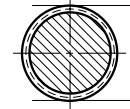
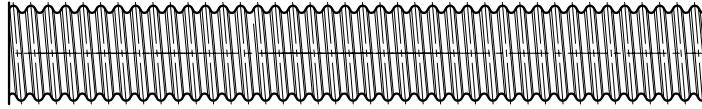


# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories†



Approx. Major Thread Diameter

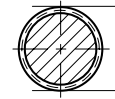
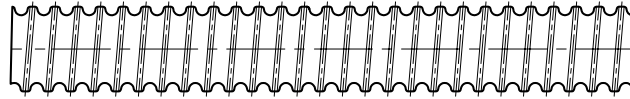
Grade 75/80 Bar – ASTM A 615 †									
Bar Designation	Nominal Diameter in mm	Grade	Min. Net Area Thru Threads in <sup>2</sup> mm <sup>2</sup>	Min. Ultimate Strength kips kN	Min. Yield Strength kips kN	Nominal Weight lbs/ft kg/m	Approx. Major Thread Diameter in mm	Thread Orientation	Max. Length ft m
#8	1 25	75	0.790 510.0	79.0 351.4	59.3 263.8	2.70 4.0	1.125 28.5	Left Hand	60 18.3
		80	0.790 510.0	83.0 369.2	63.2 281.1	2.70 4.0	1.125 28.5	Left Hand	60 18.3
#9	1 1/8 28	75	1.000 645.0	100.0 444.8	75.0 333.6	3.40 5.1	1.250 32.0	Left Hand	60 18.3
		80	1.000 645.0	105.0 467.1	80.0 355.9	3.40 5.1	1.250 32.0	Left Hand	60 18.3
#10	1 1/4 32	75	1.270 819.0	127.0 564.9	95.3 423.9	4.30 6.4	1.375 35.0	Left Hand	60 18.3
		80	1.270 819.0	133.4 593.4	101.6 451.9	4.30 6.4	1.375 35.0	Left Hand	60 18.3
#11	1 3/8 35	75	1.560 1006.0	156.0 694.0	117.0 520.5	5.30 7.9	1.500 38.1	Left Hand	60 18.3
		80	1.560 1006.0	163.8 728.6	124.8 555.1	5.30 7.9	1.500 38.1	Left Hand	60 18.3
#14	1 3/4 45	75	2.250 1452.0	225.0 1000.9	168.7 750.4	7.65 11.4	1.875 47.6	Right Hand	60 18.3
		80	2.250 1452.0	236.3 1051.1	180.0 800.7	7.65 11.4	1.875 47.6	Right Hand	60 18.3
#18	2 1/4 55	75	4.000 2581.0	400.0 1779.4	300.0 1334.5	13.60 20.2	2.438 62.0	Right Hand	60 18.3
		80	4.000 2581.0	420.0 1868.2	320.0 1423.4	13.60 20.2	2.438 62.0	Right Hand	60 18.3
#20	2 1/2 64	75	4.910 3168.0	491.0 2184.0	368.0 1637.0	16.69 24.8	2.750 70.0	Right Hand	60 18.3
		80	4.910 3168.0	515.6 2293.5	392.8 1747.3	16.69 24.8	2.750 70.0	Right Hand	60 18.3
#24	3 76	75	7.070 4561.0	707.0 3142.0	530.0 2356.0	24.10 35.9	3.250 82.6	Right Hand	60 18.3
		80	7.070 4561.0	742.4 3302.3	565.6 2515.9	24.10 35.9	3.250 82.6	Right Hand	60 18.3
#28	3 1/2 89	75	9.610 6200.0	960.0 4274.0	720.0 3206.0	32.70 48.7	3.750 95.3	Right Hand	60 18.3
		80	9.610 6200.0	1009.1 4488.7	768.8 3419.8	32.70 48.7	3.750 95.3	Right Hand	60 18.3

† Cold rolled threaded bars conform to the physical and chemical requirements of ASTM A 615 Grade 75 ksi "Standard Specification for Deformed Carbon Steel Bars for Concrete Reinforcement"  
\* Contact your local Nucor Skyline representative for information on additional steel grades.

Please note: As we continuously improve the design of our products, product details are subject to change.  
† Contact your sales representative for information on hot dip galvanized and epoxy coated bars.

# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories†



Approx. Major Thread Diameter

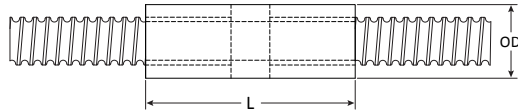
Grade 150 Bar								
Nominal Diameter	Grade	Min. Net Area Thru Threads	Min. Ultimate Strength	Min. Yield Strength	Nominal Weight	Approx. Major Thread Diameter	Thread Orientation	Max. Length
in mm		in <sup>2</sup> mm <sup>2</sup>	kips kN	kips kN	lbs/ft kg/m	in mm		ft m
1 26	150	0.850 549	128 567	102 454	3.1 4.6	1 1/8 28.6	Left Hand	60 18.3
1 1/4 32	150	1.250 807	188 834	150 667	4.5 6.7	1 1/2 38.1	Left Hand	60 18.3
1 3/8 36	150	1.580 1019	237 1054	190 843	5.7 8.5	1 5/8 41.3	Left Hand	60 18.3
1 3/4 46	150	2.600 1677	390 1735	320 1423	9.1 13.5	2 50.8	Left Hand	60 18.3
2 1/4 57	150	4.000 2581	600 2669	480 2135	13.6 20.2	2 7/16 62.0	Left Hand	60 18.3
2 1/2 65	150	5.190 3350	778 3457	622 2766	18.3 27.2	2 3/4 69.9	Left Hand	60 18.3
3 75	150	7.060 4554	1059 4702	847 3766	24.0 35.7	3 1/4 82.6	Left Hand	60 18.3

