

4610100 MULTIROTATIONAL BEARINGS  
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (5-29-20, Industry)

Since I wanted to share our thoughts with the changes we are suggesting I am providing our comments in text format instead of marking up the draft.

461-3 Design We believe that the last paragraph “For disc bearings...” can be taken out since the first paragraph refers to bearing design per AASHTO. AASHTO defines the disc bearing design and specifies the required shore hardness of the polyether urethane disc.

**Response:** The paragraph is required since it implements specific criteria not in AASHTO in order to allow manufacturers’ not to use limiting rings.

461-6.1 General The requirement to” test the materials” is fairly vague and could lead to issues on projects. Can you please define what tests you are looking for here. We always provide the standard material testing from the manufacturer of the polyether urethane disc and the PTFE. We do not run testing on coupons of the materials being used for the bearings but do conduct load and friction testing of the manufactured bearing per lot. The phrase previously mentioned can also be interpreted to the steel components of the bearing. What testing would you be looking for on these components? I have attached the standard testing information we receive from our suppliers. Can you please let me know if this would be adequate.

**Response:** The subject phrase has been part of the specifications and is not part of the revision, therefore no changes are required.

461-6.3 Long Term Deterioration Test, Item 2 I wanted to provide you with the language other states use to cover this test. I have attached the related specification from the IL DOT. Please see Section C. The current language in this draft could significantly increase the cost of FL DOT projects since the bearings performance criteria on one project may not be within 25% of the requirements from a previous project. To give you an idea of the cost to conduct this test which we can run in-house, we estimate this at \$20,000 because of the man-hours required, the power consumption and the fact that the test equipment must be dedicated to this test for a couple of weeks. For manufacturers without this in-house testing capability the costs can be significantly higher and the test could also be delaying projects if the outside labs cannot conduct the test in a timely basis. This AASHTO test was included in the specification to be an indicator of the capability of a supplier to produce a bearing that will perform satisfactorily. It was not intended as a QC/QA procedure to be used on a project by project basis. This is why most states, like Illinois, uses this test to prove the satisfactory performance of a manufacturers bearing and should be run every number of years to ensure that the manufacturer of the bearing is still producing a quality product. Thanks again for the opportunity to comment. Please give me a call if we can provide any additional information. C. Renewal of Prequalification

The Prequalification Long-Term Deterioration Test Package shall require resubmittal on a four year cycle in order to continue supplying HLMR bearings for State contracts. It is the responsibility of the bearing producer to monitor when their bearing system prequalification expires and to resubmit for approval 3 months prior to the expiration date.

**Response:** The proposed revision for the Long-Term Deterioration (LTD) Test provides an additional way for the manufacturers to meet the LTD test by not requiring them to perform a

LTD test on a per lot basis that is required by the current specification. As stated in the AASHTO BCS, “The purpose of the long-term deterioration test is to verify the long-term resistance of the materials to creep, wear, and deterioration.” Therefore, due to the vast range of loading and movement demands of individual bearing that are present in Florida bridges, prequalified bearings must be within 25% of the required demand in order to comply with this provision.

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