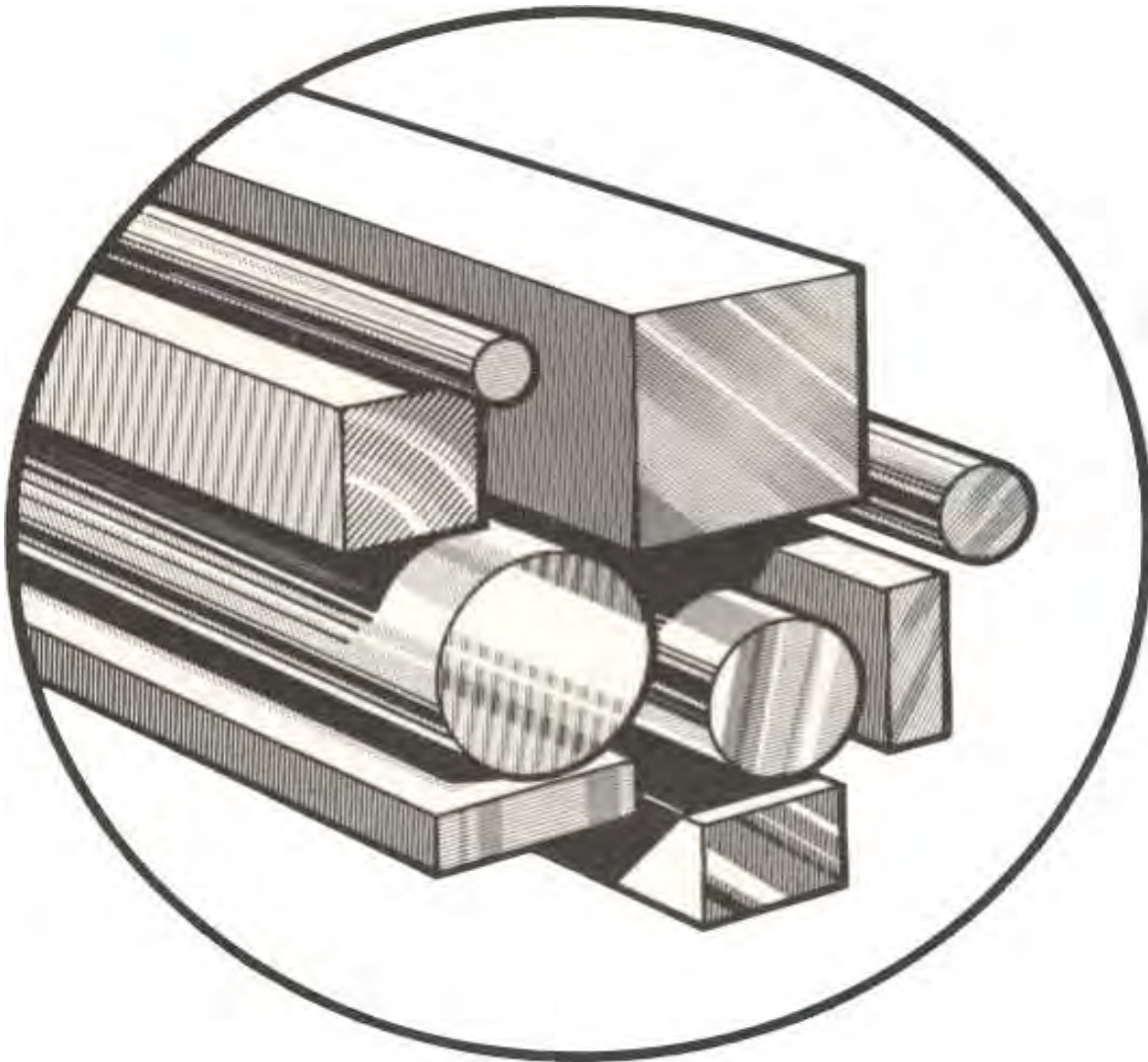




DRILLRODS & KEYSTOCK

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Vanguard Steel Ltd



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DRILLRODS

Supplied in 1/64 th " increments from 1/64-2"

Standard length 36". Longer lengths supplied on request.

AISI W-1 DRILL RODS

WATER HARDENING is the most popular, versatile, and least expensive grade of drill rod. The through-hardening quality of W-1 Drill rod affords optimum response in service. Its high carbon content allows it to be used often without heat treatment for maintenance applications. It is a fine grained electric furnace melted commercial grade tool steel which is supplied in the fully spheroidized decarb free condition.

ANALYSIS C .90-1.05, Mn .30-.50, Si .10-.25

HEAT TREATMENT Heat thoroughly at 1425°-1500°F. Hold one-half hour per inch of section, quench in water (brine). Sizes below 9/32-inch round may be quenched in oil.