1" to 1 3/8" diameter, ASTM A 722; 1 3/4" to 3" diameter bar manufactured in accordance with ASTM A 722 physical and chemical requirements. Grade 150 ksi steel must not be subjected to localized heating such as welding, cutting torch, or hot grinding. Please note: As we continuously improve the design of our products, product details are subject to change.

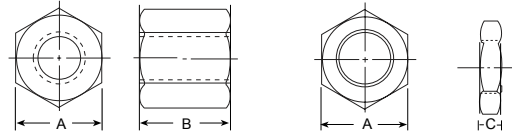
# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories

### Threaded Bar Connectors



### Full Load Hex Nuts and Jam Nuts



Grade 75/80 Bar – ASTM A 108/A 576				
Bar Designation	OD in mm	L in mm	Weight	
			lbs	kg
#8	1.625 41.3	4.500 114.3	1.55 0.70	
#9	1.875 47.6	5.000 127.0	2.39 1.08	
#10	2.125 54.0	5.500 139.7	3.47 1.57	
#11	2.250 57.2	6.000 152.4	4.02 1.82	
#14	2.875 73.0	7.875 200.0	9.16 4.15	
#18	3.500 88.9	9.125 231.8	13.93 6.32	
#20	4.000 101.6	9.500 241.3	19.86 9.01	
#24	4.750 120.6	10.750 273.0	31.01 14.07	
#28	5.500 139.7	12.000 304.8	46.20 20.96	

Grade 75/80 Bar – ASTM A 108/A 576					
Bar Designation	A in mm	B in mm	C in mm	Weight	
				lbs kg	
				Full	Jam
#8	1.625 41.3	2.000 50.8	0.500 12.7	0.81 0.37	0.20 0.09
#9	1.750 44.5	2.000 50.8	0.563 14.3	0.89 0.40	0.25 0.11
#10	2.000 50.8	2.187 55.5	0.625 15.9	1.33 0.60	0.38 0.17
#11	2.250 57.2	2.500 63.5	0.688 17.5	1.96 0.89	0.54 0.24
#14	2.750 69.9	3.250 82.6	0.938 23.8	3.86 1.75	1.11 0.50
#18	3.500 89.0	3.500 89.0	1.000 25.4	4.87 2.21	1.81 0.82
#20*	4.000 101.6	4.500 114.3	1.125 28.6	9.83 4.46	2.76 1.25
#24**	4.750 120.6	4.500 114.3	1.500 38.1	12.98 5.89	4.33 1.96
#28**	5.500 139.7	6.000 152.4	1.563 39.7	23.10 10.48	6.02 2.73

\*Round collar nut available \*\*Round collar nut with flats

Grade 150 Bar – ASTM A 108/A 576				
Nominal Diameter	OD in mm	L in mm	Weight	
			lbs	kg
1 26	1.750 44.5	4.250 108.0	1.70 0.77	
1 ¼ 32	2.125 54.0	5.250 133.4	3.11 1.41	
1 ⅝ 36	2.375 60.3	5.750 146.1	4.22 1.91	
1 ¾ 46	3.000 76.2	8.500 215.9	9.98 4.53	
2 ¼ 57	4.000 101.6	9.000 228.6	21.45 9.73	
2 ½ 65	4.250 108.0	10.000 254.0	23.96 10.87	
3 75	5.000 127.0	12.000 308.0	41.24 18.71	

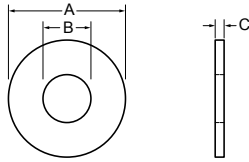
Grade 150 Bar – ASTM A 108/A 576					
Nominal Diameter	A in mm	B in mm	C in mm	Weight	
				lbs kg	
				Full	Jam
1 26	1.750 44.5	2.000 50.8	0.500 12.7	0.94 0.43	0.23 0.10
1 ¼ 32	2.250 57.2	2.500 63.5	0.625 15.9	2.07 0.94	0.52 0.24
1 ⅝ 36	2.500 63.5	2.750 69.9	0.750 19.1	2.78 1.26	0.75 0.34
1 ¾ 46	3.000 76.2	3.500 88.9	1.250 31.8	4.83 2.19	1.70 0.77
2 ¼ 57	4.000 101.6	4.250 107.95	1.500 38.10	11.68 5.30	4.09 1.86
2 ½ 65	4.000 101.6	4.750 120.7	1.750 44.45	10.82 4.91	3.99 1.81
3 75	5.000 127.0	6.000 152.4	2.000 50.8	20.62 9.35	5.11 2.32

Please note: As we continuously improve the design of our products, product details are subject to change.  
\* Contact your sales representative for information on hot dip galvanized and epoxy coated hardware (available upon request).

