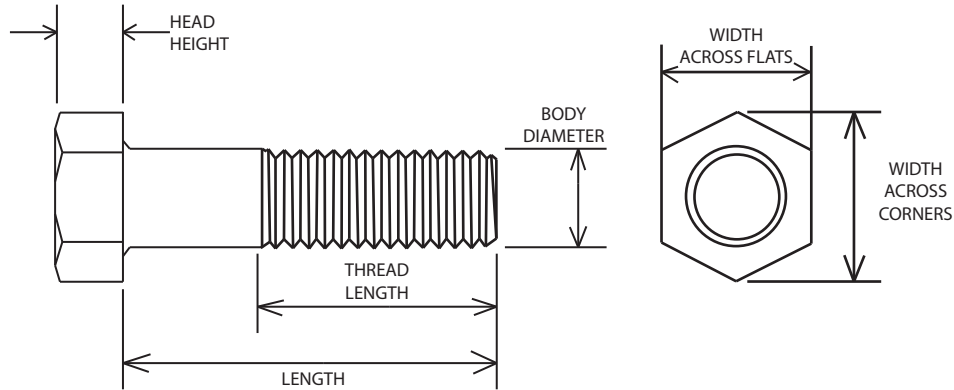


PRODUCT DATA SHEET

HEAVY HEX HEAD BOLTS

1.0 DIMENSIONS: ASME B18.2.1.



NOMINAL SIZE OR BASIC PRODUCT DIAMETER	BODY DIAMETER		WIDTH ACROSS FLATS		WIDTH ACROSS CORNERS		HEAD HEIGHT		THREAD LENGTH	
									FOR SCREW LENGTHS 6 INCHES AND SHORTER	FOR SCREW LENGTHS OVER 6 INCHES
	MIN	MAX	MAX	MIN	MAX	MIN	MAX	MIN	REF	REF
1/2	0.515	0.482	0.875	0.850	1.010	0.969	0.364	0.302	1.250	1.500
5/8	0.642	0.605	1.062	1.031	1.227	1.175	0.444	0.378	1.500	1.750
3/4	0.768	0.729	1.250	1.212	1.443	1.383	0.524	0.455	1.750	2.000
7/8	0.895	0.852	1.438	1.394	1.660	1.589	0.604	0.531	2.000	2.250
1	1.022	0.976	1.625	1.575	1.876	1.796	0.700	0.591	2.250	2.500
1-1/8	1.149	1.098	1.812	1.796	2.093	2.002	0.780	0.658	2.500	2.750
1-1/4	1.277	1.223	2.000	1.938	2.309	2.209	0.876	0.749	2.750	3.000
1-3/8	1.404	1.345	2.188	2.119	2.526	2.416	0.940	0.810	3.000	3.250
1-1/2	1.531	1.470	2.375	2.300	2.742	2.622	1.036	0.902	3.250	3.500
1-3/4	1.785	1.716	2.750	2.662	3.175	3.035	1.196	1.054	3.750	4.000
2	2.039	1.964	3.125	3.025	3.608	3.449	1.388	1.175	4.250	4.500
2-1/4	2.305	2.214	3.500	3.388	4.041	3.862	1.548	1.327	4.750	5.000
2-1/2	2.559	2.461	3.875	3.750	4.474	4.275	1.708	1.479	5.250	5.500

Notes: Thread Class of Fit : Plain Finish : 2A. Zinc Plated Finish: 2A before zinc plating and after plating must meet 3A GO and 2A NO GO thread ring gage condition. Hot Dipped Galvanized: 2A before coating.

PRODUCT DATA SHEET

HEAVY HEX HEAD BOLTS

2.0 MECHANICAL PROPERTIES (FOR FULL SIZE BOLT TESTING):

STANDARD / GRADE	LENGTH	HARDNESS	TENSILE STRENGTH	GRADE MARKING
ASTM A307 GRADE B	LESS THAN 3 TIMES THE NOMINAL DIAMETER	69 TO 95 HRB	60,000 TO 100,000 PSI	307B
	3 TIMES THE NOMINAL DIAMETER AND LONGER	95 HRB MAX		

Notes: The bolts will also have manufacturer's marking on the head in addition to the grade marking as mentioned in the table

3.0 SURFACE FINISH: PLAIN/ZINC/HDG. ZINC & HDG DETAILS GIVEN IN TABLE BELOW

PROPERTIES	ZINC CLEAR	HOT DIPPED GALVANIZED (HDG)
TYPE	TRIVALENT (Cr+3)	RoHS COMPLAINT
COLOR	CLEAR	
COATING THICKNESS	0.0001" / 3 MICRONS or 0.0002" / 5 MICRONS MINIMUM	FOR SIZES 3/8" & UNDER: MINIMUM 0.0017" (43 MICRONS) AND FOR SIZES OVER 3/8" MINIMUM 0.0020" (50 MICRONS)
SPECIFICATION	ASTM F1941 / F1941M Fe/Zn 3AN or Fe/Zn 5AN	ASTM F2329/F2329M OR ASTM A153/A153M