AISI O-1 DRILL RODS

OIL HARDENING DRILL ROD is an electric furnace melt oil-hardening tool steel supplied with a fully shperoidized structure. A non-shrinking general-purpose tool steel, it has excellent abrasion resistance, toughness, and machinability characteristics.

ANALYSIS C .85-1.00, Mn 1.00-1.40, Si .50 Max, Cr .40-.60, W .40-.60, V .30 Max.

HEAT TREATMENT Sections smaller than 1/4" heat to 1450°-1475°F and hold until heated through.

For larger sections, preheat to 1200°F, the raise to 1450°-1500°F to hardening temperature, hold one-half hour per inch of cross section. Quench in oil at 125°-150°F and TEMPER IMMEDIATELY.

Exceptional Surface Finish and Surface Quality

The very high polish on Drill Rod allows it to be utilized without the need for further expensive grinding or polishing. Because Ground and Polished Drill Rod is guaranteed to be 100% free of decarburization, seams, laps, pits, and other surface imperfections, heat treatment can confidently be undertaken without further metal removal.

Size	Surface Finish	Surface Quality (Max. Allowable depth of defect)
.125" and smaller	10 RMS Max	.000
.125 to .500" dia	15 RMS Max	.000
.500 to .875" dia	20 RMS Max	.000
.875 to 2.00" dia.	30 RMS Max	.000

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DRILLRODS

Sizes:		Weight		Product Code	
Inch	Metric	Per 3 feet		AISI W-1	AISI O-1
5/64"	0.0781	0.051		0401 1005	0402 1005
7/64"	0.1093	0.093		0401 1007	0402 1007
9/64"	0.1406	0.156		0401 1009	0402 1009
11/64"	0.1718	0.234		0401 1011	0402 1011
13/64"	0.2031	0.327		0401 1013	0402 1013
15/64"	0.2343	0.441		0401 1015	0402 1015
17/64"	0.2656	0.561		0401 1017	0402 1017
19/64"	0.2968	0.702		0401 1019	0402 1019
21/64"	0.3281	0.861		0401 1021	0402 1021
23/64"	0.3593	1.032		0401 1023	0402 1023
25/64"	0.3906	1.221		0401 1025	0402 1025
27/64"	0.4218	1.416		0401 1027	0402 1027
29/64"	0.4531	1.626		0401 1029	0402 1029
31/64"	0.4843	1.875		0401 1031	0402 1031
33/64"	0.5156	2.127		0401 1033	0402 1033
35/64"	0.5468	2.391		0401 1035	0402 1035
37/64"	0.5781	2.673		0401 1037	0402 1037
39/64"	0.6093	3.000		0401 1039	0402 1039
41/64"	0.6406	3.312		0401 1041	0402 1041
43/64"	0.6718	3.603		0401 1043	0402 1043
47/64"	0.7343	4.314		0401 1047	0402 1047
49/64"	0.7656	4.686		0401 1049	0402 1049
51/64"	0.7968	5.073		0401 1051	0402 1051
53/64"	0.8281	5.484		0401 1053	0402 1053
57/64"	0.8906	6.354		0401 1057	0402 1057
63/64"	0.9843	7.749		0401 1063	0402 1063

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DRILLRODS

Sizes:		Weight		Product Code	
Inch	Metric	Per 3 feet		AISI W-1	AISI O-1
3/32"	0.0937	0.069		0401 1006	0402 1006
5/32"	0.1563	0.198		0401 1010	0402 1010
7/32"	0.2188	0.387		0401 1014	0402 1014
9/32"	0.2813	0.639		0401 1018	0402 1018
11/32"	0.3438	0.939		0401 1022	0402 1022
13/32"	0.4062	1.311		0401 1026	0402 1026
15/32"	0.4687	1.749		0401 1030	0402 1030
17/32"	0.5312	2.250		0401 1034	0402 1034
19/32"	0.5937	2.823		0401 1038	0402 1038
21/32"	0.6562	3.435		0401 1042	0402 1042
23/32"	0.7187	4.125		0401 1046	0402 1046
25/32"	0.7812	4.887		0401 1050	0402 1050
27/32"	0.8437	5.700		0401 1054	0402 1054
29/32"	0.9062	6.576		0401 1058	0402 1058
31/32"	0.9687	7.593		0401 1062	0402 1062
1/16"	0.0625	0.030		0401 1004	0402 1004
3/16"	0.1875	0.282		0401 1012	0402 1012
5/16"	0.3125	0.780		0401 1020	0402 1020
7/16"	0.4375	1.530		0401 1028	0402 1028
9/16"	0.5625	2.532		0401 1036	0402 1036
11/16"	0.6875	3.750		0401 1044	0402 1044
13/16"	0.8125	5.250		0401 1052	0402 1052
15/16"	0.9375	6.999		0401 1060	0402 1060
1-1/16"	1.0625	9.030		0401 1104	0402 1104
1-3/16"	1.1875	16.560		0401 1112	0402 1112
1-5/16"	1.3125	13.800		0401 1120	0402 1120
1-7/16"	1.4375	15.560		0401 1128	0402 1128

