

ORIGINATION FORM

Date: 11/18/11

Originator: Charles Boyd

Contact Information: 414-4275

Specification Title: Bolted Connections

Specification Section, Article, or Subarticle Number: 460-5

Why does the existing language need to be changed? Bolt type for weathering steel bridges is not specified. Galvanized bolts are now the default for field installations.

Summary of the changes: Galvanized bolts are now required for field installations. Galvanized or black bolts can be used for shop installations where they will be cleaned and primed along with the girders in the shop. Weathering steel bolts are required for use on unpainted weathering steel bridges.

Are these changes applicable to all Department jobs? If not, what are the restrictions?
Applicable to structural steel items only.

Will these changes result in an increase or decrease in project costs? If yes, what is the estimated change in costs? Possible slight increase in cost due to use of galvanized bolts in the field versus black bolts.

With who have you discussed these changes? Robert Robertson

What other offices will be impacted by these changes? Construction

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No

Contact the State Specifications Office for assistance in completing this form.
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ANANTH PRASAD, P.E.
SECRETARY

MEMORANDUM

DATE: November 22, 2011

TO: Specification Review Distribution List

FROM: Rudy Powell, Jr., P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **4600501 Structural Steel and Miscellaneous Metals.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Charles Boyd of the State Structures Design Office to clarify the bolt type requirements in the structural steel connections.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965RP or rudy.powell@dot.state.fl.us. Comments received after **December 21, 2011**, may not be considered. Your input is encouraged.

RP/dt
Attachment

STRUCTURAL STEEL AND MISCELLANEOUS METALS.
(REV 11-21-11)

SUBARTICLE 460-5.1 (Pages 614 and 615) is deleted and the following substituted:

460-5.1 General: Use *bolts as follows:*

- 1. Use galvanized ASTM A 325 Type 1 bolts in all bolted structural steel connections that are primed before installation of the bolts.*
- 2. Use either black or galvanized ASTM A 325 Type 1 bolts in all bolted structural steel connections that are to be primed after installation of the bolts.*
- 3. Use black ASTM 325 Type 3 bolts in all bolted structural steel connections for weathering steel that is to remain unpainted.*
- 4. Use the bolts as specified for, ~~unless the~~ connected assemblies or parts that are designated as miscellaneous components ~~and where~~ the fastener ~~assembly type~~ is specified elsewhere in the Contract Documents.*

-Tighten ASTM A 325 bolts in accordance with the procedures specified below for turn-of-nut or direct-tension-indicator (DTI) tightening.

Lubricate and maintain consistency in lubrication of fastener assembly during Rotational Capacity (RC) testing and installation. Assemblies that exhibit a loss of lubrication, as determined by the Engineer, may be relubricated and retested prior to installation.

Use ASTM A 490 bolts only with the approval of the Engineer. Provide procedures in accordance with for the handling, lubrication, installation, tightening and testing of ASTM A 490 bolts. Do not install ASTM A 490 bolts without prior approval of the procedures by the Engineer.

When the Engineer approves ASTM A 307 bolts for use in miscellaneous components, tighten them such that the plies of the joint are in firm contact. Use three to five impacts of an impact wrench or the full effort of a person using an ordinary spud wrench to obtain a snug connection.

Fasten aluminum, other materials or assemblies of dissimilar materials in accordance with the Contract Documents.

Install ordinary rough or machine bolts and nuts in accordance with the Contract Documents.