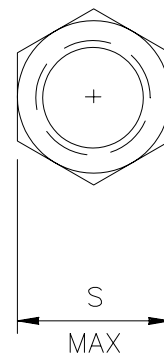
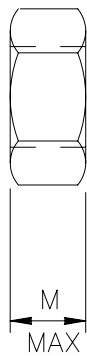


DESIGNATOR	ANSI SIZE	D	M	S
FBX06a	1/4-20 [M6x1]	1/4 [6]	7/32 [5.2]	7/16 [10.0]
FBX08a	5/16-18 [M8x1.25]	5/16 [8]	17/64 [6.8]	1/2 [13.0]
FBX10a	3/8-16 [M10x1.5]	3/8 [10]	21/64 [8.4]	9/16 [16.0]
FBX12a	7/16-14 [M12x1.75]	7/16 [12]	3/8 [10.8]	11/16 [18.0]
FBX14a	1/2-13 [M14x2]	1/2 [14]	7/16 [12.8]	3/4 [21.0]
FBX16a	5/8-11 [M16x2]	5/8 [16]	35/64 [14.8]	15/16 [24.0]
FBX20a	3/4-10 [M20x2.5]	3/4 [20]	41/64 [18.0]	1-1/8 [30.0]
FBX24a	1-8 [M24x3]	1 [24]	55/64 [21.5]	1-1/2 [36.0]



1994

HEX BOLT & NUT

FBX06a-24a

SHEET NO.

DATE:

1 of 2

6/30/05

SPECIFICATIONS

Bolts shall be manufactured according to the geometric specifications included in ANSI B18.2.1 [ANSI B18.2.3.5M]. Threads shall conform to ANSI B1.1 [ANSI B1.13M] for Class 2A [6g] tolerances. Material for zinc-coated bolts shall conform to ASTM A307 Grade A [ASTM F 568M Class 4.6], with a tensile strength of 60 ksi [400 MPa] and yield strength of 36 ksi [240 MPa]. Material for corrosion-resistant bolts shall conform to ASTM A325 Type 3 [ASTM F 568M Class 8.8.3], with tensile strength of 120 ksi [830 MPa] and yield strength of 92 ksi [660 MPa]. Metric bolt heads shall be marked as specified in ASTM F 568 Section 9 with the symbol “4.6” if zinc-coated and “8.8.3” if manufactured with corrosion-resistant steel.

Zinc-coated nuts shall be manufactured according to the dimensions and tolerances in ANSI B18.2.2 [ANSI B18.2.4.1M Style 1] for hex nuts (shown in drawing). Corrosion-resistant nuts shall be manufactured according to the dimensions and tolerances in ANSI B18.2.2 [ANSI B18.2.4.6M] for heavy hex nuts (not shown in drawing). Threads shall conform to ANSI B1.1 Class 2B [ANSI B1.13M Class 6h]. Material for zinc-coated nuts shall conform to the requirements of AASHTO M 291 (ASTM A 563) Grade A [AASHTO M 291M (ASTM A 563M) Class 5], and material for corrosion-resistant nuts shall conform to the requirements of AASHTO M 291 (ASTM A 563) Grade C3 [AASHTO M 291M (ASTM A 563M) Class 8S3].

Zinc-coated bolts and nuts shall be treated according to either AASHTO M 232 (ASTM A 153/A 153M) for Class C or AASHTO M 298 (ASTM B 695) for Class 50.

Designator	Stress Area of Threaded Bolt Shank (in ² [mm ²])	Min. Bolt Tensile Strength (kips [kN])
FBX06a	0.0318 [20.1]	1.9 [8.0]
FBX08a	0.0524 [36.6]	3.1 [14.6]
FBX10a	0.0775 [58.0]	4.7 [23.2]
FBX12a	0.1063 [84.3]	6.4 [33.7]
FBX14a	0.1419 [115.0]	8.5 [46.0]
FBX16a	0.2260 [157.0]	13.6 [62.8]
FBX20a	0.3340 [245.0]	20.0 [98.0]
FBX24a	0.6060 [353.0]	36.4 [141.0]

Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance and accepted manufacturing practices.

INTENDED USE

These bolts and nuts are used in numerous barrier designs.

HEX BOLT AND NUT

FBX06a-24a

SHEET NO.

DATE

2 of 2

6/30/2005