

**KANSAS DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION TO THE  
STANDARD SPECIFICATIONS, EDITION 2007**

**SECTION 1616**

**STEEL FASTENERS**

**Page 1600-27, subsection 1616.2b.(5). Delete this subsection and replace with the following:**

(5) Provide Direct Tension Indicators (DTI) for high strength applications, or when specified in the contract documents, that comply with the requirements of ASTM F 959. Use “plain” Type 325 and Type 490 DTI’s with ASTM A 325 Type 1 and A 490 Type 1 structural bolts, respectively. Use “weathering steel” Type 325-3 and Type 490-3 DTI’s with ASTM A 325 Type 3 and A 490 Type 3 structural bolts, respectively.

Incorporate circumferential indentations or edge notches on the exposed face of the DTI which are aligned with feeler gage entry points. Indentations or notches shall be clearly visible after installation of the DTI, but not so large as to interfere with the function of the DTI.

**Page 1600-28, subsection 1616.2b. Add two new subsections as follows:**

(9) In lieu of a separate nut, washer, and DTI, provide a combined nut and DTI assembly for use with high strength structural bolts. The nut component shall comply with **subsection 1616.2b.(2)** and the DTI component shall comply with **subsection 1616.2b.(5)**. Manufacture each lot of assemblies using a single DTI lot and a single nut lot. Identify assembly lots using the lot of the component DTIs.

Unless the contract documents indicate otherwise, an F 436 washer need not be used when a bolt and combined nut/DTI assembly are used and all of the following are satisfied:

- The fastener is used with a standard size hole.
- The bolt is not the turned fastener component.
- The combined nut/DTI manufacturer’s installation instructions and product literature demonstrate satisfactory performance without the use of a hardened washer.
- The pre-installation verification testing demonstrates satisfactory performance without the use of a hardened washer.

(10) Provide all high strength structural bolts and combined nut/DTI assemblies that comply with the rotational capacity test requirements of **subsection 1616.2b.(3)**, modified to account for the flattening of protrusions on the DTI component of the assembly.

**Page 1600-28, subsection 1616.5. Delete this subsection and replace with the following:**

**1616.5 BASIS OF ACCEPTANCE**

Submit for approval to the project Engineer and MRC a Type A certification, as specified in **DIVISION 2600**, for all fastener components provided through this specification. In addition, provide certifications for DTI’s showing the results of ASTM F 606 testing. A combined nut/DTI assembly requires a certification for each of its components.

Compliance of samples of all fastener components utilized for overhead lighting and signing, sign supports, bridge beam connections and splices, and any other application considered relevant by the Engineer’s representative with **subsection 1616.2b**. Provide representative samples of the lot(s) and heat(s) of the components and materials, including combined nut/DTI assemblies (but not separate DTIs). Submit the samples to the Engineer of Tests for testing. Samples for testing are not required for fastener components used to attach sign panels to

ground mounted sign supports nor for components used in break-away connections on ground mounted sign supports.

The KDOT representative will inspect all fastener components for compliance with corrosion protection, marking, and dimensional requirements.

The final disposition of fastener components will be completed at the final destination as the result of inspection for the quality of workmanship, the delivery condition.

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Apr-10 Letting