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DRILLRODS

Sizes:		Weight		Product Code	
Inch	Metric	Per 3 feet		AISI W-1	AISI O-1
1/8"	0.1250	0.126		0401 1008	0402 1008
3/8"	0.3750	1.125		0401 1024	0402 1024
5/8"	0.6250	3.126		0401 1040	0402 1040
7/8"	0.8750	6.126		0401 1056	0402 1056
1-1/8"	1.1250	10.125		0401 1108	0402 1108
1-3/8"	1.3750	15.147		0401 1124	0402 1124
1-5/8"	1.6250	21.150		0401 1140	0402 1140
1/4"	0.2500	0.501		0401 1016	0402 1016
1/2"	0.5000	2.001		0401 1032	0402 1032
3/4"	0.7500	4.503		0401 1048	0402 1048
1"	1.0000	8.000		0401 1100	0402 1100
1-1/4"	1.2500	12.501		0401 1116	0402 1116
1-1/2"	1.5000	18.102		0401 1132	0402 1132
1-3/4"	1.7500	24.510		0401 1148	0402 1148
2"	2.0000	32.040		0401 1200	0402 1200

STANDARD MANUFACTURING TOLERANCES FOR DRILLRODS

INCH	TOLERANCES
UP TO .124"	+/- .0003"
.125 " TO 1.499"	+/- .0005"
1.500" TO 2.000"	+/- .00075"

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DRILLRODS

AISI O-1

Sizes:		Weight	Product Code
Inch	Metric	Per 3 feet	AISI O-1

0.0787	2 mm	0.0496	0404 2020
0.1181	3 mm	0.1117	0404 2030
0.1575	4 mm	0.1987	0404 2040
0.1969	5 mm	0.3105	0404 2050
0.2362	6 mm	0.4469	0404 2060
0.2756	7 mm	0.6084	0404 2070
0.3150	8 mm	0.7948	0404 2080
0.3543	9 mm	1.0050	0404 2090
0.3937	10 mm	1.2420	0404 2100
0.4331	11 mm	1.5020	0404 2110
0.4727	12 mm	1.7880	0404 2120
0.5118	13 mm	2.0980	0404 2130
0.5512	14 mm	2.4340	0404 2140
0.5906	15 mm	2.7940	0404 2150
0.6299	16 mm	3.1780	0404 2160
0.6693	17 mm	3.9286	0404 2170
0.7087	18 mm	4.4016	0404 2180
0.7874	20 mm	5.4365	0404 2200
0.8661	22 mm	6.5710	0404 2220
0.9449	24 mm	7.1410	0404 2240
0.9843	25 mm	8.4943	0404 2250

STANDARD MANUFACTURING TOLERANCES FOR DRILLRODS

METRIC	TOLERANCES	
	PLUS	MINUS
1.00 - 1.50 mm	0	.012 mm
2.00 - 3.00 mm	0	.014 mm
3.50 - 6.00 mm	0	.018 mm
6.50 - 10.00 mm	0	.022 mm
10.50 - 18.00 mm	0	.027 mm
19.00 - 30.00 mm	0	.033 mm

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KEYSTOCK

STEEL KEYSTOCK

Keystock is used to provide driving torque between shafts and pulleys, gears, sprockets, etc.

Stocked in square and rectangular

Square keystock range from 1/8" to 2"

Standard lengths are 144" or cut to 12" increments

Rectangular keystock range from 1/8"x3/16" to 3/4"x1" sold in full length only.

Most material is high quality cold drawn low carbon C1018 steel

Meets ASTM A-108



SQUARE KEY STOCK

Size	Product Code	Weight Per ft.
1/8"	1204 0008	0.053
3/16"	1204 0012	0.120
1/4"	1204 0016	0.213
5/16"	1204 0020	0.332
3/8"	1204 0024	0.487
7/16"	1204 0028	0.651
1/2"	1204 0032	0.850
9/16"	1204 0036	1.080
5/8"	1204 0040	1.330
3/4"	1204 0048	1.910
7/8"	1204 0056	2.600
1"	1204 0100	3.400
1-1/8"	1204 0108	4.300
1-1/4"	1204 0116	5.310
1-1/2"	1204 0132	7.650
1-3/4"	1204 0148	10.410
2"	1204 0200	13.600

AVAILABLE IN ANY ONE FOOT MULTIPLES!
OTHER SIZES AVAILABLE ON REQUEST

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