

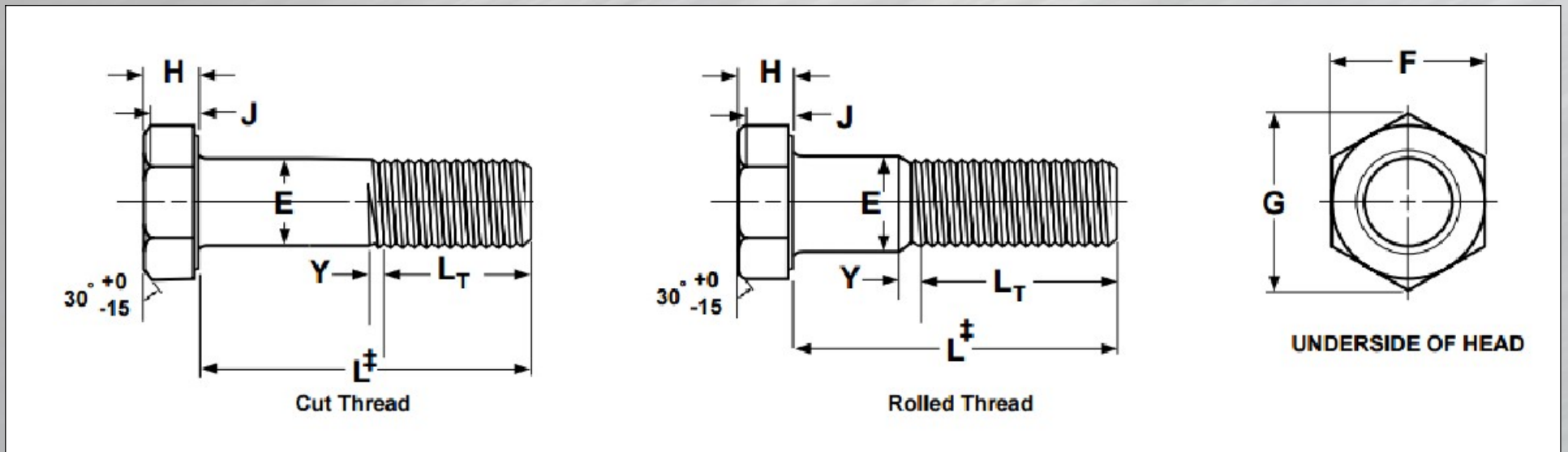


545 Basket Road
Webster, NY 14580

Toll Free: 800.691.0292 | Local: 585.265.1990 | Fax: 585.265.6678

www.fastenersdirect.com
sales@fastenersdirect.com

HEX CAP SCREWS—GRADE 5 & GRADE 8





545 Basket Road
Webster, NY 14580

Toll Free: 800.691.0292 | Local: 585.265.1990 | Fax: 585.265.6678

www.fastenersdirect.com
sales@fastenersdirect.com

HEX CAP SCREWS—GRADE 5 & GRADE 8

Nominal Size or Basic Product Dia.	E Body Dia.		F Width Across Flats		G Width Across Corners		H Head Height		J Wrenching Height	L Thread Length		Y Transition Thread Length			
	Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	Ref	For Screw Lengths < 6 in.	For Screw Lengths > 6 in.	Max	
	1/4	0.2500	0.2500	0.2450	7/16	0.438	0.428	0.505	0.488	5/32	0.163	0.150	0.106	0.750	1.000
5/16	0.3125	0.3125	0.3065	1/2	0.500	0.489	0.577	0.557	13/64	0.211	0.195	0.140	0.875	1.125	0.278
3/8	0.3750	0.3750	0.3690	9/16	0.562	0.551	0.650	0.628	15/64	0.243	0.226	0.160	1.000	1.250	0.312
7/16	0.4375	0.4375	0.4305	5/8	0.625	0.612	0.722	0.698	9/32	0.291	0.272	0.195	1.125	1.375	0.357
1/2	0.5000	0.5000	0.4930	3/4	0.450	0.736	0.866	0.840	5/16	0.323	0.302	0.215	1.250	1.500	0.385
9/16	0.5625	0.5625	0.5545	13/16	0.812	0.798	0.938	0.910	23/64	0.371	0.348	0.250	1.375	1.625	0.417
5/8	0.6250	0.6250	0.6170	15/16	0.938	0.922	1.083	1.051	25/64	0.403	0.378	0.269	1.500	1.750	0.455
3/4	0.7500	0.7500	0.7410	1-1/4	1.125	1.100	1.299	1.254	15/32	0.483	0.455	0.324	1.750	2.000	0.500
7/8	0.8750	0.8750	0.8660	1-5/16	1.312	1.285	1.516	1.465	35/64	0.563	0.531	0.378	2.000	2.250	0.556
1	1.0000	1.0000	0.9900	1-1/2	1.500	1.469	1.732	1.675	39/64	0.627	0.591	0.416	2.250	2.500	0.625
1-1/8	1.1250	1.1250	1.1140	1-11/16	1.688	1.631	1.949	1.859	11/16	0.718	0.658	0.461	2.500	2.750	0.714
1-1/4	1.2500	1.2500	1.2390	1-7/8	1.875	1.812	2.165	2.066	25/32	0.813	0.749	0.530	2.750	3.000	0.714
1-1/2	1.5000	1.5000	1.4880	2-1/4	2.250	2.175	2.598	2.480	1-5/16	0.974	0.902	0.640	3.250	3.50	0.833

