

SECTION 00582 - BRIDGE BEARINGS

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00582 of the Standard Specifications modified as follows:

00582.20 Composite Bearings - Replace the paragraph that begins "Provide only one type..." with the following paragraph:

Furnish only one type of Composite Bearing from the QPL for each Bridge, subject to the following requirements:

Replace the bullet that begins "Provide rotational elements between ..." with the following bullet:

- Furnish rotational elements between upper and lower units to meet the following:

Replace the bullet that begins "**Upper Unit** - The upper unit ..." with the following bullet:

- **Upper Unit** - The upper unit consists of a distribution plate that is permanently attached to the Superstructure and a sole plate attached to the distribution plate with cap screws. For a Guided or Nonguided bearing, weld a stainless steel sheet to the bottom surface of the sole plate.

Replace the bullet that begins "**Lower Unit** - The lower unit ..." with the following bullet:

- **Lower Unit** - The lower unit consists of a masonry plate permanently anchored to the structural support and a base plate attached to the masonry plate with cap screws. A separate masonry plate and base plate are not necessary for Fabric Pad Bearings fabricated as outlined in 00582.27, third paragraph.

Replace the bullet that begins "The base pot of a Pot ..." with the following bullet:

- Weld the base pot of a Pot Bearing, the lower bearing plate of a Disc Bearing, or the convex plate of a Spherical Bearing to the base plate.

Replace the bullet that begins "For Guided or Nonguided ..." with the following bullet:

- For Guided or Nonguided bearings, furnish a polytetrafluoroethylene (PTFE) sheet recessed into and bonded to the top surface of the piston of a Pot Bearing, the upper bearing plate of a Disc Bearing, the top surface of the concave plate of a Spherical Bearing, or a steel backing plate bonded to the top surface of a fabric pad forming a sliding surface with the stainless steel surface of the sole plate.

Replace the bullet that begins "For Fixed bearings ..." with the following bullet:

- For Fixed bearings, weld the piston of a Pot Bearing, the upper bearing plate of a Disc Bearing, or the concave plate of a Spherical Bearing to the sole plate.

Replace the paragraph that begins "Provide bearings that accommodate ..." with the following paragraph:

Furnish bearings that accommodate the loads, movements, and rotations as shown.

00582.21 Disc Bearings - Replace this subsection, except for the subsection number and title, with the following:

Design Disc Bearings according to the following:

- Furnish the shear restriction mechanism that allows free rotation but prevents any shear being applied to the rotational element.
- Furnish guided bearings that resist the total horizontal load at the bent or hinge where it is located.

00582.25(b) Polytetrafluoroethylene Rotational Surface for Spherical Bearings - Replace this subsection, except for the subsection number and title, with the following:

Use only woven PTFE having a minimum thickness of 1/8 inch. Recess the PTFE 1/16 inch into the spherical element.

Furnish PTFE fabric having a minimum thickness of 1/16 inch when measured according to ASTM D1777.

00582.25(c) Stainless Steel Sliding Surfaces - Replace the paragraph that begins "Provide a flat stainless ..." with the following paragraph:

Provide a flat stainless steel sliding surface that completely covers the PTFE surface in all operating positions, plus at least 2 inches more in every direction of possible movement.

00582.26 Guide Bars for Composite Bearings - Replace the paragraph that begins "Provide a sliding surface ..." with the following paragraph:

Provide a sliding surface between the Guide Bars and the guide element made of polished stainless steel against virgin PTFE. Bond and mechanically fasten the virgin PTFE to the Guide Bars. Provide Guide Bars that:

00582.27 Sole, Base, Distribution, and Masonry Plates for Composite Bearings - Replace the paragraph that begins "For Fabric Pad Bearings ..." with the following paragraph:

For Fabric Pad Bearings, fasten keeper bars at least 1/4 inch thick to the top surface of the base plate, around the perimeter of the fabric pad, with high-strength cap screws. Provide a gap at all bar ends to allow drainage.

Replace the paragraph that begins "Provide studded anchors ..." with the following paragraph:

Furnish studded anchors or threaded bolts, as shown or specified, to anchor the masonry plates to the supported and supporting members. Locate anchoring devices to avoid conflict with metal reinforcement and prestressing systems.

00582.32(a) Steel Backing Plate - Replace the paragraph that begins "Minimum thickness of ..." with the following paragraph:

The minimum thickness of the steel backing plate is 3/8 inch.

00582.35(a) Polytetrafluoroethylene Sliding Surfaces - Replace the paragraph that begins "After completion of the ..." with the following paragraph:

After completion of the bonding operation, ensure the PTFE surface is smooth and free of bubbles.

00582.36 Guide Bars for Composite Bearings - Replace the paragraph that begins "Construct Guide Bars parallel ..." with the following paragraph:

Construct Guide Bars parallel to the surface where they bear and to other Guide Bars to within a tolerance of plus or minus 1/32 inch for the full length of the bar.

00582.39(a) Pads - Replace this subsection, except for the subsection number and title, with the following:

Pads 1/2 inch and less in thickness are to be made entirely of elastomer. Pads over 1/2 inch in thickness consist of alternate laminations of elastomer and metal.

00582.39(b) Pad Sizing - Replace this subsection, except for the subsection number and title, with the following:

Mold pads individually to the sizes required. No shearing to size or drilling of holes is allowed except pads 1/2 inch and less in thickness may be sheared.

00582.39(c) Tolerances and Finishes - Replace this subsection, except for the subsection number and title, with the following:

Provide tolerances and finishes according to 02571.20(d).

00582.50(b) Elastomeric Bearings - Replace the paragraph that begins "Construct bearing seats ..." with the following paragraph:

Construct bearing seats for Elastomeric Bearings parallel to the bottom surfaces of the members that will bear on them. Install as follows:

00582.90 Payment - Replace the paragraph that begins "In item (a) ..." with the following paragraph:

In item (a), the type "disc", "fabric pad", "pot", "spherical" of Composite Bearing device is inserted in the blank.

Replace the paragraph that begins "In item (b) ..." with the following paragraph:

In item (b), for steel-reinforced elastomeric bearing pads, the width of bearing pad is inserted in the first blank, the length of the bearing pad is inserted in the second blank, and the thickness of the bearing pad is inserted in the third blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.