

**HLMR BEARING NOTES**

General Notes:

1. Grind smooth all steel surfaces and edges and remove any sharp protrusions. Fabrication tolerances and the limitations on surface finish will be in accordance with Article 505.04(I) of the Standard Specifications.
2. Clean and paint all steel surfaces in accordance with Articles 506.03 and 506.04 of the Standard Specifications. Apply all coats in the fabrication shop only. Do not paint PTFE, stainless steel or the inside of the pot. Apply only prime coat to the contact area between beam bottom flange and top plate and to the bottom side of the bottom plate.
3. Round all PTFE corners to accommodate the machined recess in steel piston.
4. Etch PTFE on one side for bonding into the machined recess.
5. PTFE on the side of guide plate must be pigmented.
6. Prior to the application of adhesive clean all mating steel and PTFE surfaces by grit blasting and degreasing. Apply adhesive as per the manufacturer's recommendation.
7. Mark the thicker edge of the top plate for the purpose of field identification. Place mark on the edge of top plate so that it will be visible after bearing installation.
8. Mark centerline on the sides of top plate and bottom plate. The centerline identification marks will be useful to locate offset distances in the field. Use indelible ink to place all marks.
9. Mark each bearing with the name of the manufacturer and type or model number. Place the identification mark in a permanent manner and location so that it is visible after erection.
10. When the pot is recessed into the bottom plate, seal around the pot perimeter with an approved caulking compound in the shop after paint coating has dried.
11. Ensure all bearing surfaces including the concrete pedestal are level prior to installation of potbearings in accordance with Article 521.05 of the Standard Specifications.
12. Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. One 1/8 inch elastomeric neoprene mat shall be provided for each bearing and placed as shown on bearing details. The cost of the shims and neoprene mat are incidental to the bearings.
13. The bearings shall be blocked during the erection of structural steel.
14. After final bearing placement, fill annular space between bottom plate and anchor bolts with epoxy grout with a minimum compressive strength of 8 ksi.


Materials:

1. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 (ASTM A709) Grade 50W, unless noted otherwise.
2. Threaded studs: ASTM F1554, Grade 105.
3. Anchor bolts: ASTM F1554, Grade 55 and 105 as indicated.
4. Nuts: ASTM A563, Grade DH.
5. Washers: ASTM F436, Type 1.
6. Galvanizing of anchor bolts, nuts and washers per Article 1006.08 of the Standard Specifications.
7. Stainless steel: ASTM A240, Grade 30, Type 304 with an ANSI 0.02 mil surface finish or less.
8. Neoprene disc per Article 1083.02(a) of the Standard Specifications.
9. PTFE sheet: (unfilled, dimpled and lubricated) made from virgin PTFE resin per ASTM D4894. Dimples must have a minimum edge distance of 0.5" and conform to 2010 AASHTO LRFD Bridge Design Specification section 14.7.2.
10. Neoprene mat per Article 1052.02 of the Standard Specifications.

Material Design Parameters:

1. Allowable pressure in elastomer and PTFE:  
Maximum = 3500 psi elastomer and PTFE  
Minimum = 700 psi elastomer
2. Coefficient of friction between PTFE and stainless steel: 0.04
3. Concrete compressive strength:  $f'c = 3500$  psi

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	USER NAME = jmgus	DESIGNED - BWC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLMR BEARING DETAILS - NOTES STRUCTURE NO. 060-0345	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FILE NAME = 0600345-76A91-081-BRG.DGN	CHECKED - LGP	REVISED -			270	60-1B-1	MADISON	712	460
	PLOT SCALE = NONE	DRAWN - JM	REVISED -			CONTRACT NO. 76A91				
	PLOT DATE = 3/18/2011	CHECKED - BSK	REVISED -			ILLINOIS FED. AID PROJECT				
BRIDGE SHEET NO. 81 OF 133 SHEETS										