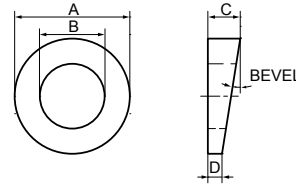
# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories

### Hardened Washers



### Round Beveled Washers



Grade 75/80 Bar – ASTM F 436				
Bar Designation	A in mm	B in mm	C in mm	Weight lbs kg
#8	2.250 57.150	1.188 30.175	0.136 3.454	0.110 0.05
#9	2.500 63.500	1.375 34.925	0.136 3.454	0.130 0.06
#10	2.750 69.850	1.531 38.887	0.136 3.454	0.160 0.07
#11	3.000 76.200	1.625 41.275	0.136 3.454	0.190 0.09
#14	3.750 95.250	2.125 53.975	0.178 4.521	0.380 0.17
#18	4.500 114.300	2.657 67.488	0.240 6.096	0.710 0.32
#20	5.500 139.700	3.157 80.188	0.240 6.096	1.090 0.49
#24	6.000 152.400	3.625 92.075	0.375 9.525	1.910 0.87
#28	7.000 177.800	4.125 104.775	0.375 9.525	2.680 1.22

Grade 75/80 Bar – ASTM F 436/A 536, 80-55-06 Ductile Cast Iron						
Bar Designation	A in mm	B in mm	C in mm	D in mm	Bevel degrees	Weight lbs kg
#8	1.75 44.45	1.13 28.58	0.46 11.68	0.17 4.32	9.4	0.21 0.10
#9	2.63 66.68	1.38 31.75	0.93 23.62	0.23 5.84	15	0.69 0.31
#10	2.75 69.85	1.63 41.40	0.97 24.64	0.23 5.84	15	0.66 0.30
#11	3.09 78.49	1.75 44.45	1.06 26.92	0.23 5.84	15	0.93 0.45
#14	4.00 101.60	2.13 54.10	1.29 32.77	0.23 5.84	15	1.94 0.88
#18	4.60 116.84	2.63 66.80	1.18 29.97	0.37 9.40	10	2.46 1.12
#20	5.00 127.00	3.00 76.20	1.31 33.27	0.43 10.92	10	3.10 1.41
#24	8.00 203.20	3.50 88.90	1.75 44.45	0.43 10.92	10	12.58 5.71
#28	8.00 203.20	4.00 101.60	2.25 57.15	0.84 21.34	10	16.54 7.50

Grade 150 Bar – ASTM F 436				
Nominal Diameter	A in mm	B in mm	C in mm	Weight lbs kg
1 26	2.500 63.500	1.375 34.925	0.136 3.454	0.130 0.06
1 ¼ 32	2.750 69.850	1.531 38.887	0.136 3.454	0.160 0.07
1 ¾ 36	3.250 82.550	1.770 44.958	0.178 4.521	0.300 0.13
1 ¾ 46	4.000 101.600	2.407 61.138	0.240 6.096	0.550 0.25
2 ¼ 57	4.500 114.300	2.657 67.488	0.240 6.096	0.710 0.32
2 ½ 65	5.500 139.700	3.157 80.188	0.240 6.096	1.090 0.49
3 75	6.000 152.400	3.625 92.075	0.375 9.525	1.910 0.87

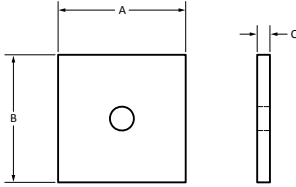
Grade 150 Bar – ASTM F 436/A 536, 80-55-06 Ductile Cast Iron						
Nominal Diameter	A in mm	B in mm	C in mm	D in mm	Bevel degrees	Weight lbs kg
1 26	2.63 66.68	1.25 31.75	0.93 23.62	0.23 5.84	15	0.69 0.31
1 ¼ 32	2.75 69.85	1.63 41.40	0.97 24.64	0.23 5.84	15	0.66 0.30
1 ¾ 36	3.09 78.49	1.75 44.45	1.06 26.92	0.23 5.84	15	0.93 0.42
1 ¾ 46	4.00 101.60	2.13 54.10	1.29 32.77	0.23 5.84	15	1.94 0.88
2 ¼ 57	4.60 116.84	2.63 66.80	1.18 29.97	0.37 9.40	10	2.46 1.12
2 ½ 64	5.00 127.00	3.00 76.20	1.31 33.27	0.43 10.92	10	3.10 1.41
3 75	8.00 203.20	3.50 88.90	1.75 44.45	0.43 10.92	10	12.58 5.71

Please note: As we continuously improve the design of our products, product details are subject to change. Contact your local Skyline Steel representative for information on additional steel grades.

# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories

### Bearing Plates

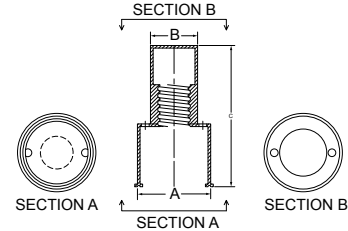


Bearing plate dimensions reflect typical sizes. Actual design criteria should be used for specific plate sizing.