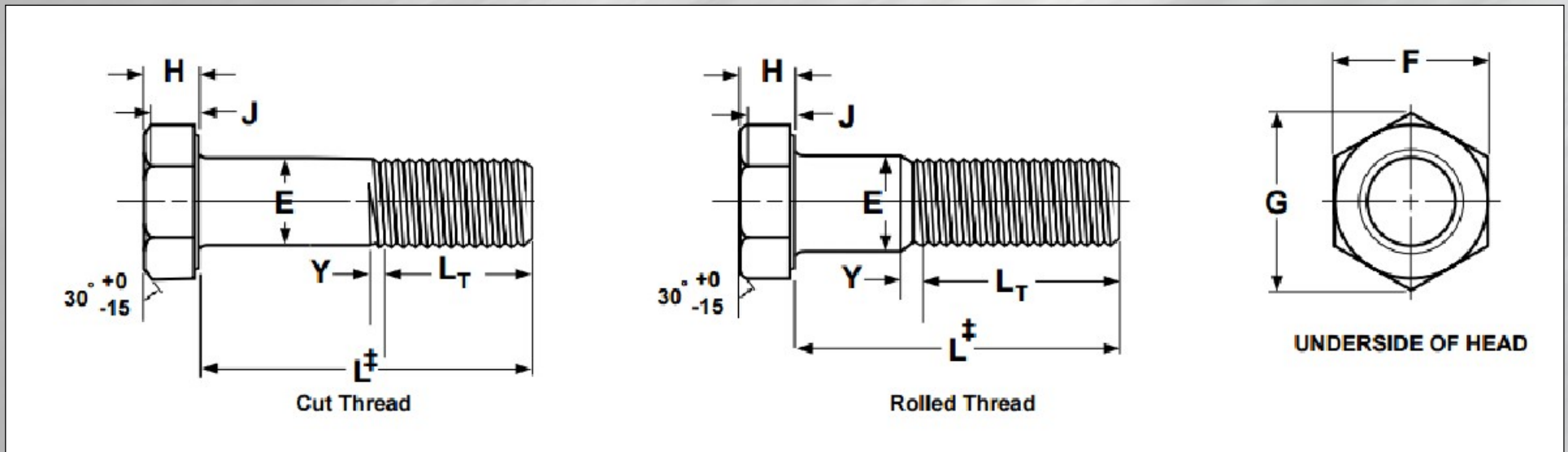


545 Basket Road
Webster, NY 14580

Toll Free: 800.691.0292 | Local: 585.265.1990 | Fax: 585.265.6678

www.fastenersdirect.com
sales@fastenersdirect.com

HEX CAP SCREWS—GRADE 5 & GRADE 8



	Nominal Screw Size	Nominal Screw Length				
		Up to in., incl.	Over 1 in. to 2-1/2 in., incl.	Over 2-1/2 in to 4 in., incl.	Over 4 in to 6 in., incl.	Longer than 6 in.
Tolerance on Length	1/4 to 3/8	-0.03	-0.04	-0.06	-0.10	-0.18
	7/16 and 1/2	-0.03	-0.06	-0.08	-0.10	-0.18
	9/16 to 3/4	-0.03	-0.08	-0.10	-0.10	-0.18
	7/8 and 1	-	-0.10	-0.14	-0.16	-0.20
	1-1/8 to 1-1/2	-	-0.12	-0.16	-0.18	-0.22



545 Basket Road
Webster, NY 14580

Toll Free: 800.691.0292 | Local: 585.265.1990 | Fax: 585.265.6678

www.fastenersdirect.com
sales@fastenersdirect.com

HEX CAP SCREWS—GRADE 5 & GRADE 8

Grade 5

DESCRIPTION: A cap screw made from medium carbon steel and heat treated.

APPLICATIONS / ADVANTAGES: Has greater tensile strength than a Grade 2. Yield-to-tensile ratio is the lowest of all the heat treated steels.

MATERIAL: Medium carbon steel. Use of an alloy steel is also acceptable.

CORE HARDNESS: *1/4 through 3/4 in diameter, all lengths:* Rockwell C25-C34; *1/1-1/8 through 1-1/2 in. diameter, all lengths:* Rockwell C19-C30

SURFACE HARDNESS: *1/4 through 1 in. diameter, all lengths:* Rockwell 30N54 maximum; *1-1/8 through 1-1/2 in. diameter, all lengths:* Rockwell 30N50 maximum

PROOF LOAD: *1/4 through 1 in. diameter, all lengths:* 85,000 psi; *1-1/8 through 1-1/2 in. diameter, all lengths:* 74,000 psi

