



## Rounds – Selection Guide

### Mild Steel, Hot Rolled

Low carbon, general-purpose steel, providing economy, formability and weldability.

### ASTM A-36, Hot-Rolled Carbon Steel Bar

Covers carbon steel shapes, plates and bars for general construction. Suitable for forming and welding.

### C-1018 Cold-Drawn

Low carbon, good case-hardening properties. Excellent steel for bending, cold-forming and shafting applications. Good brazing and welding properties.

### LaSalle Stress Proof Cold-Drawn

Excellent wearability, strength, machinability and too-life. Minimum warpage and distortion, resists fatigue and stress without heat treating. Exceptional quality for production maintenance and special machine parts. Difficult to weld.

### 4140 Heat Treating, Stress Relieved

A general purpose alloy, high in chromium and molybdenum. Has good hardness, penetration, strength, toughness and durability. Use is common in all well joint tools, axle shafts and many other applications that require a metal that will withstand extreme stress and fatigue. Difficult to weld, but can be welded by any common welding process if proper welding rod is used, and if material is preheated prior to welding. Joint area should be stress relieved after welding. Sizes through 3" are cold drawn; 3 ¼ and larger are hot rolled.

<u>Type / Grade</u>	<u>Tensile Strength (PSI)</u>	<u>Yield Strength (PSI)</u>	<u>Brinell Hardness</u>	<u>Rating</u>	<u>S.F.M.</u>	<u>Weldability</u>
A-36 Hot-Rolled	58,000	36,000	Approx 126			Good brazing & welding properties
C-1018	82,000	70,000	163	70%	125	Good brazing & welding properties
C-1045 Cold-Rolled	91,000	77,000	179	56%	95	Fair brazing & welding properties
Lasalle Stressproof Cold-Drawn	125,000	100,000	269	83%	83	Difficult to weld
Hot-Rolled 4140 Heat Treated Stress Relieved	134,000 – 156,000	120,000 – 135,000	269-321	50% and less		Difficult to weld
Cold-Drawn 4140 Heat Treated Stress Relieved	134,000 – 156,000	120,000 – 135,000	269-321	50% and less		Difficult to weld



**Rounds and Squares – Hot Rolled, Cold Drawn and Stress Proof**

<u>Size</u>	<u>Weight Per Foot</u>		<u>Size</u>	<u>Weight Per Foot</u>		<u>Size</u>	<u>Weight Per Foot</u>	
	<u>Rounds</u>	<u>Squares</u>		<u>Rounds</u>	<u>Squares</u>		<u>Rounds</u>	<u>Squares</u>
1/32	0.003	0.003	1	2.670	3.400	3	24.030	30.600
1/16	0.010	0.013	1-1/16	3.020	3.840	3-1/8	26.080	33.200
3/32	0.024	0.030	1-1/8	3.380	4.300	3-1/4	28.210	35.910
1/8	0.042	0.053	1-3/16	3.770	4.800	3-3/8	30.420	38.730
5/32	0.065	0.083	1-1/4	4.170	5.320	3-1/2	32.710	41.650
3/16	0.094	0.120	1-5/16	4.600	5.860	3-5/8	35.090	44.680
7/32	0.128	0.163	1-3/8	5.050	6.430	3-3/4	37.554	47.810
			1-7/16	5.520	7.030	3-7/8	40.100	51.050
1/4	0.167	0.213	1-1/2	6.010	7.660			
9/32	0.211	0.269	1-9/16	6.520	8.300	4	42.730	54.400
5/16	0.261	0.332	1-5/8	7.050	8.980	4-1/8	45.440	57.850
11/32	0.316	0.402	1-11/16	7.600	9.680	4-1/4	48.230	61.410
3/8	0.376	0.478	1-3/4	8.180	10.410	4-3/8	51.110	65.080
13/32	0.441	0.561	1-13/16	8.770	11.170	4-1/2	54.080	68.850
7/16	0.511	0.651	1-7/8	9.390	11.950	4-5/8	57.120	72.730
15/32	0.587	0.747	1-15/16	10.020	12.760	4-3/4	60.250	76.710
						4-7/8	63.460	80.800
1/2	0.668	0.850	2	10.680	13.600			
17/32	0.754	0.960	2-1/16	11.360	14.460	5	66.760	85.000
9/16	0.845	1.080	2-1/8	12.060	15.350	5-1/8	70.140	89.300
19/32	0.941	1.200	2-3/16	12.780	16.270	5-1/4	73.600	93.710
5/8	1.043	1.330	2-1/4	13.520	17.210	5-3/8	77.150	98.230
21/32	1.150	1.460	2-5/16	14.280	18.180	5-1/2	80.780	102.850
11/16	1.260	1.610	2-3/8	15.060	19.180	5-5/8	84.490	107.580
23/32	1.380	1.760	2-7/16	15.870	20.200	5-3/4	88.290	112.410
			2-1/2	16.690	21.250	5-7/8	92.170	117.350
3/4	1.500	1.910	2-5/8	18.400	23.430			
25/32	1.630	2.080	2-3/4	20.190	25.710	6	96.130	122.400
13/16	1.760	2.250	2-7/8	22.070	28.100			
27/32	1.900	2.420						
7/8	2.050	2.610						
29/32	2.200	2.800						
15/16	2.350	2.990						
31/32	2.510	3.190						

Weights are approximate



## Reinforcing Bar – ASTM A615

Available in grade 40 and grade 60.

<u>Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Tensile Strength (PSI)</u>	<u>Yield Strength (PSI)</u>
1/4	#2	Grade 40	70,000 min.	40,000 min.
3/8	#3	Grade 60	90,000 min.	60,000 min.
1/2	#4			
5/8	#5			
3/4	#6			
7/8	#7			
1	#8			
1 1/8	#9			
1 1/4	#10			
1 3/8	#11			
1 3/4	#14			
2 1/4	#18			

**Stress Proof Stock Lengths: 12'**  
**Cold-Drawn and Hot-Rolled Stock Lengths: 20'**

**Other Sizes Available – Please Inquire**