Grade 75/80 Bar – A 572 (Grade 50 - A 588)				
Bar Designation	A in mm	B in mm	C in mm	Weight lbs kg
#8	8 203.20	8 203.20	¾ 19.05	13.40 6.08
#9	8 203.20	8 203.20	¾ 19.05	13.35 6.06
#10	8 203.20	8 203.20	1 25.40	17.73 8.04
#11	10 254.00	10 254.00	1 25.40	27.86 12.64
#14	10 254.00	10 254.00	1 ½ 38.10	41.37 18.76
#18	10 254.00	10 254.00	2 50.80	54.21 24.59
#20	10 254.00	10 254.00	2 ½ 63.50	67.06 30.42
#24	10 254.00	10 254.00	2 ½ 63.50	65.46 29.69
#28	12 304.80	12 304.80	2 ¾ 69.85	104.26 47.29

Grade 150 Bar – A 572 (Grade 50 - A 588)				
Nominal Diameter in mm	A in mm	B in mm	C in mm	Weight lbs kg
1 26	6 152.4	6 152.4	1 ¼ 31.8	12.76 5.79
1 ¼ 32	7 177.8	7 177.8	1 ½ 38.1	20.84 9.45
1 ¾ 36	8 203.2	8 203.2	1 ¾ 44.5	31.76 14.41
1 ¾ 46	9 228.6	9 228.6	1 ¾ 44.5	40.20 18.23
2 ¼ 57	10 254.0	10 254.0	2 ½ 63.5	70.89 32.16
2 ½ 65	10 254.0	10 254.0	2 ½ 63.5	70.89 32.16
3 75	12 304.8	12 304.8	2 ¾ 69.9	112.31 50.94

### HDPE Plastic Nut Caps\*

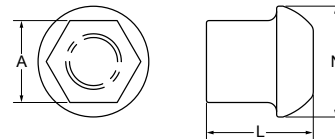


HDPE Plastic Nut Caps for Grade 75/80 Bars			
Bar Designation	A in mm	B in mm	C in mm
#8 – #11	3.5 88.9	2.25 57.2	6.75 171.5
#14 – #28	6.5 165.1	4.25 108.0	10.25 260.4

HDPE Plastic Nut Caps for Grade 150 Bars			
Nominal Diameter in mm	A in mm	B in mm	C in mm
1 – 1 ¾ 26 – 36	3.5 88.9	2.25 57.2	6.75 171.5
1 ¾ – 3 46 – 75	6.5 165.1	4.25 108.0	10.25 260.4

\* "O" ring seal in base of cap.

### Anchor Nuts†



Grade 150 Forged Anchor Nuts – ASTM A 788				
Diameter in mm	A in mm	L in mm	N in mm	Weight lbs kgs
1 26	1.750 44.5	2.360 59.9	2.45 62.2	1.44 0.65
1 ¼ 32	2.125 54.0	3.125 79.5	3.15 80.0	3.03 1.37
1 ¾ 36	2.375 60.3	3.375 85.9	3.5 88.9	4.05 1.84
1 ¾ 46	3.000 76.2	4.000 101.6	4.2 106.7	7.05 3.20
2 ¼ 57	4.250 108.0	5.500 139.7	5.6 142.2	20.24 9.18

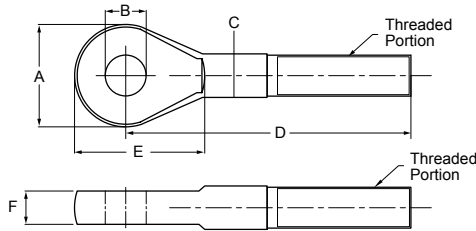
† Consult your sales representative for availability of additional threads and grades.

Please note: As we continuously improve the design of our products, product details are subject to change.

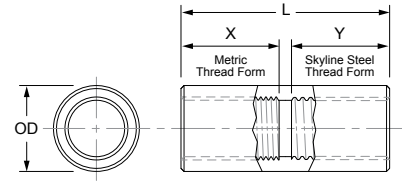
# Threaded Bar and Accessories

## Cold Rolled Threaded Bar and Accessories

### Forged Eye



### Transitional Coupler for Forged Eye



Bar Designation	A	B	C	D	E	F
	in mm	in mm	in mm	in mm	in mm	in mm
#14	6.1 155	2.5 63	2.4 60	19.9 505	8.1 207	2.0 50
#18	6.1 155	2.5 63	2.4 60	19.9 505	8.1 207	2.0 50
#20	7.1 180	3.0 76	3.0 76	20.5 520	9.8 248	2.5 63
#24	7.1 180	3.0 76	3.0 76	20.5 520	9.8 248	2.5 63
#28	9.2 230	3.5 88	3.5 90	22.2 565	12.3 312	3.0 75

Bar Designation	OD	L	X	Y	Weight
	in mm	in mm	in mm	in mm	lb kg
M56 – #14	3.50 88.90	9.8 248.92	4.00 101.6	4.57 116.0	18.4 8.4
M56 – #18	3.50 88.90	9.8 248.92	4.00 101.6	4.57 116.0	15.6 7.1
M72 – #20	4.75 120.65	12.0 304.80	5.38 136.5	5.38 136.5	39.2 17.8
M72 – #24	4.75 120.65	12.0 304.80	5.38 136.5	5.38 136.5	34.9 15.8
M85 – #28	5.50 139.70	13.3 337.82	6.00 152.4	6.00 152.4	48.5 22.0

Made in Germany. Threads on forged eye will be metric. Conversion couplers available (transition) for all Nucor Skyline thread forms.

