

# SPECIFICATION

Roadside Safety Devices

Designator: **TFBB02-03**

Description: **GUARDRAIL BOLT AND  
RECESSED NUT**



The geometry and material specifications for this bolt and nut are found in AASHTO M180. The bolt shall have M16x2 threads as defined in ANSI B1.13M for Class 6g tolerances. Bolt material shall conform to ASTM F568 for Class 4.6 (400 MPa tensile strength and 240 MPa yield strength). Material for corrosion resistant bolts shall conform to ASTM F568 for class 8.8.3 bolts (830 MPa tensile strength and 660 MPa yield strength). ASTM F568 Class 8.8.3 bolts and nuts have corrosion resistance comparable to ASTM A588 steels. Zinc coated bolt heads shall be marked with the symbol "4.6" as defined in ASTM F568 section 9.

Nuts shall have ANSI B1.13M M16x2 Class 6H threads. The geometry of the nuts, with the exception of the recess shown in the drawing, shall conform to ANSI B18-2.4.1M Style 1 for zinc coated hex nuts (shown on drawing) and ANSI B18.2.4.6M heavy hex corrosion resistance nuts (not shown on drawing). Material for zinc coated nuts shall conform to the requirements of ASTM A563M for Class 5 and material for corrosion resistant nuts shall conform to the requirements of ASTM A563M for Class 8S3.

When zinc coated bolts and nuts are required, the zinc coating shall conform to either AASHTO M232 (ASTM A153) for Class C or AASHTO M298 (ASTM B695) for Class 50. Zinc coated nuts shall be tapped over size as specified in AASHTO M291M (ASTM A563M) except that a diametrical allowance of 510 mm shall be used instead of 420 mm.

Designator	Stress Area of Threaded Bolt Shank (mm <sup>2</sup> )	Minimum Bolt Bolt Strength (kN)
TFBB02-3	157.0	62.8

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. Guardrail Bolt and Recessed Nut may be supplied in the nearest equivalent Imperial, or English, units and corresponding manufacturing specification; if true metric measurements are used, Guardrail Bolt and Recessed Nut shall be fully threaded together.

Guardrail Bolt and Recessed Nut shall be supplied uniquely and in separate, sturdy, waterproof pails that are either plastic or metal with a maximum quantity of 50 in each container. The containers must be suitable for storage outdoors and withstand, for up to 12 months, typical weather conditions and UV exposure that would be expected in Manitoba.

Effective Date: September 1, 2001

Revised Date: July 6, 2020