YIELD STRENGTH*: *1/4 through 1 in. diameter, all lengths:* 92,000 psi minimum; *1-1/8 through 1-1/2 in. diameter, all lengths:* 81,000 psi minimum

TENSILE STRENGTH: *1/4 through 1 in. diameter, all lengths:* 120,000 psi minimum; *1-1/8 through 1-1/2 in. diameter, all lengths:* 105,000 psi minimum

ELONGATION*: 14% minimum (all diameters)

REDUCTION OF AREA*: 35% minimum (all sizes)



545 Basket Road
Webster, NY 14580

Toll Free: 800.691.0292 | Local: 585.265.1990 | Fax: 585.265.6678

www.fastenersdirect.com
sales@fastenersdirect.com

HEX CAP SCREWS—GRADE 5 & GRADE 8

Grade 8

DESCRIPTION: A cap screw made from the medium carbon alloy steel and heat-treated.

APPLICATIONS / ADVANTAGES: Has greater tensile strength than a Grade 5. Designed for use in high stress applications. See specifications below for more information on how the Grade 8 exceeds the strength of a Grade 5.

HEAT TREATMENT: Grade 8 cap screws shall be heat treated, oil quenched and tempered at a minimum temperature of 800* F.

MATERIAL: Medium carbon alloy steel. *Note:* for diameters 1/4 through 7/16 inch, it is permissible to use AISI 1541 steel.

CORE HARDNESS: 1/4 through 1-1/2 in. diameter, all lengths: Rockwell C33-C39

SURFACE HARDNESS: 1/4 THROUGH 1-1/2 in. diameter, all lengths: Rockwell 30N58.6 maximum

PROOF LOAD: 1/4 through 1-1/2 in. diameter, all lengths: 120,000 psi

YIELD STRENGTH: 1/4 through 1-1/2 in. diameter, all lengths: 130,000 psi minimum

TENSILE STRENGTH: 1/4 through 1-1/2 in. diameter, all lengths: 150,000 psi

ELONGATION*: 12% minimum

REDUCTION OF AREA: 35% minimum