Contact your Nucor Skyline sales representative for assistance with connection details.

### Corrosion Protection



All threaded bars can be supplied with a protective smooth-walled PVC tube. While the standard PVC tube is 0.035 inch thick, other options are available upon request.

The following additional corrosion protection options are available for all threaded bars:

#### Single Corrosion Protection (SCP)

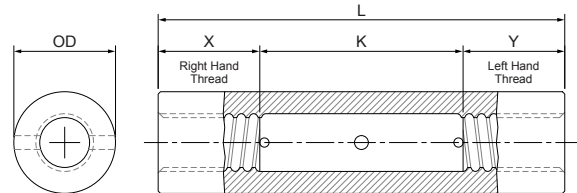
#### Double Corrosion Protection (DCP)

- Encapsulating: Grease or Grout
- Epoxy Coating
- Taping
- Galvanizing
- Painting
- Plating

Oversized accessories are provided to accommodate galvanized and coated bars.

Please contact your Nucor Skyline Geostuctural Solutions Representative for recommendations on the system that will best suit your requirements.

### Turnbuckle

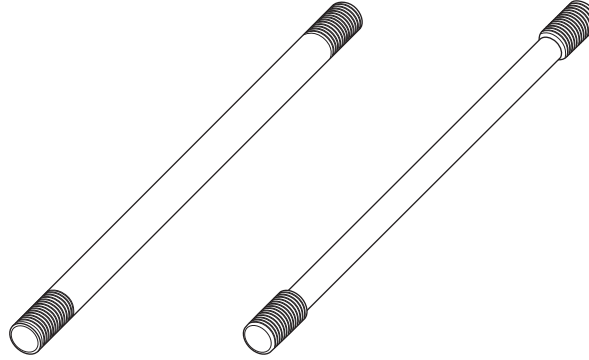


Bar Designation	OD	L	X	Y	K
	in mm	in mm	in mm	in mm	in mm
#8	1.625 41.3	10.0 254.0	2.00 50.8	2.00 50.8	6.00 152.4
#9	1.875 47.6	10.0 254.0	2.00 50.8	2.00 50.8	6.00 152.4
#10	2.125 54.0	12.3 312.4	2.25 57.2	2.25 57.2	7.75 196.9
#11	2.250 57.1	13.0 330.2	2.75 69.9	2.75 69.9	7.75 196.9
#14	3.000 76.2	14.0 355.6	3.25 82.6	3.25 82.6	7.50 190.5
#18	3.500 88.9	16.5 419.1	3.50 88.9	3.50 88.9	9.50 241.3
#20	4.000 101.6	21.0 533.4	4.50 114.3	4.50 114.3	12.0 304.80
#24	4.750 120.7	21.5 546.1	4.75 120.7	4.75 120.7	12.0 304.80
#28	5.500 139.7	24.0 609.6	6.00 152.4	6.00 152.4	12.0 304.80

Note: Only cold rolled threads are suitable for use with turnbuckles. The thread direction on the bars must be the opposite to each other in order for the turnbuckle to function.

