft.
1/8	x 1/2	.21	3/16	x 1/2	.32
	5/8	.27		5/8	.40
	3/4	.32		3/4	.48
	1	.43		7/8	.56
	1 1/4	.53		1	.64
	1 1/2	.64		1 1/8	.72
	1 3/4	.74		1 1/4	.80
	2	.85		1 1/2	.96
	2 1/2	1.06		1 3/4	1.12
	3	1.28		2	1.28
	4	1.70		2 1/2	1.59
	5	2.13		3	1.91
	6	2.55		3 1/2	2.23
Mill Edge HR Strip available in some sizes.				4	2.55
				5	3.18
				6	3.82

HOT ROLLED FLATS

Square Edge

Standard Lengths 18/20 Ft. A-36



Size in Inches		Lbs./Ft.	Size in Inches		Lbs./Ft.	
1/4	x 1/2	.43	1/2	x 3/4	1.28	
		3/4			1	1.70
		1			1 1/4	2.13
		1 1/4			1 1/2	2.55
		1 1/2			1 3/4	2.98
		1 3/4			2	3.40
		2			2 1/4	3.83
		2 1/4			2 1/2	4.25
		2 1/2			3	5.10
		3			3 1/2	5.95
		3 1/2			4	6.80
		4			4 1/2	7.65
		5			5	8.50
		6			5 1/2	9.35
	8		6	10.20		
5/16	x 1	1.06		7	11.90	
		1 1/2		8	13.60	
		2	5/8	x 1	2.12	
		2 1/2			1 1/2	3.19
		3			2	4.25
		3 1/2			2 1/2	5.31
		4			3	6.38
		5			4	8.50
	6			5	10.62	
				7	14.88	
3/8	x 3/4	.96		6	12.75	
		1	3/4	x 1	2.55	
		1 1/4			1 1/4	3.19
		1 1/2			1 1/2	3.83
		1 3/4			1 3/4	4.46
		2			2	5.10
		2 1/2			2 1/4	5.74
		3			2 1/2	6.38
		3 1/2			3	7.65
		4			3 1/2	8.92
		5			4	10.20
		6			5	12.75
		7			6	15.30
		8			7	17.85
				8	20.40	

Continued on next page.

Call Toll Free 800-562-0357

HOT ROLLED FLATS



Square Edge

Standard Lengths 18/20 Ft. A-36 (Continued)

<i>Size in Inches</i>		<i>Lbs./Ft.</i>	<i>Size in Inches</i>		<i>Lbs./Ft.</i>	
1	x 1¼	4.25	1½	x 2	10.20	
		5.10			2½	12.75
	2	6.50		3	15.30	
	2½	8.50		3½	17.85	
	3	10.20		4	20.40	
	4	13.60		5	25.50	
1	x 5	17.00	6		30.60	
		20.40				
		27.20				
		34.00				
		40.80				
1¼	x 2	8.5	1¾	x 2½	14.88	
		10.63			5	29.75
		12.75	2	x 2½	17.00	
		17.00			3	20.40
		21.25			3½	23.80
		25.50			4	27.20
					5	34.00
	6	40.80				
			2½	x 4	34.00	
				6	51.00	
			3	x 4	40.80	
					5	51.00

