

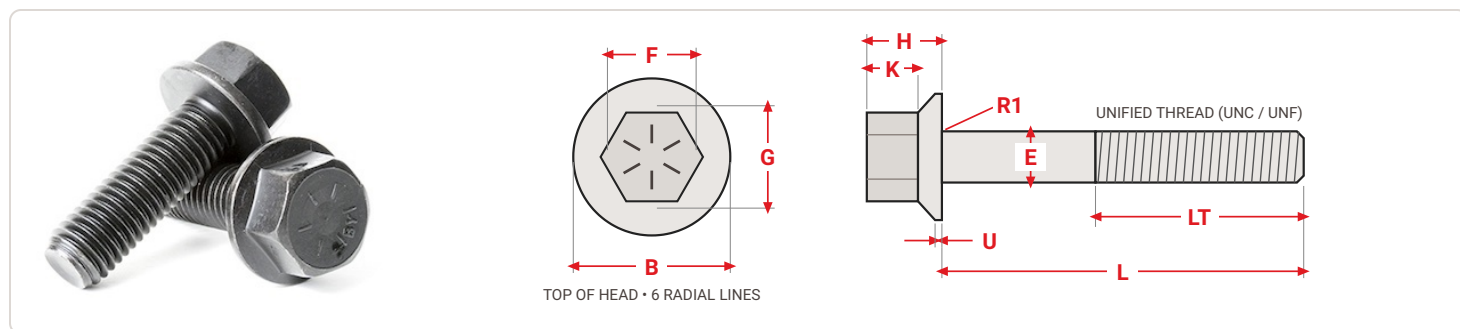


PRODUCT DATA SHEET

Grade 8 Hex Flange Screws (Frame Bolts)

Also known as **Grade 8 Frame Bolts** or hex flange bolts

1.0 Dimensions As per IFI-111 (inches)



Nominal Size or Basic Bolt Diameter	F		G		B	E		H	U	K	R1
	Width Across Flats		Width Across Corners		Flange Diameter	Body Diameter		Height of Head	Flange Thickness	Wrench Height	Fillet Radius
	Max	Min	Max	Min	Max	Max	Min	Max	Min	Min	Min
1/4	0.375	0.367	0.433	0.409	0.56	0.2500	0.2450	0.28	0.04	0.17	0.015
5/16	0.500	0.489	0.577	0.548	0.68	0.3125	0.3065	0.32	0.05	0.21	0.015
3/8	0.562	0.551	0.650	0.618	0.81	0.3750	0.3690	0.39	0.06	0.25	0.015
7/16	0.625	0.612	0.722	0.685	0.93	0.4375	0.4305	0.46	0.07	0.30	0.015
1/2	0.750	0.736	0.866	0.825	1.07	0.5000	0.4930	0.51	0.08	0.34	0.015
5/8	0.937	0.922	1.083	1.034	1.33	0.6250	0.6170	0.62	0.10	0.42	0.020
3/4	1.125	1.100	1.299	1.234	1.59	0.7500	0.7410	0.73	0.11	0.51	0.020

1.1 THREAD LENGTH

Diameter	Full Thread (FT) Lengths	Partial Thread (PT) Lengths	LT - Thread Length, PT
1/4"	1-1/4" & shorter	1-3/8" & longer	0.750" min.
5/16"	1-3/8" & shorter	1-1/2" & longer	0.875" min.
3/8"	1-1/2" & shorter	1-5/8" & longer	1.000" min.
7/16"	1-3/4" & shorter	1-7/8" & longer	1.125" min.
1/2"	1-7/8" & shorter	2" & longer	1.250" min.
5/8"	2-1/2" & shorter	2-5/8" & longer	1.500" min.
3/4"	2-3/4" & shorter	2-7/8" & longer	1.750" min.

Dimension notes:

- L is measured from the bearing surface of the flange to the end of the screw.
- Threads: UNC / UNF Class 2A per ASME B1.1. Flange underside may be flat or slightly concave, per IFI-111.

2.0 Mechanical Properties For full size screw testing

Property	SAE J429 Grade 8
Material	Medium carbon alloy steel, quenched & tempered
Sizes	1/4" through 3/4"
Proof Load	120,000 psi
Yield Strength	130,000 psi min.
Tensile Strength	150,000 psi min.
Core Hardness	HRC 33 to 39
Head Marking	6 radial lines + manufacturer's ID

Pair with Grade 8 (or SAE J995 Grade 8) flange or hex nuts of the same thread.

3.0 Surface Finish Black phosphate & oil stocked – yellow zinc also available

Properties	Black Phosphate & Oil (Stock)	Yellow Zinc (Also Available)
Type	Zinc phosphate with rust preventive oil	Zinc electroplate with yellow chromate
Color	Black	Yellow / gold
Specification	–	ASTM F1941 (Fe/Zn 5C)
Corrosion Resistance	Light; for indoor or lubricated assemblies	Moderate; indoor and sheltered outdoor use

4.0 Sizes Stocked by Nutty • = in stock online at nutty.com

Thread	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/4"	2-1/2"	2-3/4"	3"	3-1/4"	3-1/2"	3-3/4"	4"	4-1/2"	5"	5-1/2"	6"
1/4-20	•	•	•	•	•	•	•	•	•	•		•								
5/16-18	•		•	•	•	•	•	•	•	•		•								
3/8-16		•	•	•	•	•	•	•	•	•	•	•				•				
7/16-14				•	•	•	•	•	•	•	•	•				•				
1/2-13			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
5/8-11						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3/4-10							•	•	•	•	•	•	•	•		•	•	•		•
1/2-20				•	•	•	•	•	•	•	•	•				•		•		
5/8-18						•		•	•	•	•	•		•		•				
3/4-16							•	•	•	•	•	•		•						

Coarse (UNC) threads on top, fine (UNF) below. Other diameters, lengths and finishes are available on request.

Disclaimer: The above is a compilation of data from various industry standards. The Nutty Company, Inc. has made every effort to present the data accurately. However, The Nutty Company, Inc. cannot be held liable for any claim traceable to any errors, typographical or otherwise, contained herein.



Need a size, length or finish you don't see?

Call 203.877.1709 or email sales@nutty.com – shop online at nutty.com