# Threaded Bar and Accessories

## Tie Bars without Articulation



Normal End Threads

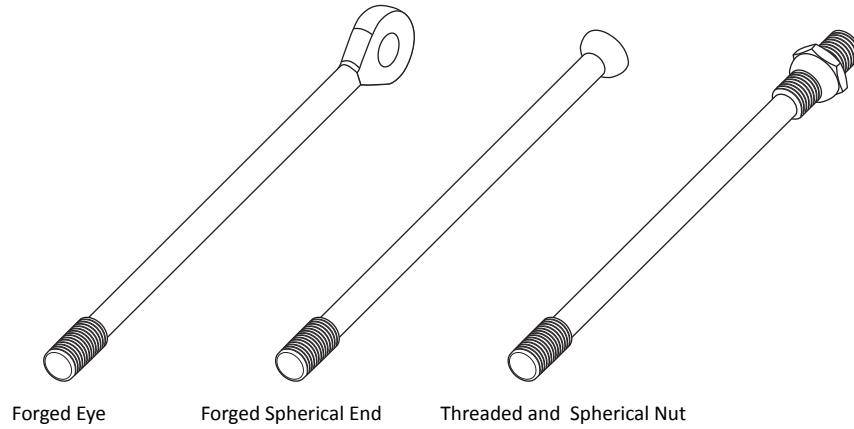
Upset Forged Threads

Thread Diameter	Shaft Diameter	Thread			Shaft			Recommended Design Capacity	
		Tensile Stress Area	Yield Capacity	Ultimate Capacity	Gross Area	Yield Capacity	Ultimate Capacity	ASD*	LRFD*
D <sub>t</sub>	D <sub>g</sub>	A <sub>s</sub>	Th <sub>y</sub>	Th <sub>u</sub>	A <sub>g</sub>	Sh <sub>y</sub>	Sh <sub>u</sub>	kipf	kipf
in mm	in mm	in <sup>2</sup> mm <sup>2</sup>	kipf kN	kipf kN	in <sup>2</sup> mm <sup>2</sup>	kipf kN	kipf kN	kipf kN	kipf kN
3.3 85	2.48 63	7.67 4,948	556 2,474	734 3,266	4.83 3,117	350 1,559	463 2,057	210 933	333 1,481
3.5 90	2.68 68	8.67 5,591	628 2,795	830 3,690	5.63 3,632	408 1,816	539 2,397	244 1,087	388 1,725
3.7 95	2.76 70	9.72 6,273	705 3,137	931 4,140	5.97 3,848	433 1,924	571 2,540	259 1,152	411 1,828
3.9 100	2.95 75	10.84 6,995	786 3,497	1,038 4,616	6.85 4,418	497 2,209	655 2,916	297 1,323	472 2,098
4.1 105	3.15 80	12.02 7,755	872 3,878	1,151 5,119	7.79 5,027	565 2,513	746 3,318	338 1,505	537 2,388
4.3 110	3.35 85	13.26 8,556	962 4,278	1,269 5,647	8.80 5,675	638 2,837	842 3,745	381 1,694	606 2,695
4.5 115	3.54 90	14.56 9,395	1,056 4,697	1,394 6,201	9.86 6,362	715 3,181	944 4,199	418 1,860	669 2,976
4.7 120	3.54 90	15.92 10,274	1,155 5,137	1,524 6,781	9.86 6,362	715 3,181	944 4,199	428 1,905	679 3,022
4.9 125	3.74 95	17.35 11,191	1,258 5,596	1,661 7,386	10.99 7,088	797 3,544	1,052 4,678	477 2,122	757 3,367
5.1 130	3.94 100	18.83 12,149	1,366 6,074	1,803 8,018	12.17 7,854	883 3,927	1,165 5,184	529 2,351	839 3,731
5.3 135	4.13 105	20.37 13,145	1,478 6,573	1,950 8,676	13.42 8,659	973 4,330	1,285 5,715	583 2,593	925 4,113
5.5 140	4.33 110	21.98 14,181	1,594 7,090	2,104 9,359	14.73 9,503	1,068 4,752	1,410 6,272	631 2,808	1,010 4,492
5.7 145	4.33 110	23.65 15,256	1,715 7,628	2,264 10,069	14.73 9,503	1,068 4,752	1,410 6,272	640 2,845	1,015 4,514
5.9 150	4.53 115	25.37 16,370	1,840 8,185	2,429 10,804	16.10 10,387	1,168 5,193	1,541 6,855	699 3,110	1,109 4,934
6.1 155	4.72 120	27.16 17,524	1,970 8,762	2,600 11,566	17.53 11,310	1,271 5,655	1,678 7,464	761 3,386	1,208 5,372
6.3 160	4.92 125	29.01 18,716	2,104 9,358	2,777 12,353	19.02 12,272	1,379 6,136	1,821 8,099	826 3,674	1,310 5,829
6.5 165	5.12 130	30.92 19,948	2,242 9,974	2,960 13,166	20.57 13,273	1,492 6,637	1,969 8,760	888 3,950	1,417 6,305

The recommended design capacities are based on AISC/ASD and AASHTO/LRFD design methodologies for steel structures and retaining walls. An additional reduction factors from EN1993-5 are applied to the tie-rods based on their ability to articulate.

