

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

(The person who receives or originates the issue and needs to forward the issue for action.)

Modify Specification _____ 400 _____
Section/File number

New Section _____
Section number

Subject: Contact and Bearing Surfaces- Finishing of Bearing Surfaces.

Origination date: January 30, 2004

Originator: Robert Robertson
Office/Phone: Structures (850) 414-4267 SC 994-4267
Email address/ Robert.Robertson2@dot.state.fl.us
Userid:

Problem statement: Current specs do not contain a tolerance on the final condition of bearing surfaces.

Information source: John Yadloski of HDR noted the requirements during a rewrite of 460.

Background data: Warpped bearing surfaces cause additional stresses in beams that were not accounted for in the design and therefore need to be eliminated.

**Recommended
Usage Note:**

**Desired
implementation
date:** Beginning with the January 2005 lettings.

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Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JOSÉ ABREU
SECRETARY

MEMORANDUM

DATE: May 2, 2005

TO: Specification Review Distribution List

FROM: Duane F. Brautigam, P.E., State Specifications Engineer

SUBJECT: Proposed Specifications Change: 4001102 - Contact and Bearing Surfaces-Finishing of Bearing Surfaces

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Section 400.

This change was proposed by Robert Robertson of the Structures Design Office to specify tolerances for the final condition of bearing surfaces.

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 SP965DB or duane.brautigam@dot.state.fl.us. Comments received after May 30, 2005 may not be considered. Your input is encouraged.

DFB/jf

Attachment

COMMENTS:

Submitted by:

Phone #:

CONTACT AND BEARING SURFACES-FINISHING OF BEARING SURFACES.
(REV 4-25-05)

SUBARTICLE 400-11.2 (Page 350) is deleted and the following substituted:

~~**400-11.2 Finishing of Bearing Surfaces:** Pay special attention to bearing areas supporting shoes, bearing pads, or the ends of beams or slabs. In general, float finish such areas, and grind them to true planes with carborundum. If precast, they may be cast against true metal surfaces. Check all such areas for accuracy with a steel straightedge prior to the setting of shoes, bearing pads or superstructure elements.~~

400-11.2 Finishing of Bearing Surfaces: Construct bearing surfaces (areas) to the tolerances as specified herein and in the other parts of the Contract Documents. When using neoprene bearing pads, finish the concrete surface to a uniform 'rough' texture using a burlap drag, fine bristle broom or float. For metal or high load rotational bearings, fill minor depressions, 1/8-inch [3.2 mm] maximum, caused by finishing, bush hammering, or grinding with a low-viscosity epoxy meeting the requirements of 926-1, Type F-2, applied by the use of a squeegee. Bearing surfaces may be ground to final position with carborundum. Check all bearing surfaces with a metallic straightedge prior to setting bearings or neoprene pads.

400-11.2.1 Deviation from Specified Elevations for Steel Beam

Superstructures: Construct to the elevation shown on the plans plus or minus 0.01 feet [3 mm] and do not exceed a 0.01 feet [3 mm] difference between specified elevations of bearing areas of adjacent bearings measured between the centerlines of bearing areas.

400-11.2.2 Deviation from Specified Elevations for Concrete Beam

Superstructures: Construct to the elevation shown on the plans plus or minus 0.02 feet [6 mm].

400-11.2.3 Projecting Irregularities: Projecting irregularities will not exceed 1/16-inch [1.6 mm].

400-11.2.4 Variations in Flatness for Neoprene Pads: In any direction, the pad is to be flat to within 1/16-inch [1.5 mm]. Pads designated to be sloped are not to deviate from the theoretical slope by the same amount.

400-11.2.5 Variations in Flatness for Metal or High Load Rotational

Bearings: Construct the bearing area to the tolerance indicated for the measured length along the orthogonal axes.

Bearing area length up to 30 inches [750 mm] long to plus or minus 1/16-inch [1.6 mm].

Bearing area length over 30 inches [750 mm] up to 45 inches [1,150 mm] long to plus or minus 3/32-inch [2.5 mm].

Bearing area length over 45 inches [1,150 mm] long to plus or minus 1/8-inch [3.2 mm].