

SECTION 02571 – ELASTOMERIC BEARING PADS

(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 02571 of the Standard Specifications modified as follows:

02571.10 Elastomeric Compound - Replace the paragraph that begins "The elastomer portion of the elastomeric..." with the following paragraph:

Ensure the elastomer portion of the elastomeric compound is 100 percent virgin polychloroprene (Neoprene) or natural rubber (polyisoprene) meeting the requirements of section 18 of the AASHTO LRFD Bridge Construction Specifications including the properties from the following table:

02571.15 Metal Reinforcement - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal reinforcement that is rolled, mild steel sheets 14 gauge thick and according to ASTM A1011, Grade 36 Type 1, or ASTM A1008, Grade 40.

02571.20(a) Pads - Replace this subsection, except for the subsection number and title, with the following:

Furnish pads 1/2 inch thick that are all elastomer. Furnish pads over 1/2-inch-thick consisting of alternate laminations of elastomer and metal.

In metal reinforced pads, the top and bottom layers are elastomer 1/4 inch thick, and interior elastomer layers are 1/2 inch thick. The nominal thickness of the bearing shown reflects the thickness of the elastomer only. It does not include the steel laminates.

02571.20(b) Laminations - Replace this subsection, except for the subsection number and title, with the following:

Furnish laminations of elastomer in uniform thickness and in no case allow the thickness of an individual lamination to exceed 5/8 inch. Do not allow variations in thickness of an individual elastomer lamination to exceed 1/8 inch and the variation in thickness of all elastomer laminations within a pad such that each metal lamination does not vary by more than 1/8 inch from a plane parallel to the top or bottom surface of the pad.

02571.20(c) Laminated Pads - Replace the paragraph that begins "Laminated pads shall be..." with the following paragraph:

Furnish laminated pads that are molded individually to the sizes required. No shearing to size or drilling of holes is allowed. Cover all edges of metal laminations with a minimum of 1/8 inch, and a maximum of 1/4 inch, of elastomer except at laminate restraining devices and around holes that are entirely closed when the pad is in place on the Structure.

Replace the paragraph that begins "Pads 1/2 inch in thickness may ..." with the following paragraph:

Pads 1/2 inch in thickness may be sheared. Ensure the shearing does not heat the material and produces a smooth finish to 250 microinches with no tears or jagged areas.

02571.30(a) General - Replace the paragraph that begins "Independently test all completed bearings..." with the following paragraph:

Independently test all completed bearings by compressive visual inspection according to 02571.30(b). Failure of individual bearings to pass the compressive visual inspection is cause for rejection of those individual bearings.

Replace the paragraph that begins "Independently test five standard test..." with the following paragraph:

Independently test five standard test specimens of laminated pads according to 02571.30(c). Failure of any individual specimen to meet the peel strength test requirements is cause for rejection of the entire bearing production lot. A lot is defined as 50 or less bearings that are manufactured in a reasonably continuous manner from the same batch of elastomer, cured under the same conditions, and are all the same size and type.

02571.30(b) Short-Duration Compression Test - Replace this subsection, except for the subsection number and title, with the following:

Bring all bearings to a temperature of 73 °F ± 10 °F and proof load for a compressive loaded to 1.5 times the maximum design load. Hold the load for 5 minutes, remove, then reapply for a second period of 5 minutes. Maintain the load constant while the bearing is inspected for visual faults. The following is cause for rejection:

- A bulging pattern or patterns implying lack of bond between the elastomer and the laminate or bulging patterns that imply improper laminate placement.
- Three separate surface cracks that are greater than 5/64 inch wide and 5/64 inch deep, or a single crack 3/16 inch deep or wider than 1/4 inch.

02571.30(c) Peel Strength Test - Replace this subsection, except for the subsection number and title, with the following:

Perform a peel strength test according to ASTM D429 Method B, with the exception that the specimens are taken randomly and cut from a production bearing submitted for the Project. Ensure the bond between the elastomer and steel laminate in each specimen is not less than 40 pounds per inch.