# Threaded Bar and Accessories

## Tie Bars with Articulation



Forged Eye      Forged Spherical End      Threaded and Spherical Nut

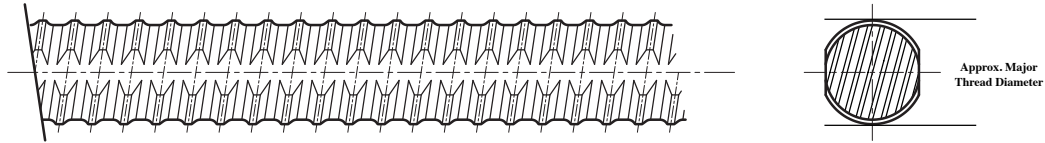
Thread Diameter	Shaft Diameter	Thread			Shaft			Recommended Design Capacity	
		Tensile Stress Area	Yield Capacity	Ultimate Capacity	Gross Area	Yield Capacity	Ultimate Capacity	ASD*	LRFD*
D <sub>t</sub>	D <sub>s</sub>	A <sub>s</sub>	T <sub>h</sub> <sub>y</sub>	T <sub>h</sub> <sub>u</sub>	A <sub>g</sub>	S <sub>h</sub> <sub>y</sub>	S <sub>h</sub> <sub>u</sub>		
in mm	in mm	in <sup>2</sup> mm <sup>2</sup>	kips kN	kips kN	in <sup>2</sup> mm <sup>2</sup>	kips kN	kips kN	kips kN	kips kN
3.3 85	2.95 75	7.67 4,948	556 2,474	734 3,266	6.85 4,418	497 2,209	655 2,916	297 1,323	472 2,098
3.5 90	3.15 80	8.67 5,591	628 2,795	830 3,690	7.79 5,027	565 2,513	746 3,318	338 1,505	537 2,388
3.7 95	3.35 85	9.72 6,273	705 3,137	931 4,140	8.80 5,675	638 2,837	842 3,745	382 1,699	606 2,695
3.9 100	3.54 90	10.84 6,995	786 3,497	1,038 4,616	9.86 6,362	715 3,181	944 4,199	428 1,905	679 3,022
4.1 105	3.74 95	12.02 7,755	872 3,878	1,151 5,119	10.99 7,088	797 3,544	1,052 4,678	477 2,122	757 3,367
4.3 110	3.94 100	13.26 8,556	962 4,278	1,269 5,647	12.17 7,854	883 3,927	1,165 5,184	529 2,351	839 3,731
4.5 115	4.13 105	14.56 9,395	1,056 4,697	1,394 6,201	13.42 8,659	973 4,330	1,285 5,715	583 2,593	925 4,113
4.7 120	4.33 110	15.92 10,274	1,155 5,137	1,524 6,781	14.73 9,503	1,068 4,752	1,410 6,272	640 2,845	1,015 4,514
4.9 125	4.53 115	17.35 11,191	1,258 5,596	1,661 7,386	16.10 10,387	1,168 5,193	1,541 6,855	699 3,110	1,109 4,934
5.1 130	4.72 120	18.83 12,149	1,366 6,074	1,803 8,018	17.53 11,310	1,271 5,655	1,678 7,464	761 3,386	1,208 5,372
5.3 135	4.92 125	20.37 13,145	1,478 6,573	1,950 8,676	19.02 12,272	1,379 6,136	1,821 8,099	826 3,674	1,310 5,829
5.5 140	5.12 130	21.98 14,181	1,594 7,090	2,104 9,359	20.57 13,273	1,492 6,637	1,969 8,760	893 3,974	1,417 6,305
5.7 145	5.31 135	23.65 15,256	1,715 7,628	2,264 10,069	22.19 14,314	1,609 7,157	2,124 9,447	963 4,286	1,528 6,799
5.9 150	5.51 140	25.37 16,370	1,840 8,185	2,429 10,804	23.86 15,394	1,730 7,697	2,284 10,160	1,036 4,609	1,644 7,312
6.1 155	5.71 145	27.16 17,524	1,970 8,762	2,600 11,566	25.60 16,513	1,856 8,256	2,450 10,899	1,111 4,944	1,763 7,844
6.3 160	5.91 150	29.01 18,716	2,104 9,358	2,777 12,353	27.39 17,671	1,986 8,836	2,622 11,663	1,189 5,291	1,887 8,394
6.5 165	6.10 155	30.92 19,948	2,242 9,974	2,960 13,166	29.25 18,869	2,121 9,435	2,800 12,454	1,270 5,649	2,015 8,963

The recommended design capacities are based on AISC/ASD and AASHTO/LRFD design methodologies for steel structures and retaining walls. An additional reduction factors from EN1993-5 are applied to the tie-rods based on their ability to articulate.



# Threaded Bar and Accessories

## Hot Rolled Threaded Bar and Accessories



Hot Rolled Threaded Bar – Grades 75/80 & 100 – ASTM A 615									
Bar Designation	Grade	Nominal Diameter	Min. Net Area Thru Threads	Min. Ultimate Strength	Min. Yield Strength	Nominal Weight	Approx. Major Thread Diameter	Thread Orientation	Max. Length
		in mm	in <sup>2</sup> mm <sup>2</sup>	kips kN	kips kN	lbs/ft kg/m	in mm		ft (m)
#6	75/80	3/4 20	0.44 284.00	44 196	33 147	1.5 2.24	0.86 21.8	Left Hand	60 18
#7	75/80	7/8 22	0.60 387.00	60 267	45 200	2.04 3.04	0.99 25.1	Left Hand	60 18
#8	75/80	1 25	0.79 510.00	79 351	59.3 264	2.67 3.98	1.12 28.4	Left Hand	60 18
#9	75/80	1-1/8 28	1.00 645.00	100 449	75 333	3.4 5.06	1.26 32	Left Hand	60 18
#10	75/80	1-1/4 32	1.27 819.00	127 565	95.3 423	4.3 6.41	1.43 36.3	Left Hand	60 18
#11	75/80	1-3/8 35	1.56 1006.00	156 694	117 520	5.31 7.91	1.61 40.9	Left Hand	60 18
#14	75/80	1-3/4 45	2.25 1452.00	225 1001	168.8 751	7.65 11.39	1.86 47.2	Right Hand	60 18
	100	1-3/4 45	2.25 1452.00	259 1152	225 1001	7.65 11.39	1.86 47.2	Right Hand	60 18

Hot rolled threaded bars conform (Excluding the requirement of: "legibly rolled surface markings.") to the requirements of ASTM A 615 Grade 75 ksi (520 Mpa) "Standard Specification for Deformed Carbon Steel Bars for Concrete Reinforcement"

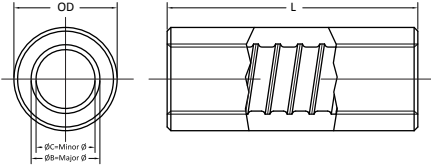
\* Contact your sales representative for information on hot dip galvanized and epoxy coated bars.

Please note: As we continuously improve the design of our products, product details are subject to change.

# Threaded Bar and Accessories

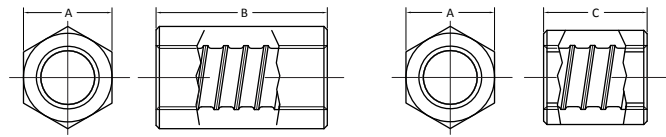
## Hot Rolled Threaded Bar and Accessories

### Couplers



Grade 75 – ASTM A 576, A 108					
Bar Designation	Nominal Diameter in mm	OD in mm	L in mm	Weight	
				lbs	kg
#6	¾ 20	1.25 31.75	3.125 79.37	0.62 0.28	
#7	7/8 22	1.50 38.10	3.75 95.25	0.93 0.42	
#8	1 25	1.625 41.27	4.00 101.60	1.37 0.62	
#9	1 1/8 28	1.875 47.62	5.00 127.00	2.31 1.05	
#10	1 1/4 32	2.00 50.80	5.75 146.05	2.77 1.26	
#11	1 3/8 35	2.25 57.15	6.40 162.56	3.79 1.72	
#14	1 3/4 45	2.88 73.15	7.85 192.53	5.49 2.49	

### Hex Nuts (Full Load and Jam Nuts)

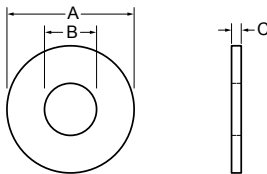


Hex Nut

Jam Nut

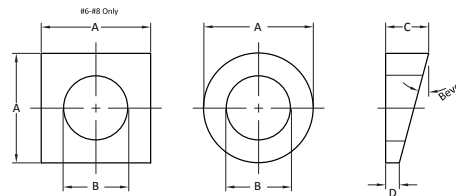
Grade 75 – ASTM A 576, A 108						
Bar Designation	Nominal Diameter in mm	A in mm	B in mm	C in mm	Weight	
					lbs kg	
					Full	Jam
#6	¾ 20	1.125 28.57	1.45 36.83	0.87 22.10	0.26 0.12	0.16 0.07
#7	7/8 22	1.375 34.92	1.75 44.45	0.87 22.10	0.43 0.20	0.21 0.10
#8	1 25	1.50 38.10	2.50 63.50	0.87 22.10	0.56 0.25	0.26 0.12
#9	1 1/8 28	1.75 44.45	2.25 57.15	0.87 22.10	0.97 0.43	0.37 0.17
#10	1 1/4 32	2.00 50.80	2.50 63.50	1.00 25.40	1.43 0.65	0.56 0.25
#11	1 3/8 35	2.25 57.15	2.75 69.85	1.00 25.40	1.52 0.69	0.53 0.24
#14	1 3/4 45	2.50 63.50	3.60 91.44	1.00 25.40	3.02 1.37	0.82 0.37

### Hardened Washers



Grade 75 – ASTM F 436						
Bar Designation	Nominal Diameter in mm	A in mm	B in mm	C in mm	Weight	
					lbs	kg
#6	¾ 20	1.75 44.45	0.938 23.83	.136 3.45	0.07 0.03	
#7	7/8 22	2.00 50.80	1.063 27.00	.136 3.45	0.09 0.04	
#8	1 25	2.25 57.15	1.188 30.18	.136 3.45	0.11 0.05	
#9	1 1/8 28	2.50 63.50	1.375 34.92	.136 3.45	0.13 0.06	
#10	1 1/4 32	2.75 69.85	1.531 38.89	.136 3.45	0.16 0.07	
#11	1 3/8 35	3.00 76.20	1.625 41.27	.136 3.45	0.19 0.09	
#14	1 3/4 45	3.25 82.55	1.77 44.96	.178 4.52	0.30 0.14	

### Beveled Washers



Grade 75 – F 436, A536 80-55-06								
Bar Designation	Nominal Diameter in mm	A in mm	B in mm	C in mm	D in mm	Bevel degrees	Weight	
							lbs	kg
#6	¾ 20	1.75 44.45	.95 24.13	.78 19.81	.32 8.13	15	.32 0.15	
#7	7/8 22	1.75 44.45	1.14 28.96	.78 19.81	.32 8.13	15	.37 0.17	
#8	1 25	1.75 44.45	1.14 28.96	.78 19.81	.23 5.84	15	.37 0.17	
#9	1 1/8 28	2.63 66.80	1.38 31.75	.93 23.62	.23 5.84	15	.64 0.29	
#10	1 1/4 32	2.75 69.85	1.63 41.40	.97 24.64	.23 5.84	15	.66 0.30	
#11	1 3/8 35	3.09 78.49	1.75 44.45	1.06 26.92	.23 5.84	15	.93 0.45	
#14	1 3/4 45	4.00 101.6	2.13 54.10	1.29 32.77	.23 5.84	15	1.94 0.88	

Please note: As we continuously improve the design of our products, product details are subject to change.