

**OKLAHOMA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION  
FOR  
BRIDGE BEARING STRUCTURAL STEEL**

These special provisions amend and where in conflict, supersede applicable sections of the 2009 Standard Specifications for Highway Construction, English and Metric.

**724.05 BRIDGE BEARING ASSEMBLIES** (*Replace with the following:*)

**A. Stainless Steel Bearing Assemblies**

For bridge structure anchor plates, provide austenitic stainless steel plate in accordance with ASTM A 240, UNS Designation S31600 ( Type 316) or S31603 ( Type 316L). Charpy V-Notch (CVN) Impact Testing will not be required.

For bridge structure anchor bolts, provide continuously threaded austenitic stainless steel bars in accordance with ASTM A 320, Class 2, Grade B8M, UNS Designation S31600 (Type 316) or S31600 (Type 316L). As an option, anchor bolts manufactured from duplex stainless steel meeting the following requirements may be provided:

- Use Duplex (UNS S32304) solid stainless steel
- Provide 58ksi (400MPa) minimum yield strength when tested in accordance with the requirements of ASTM A276.
- Provide steel meeting the requirements of ASTM A276 and ASTM A955 from an ISO9001 certified manufacturing facility.
- Remove rolling scale from the surface of the duplex stainless steel bar by acid pickling.

Provide austenitic stainless steel nuts for anchor bolts in accordance with ASTM A 194, Grade 8M, Class 1. Charpy V-Notch (CVN) Impact Testing will not be required.

Provide austenitic stainless steel washers for anchor bolts in accordance with ASTM A 320, UNS Designation S31600 (Type 316) or S31600 (Type 316L). Charpy V-Notch (CVN) Impact Testing and strain hardening will not be required.

When welding stainless steel or welding to stainless steel, ensure all welding complies with ANSI/AASHTO/AWS D1.6, "Structural Welding Code - Stainless Steel," and ensure the deposited weld metal has an atmospheric corrosion resistance and coloring characteristics similar to the base metal. Comply with the steel manufacturer's recommendations, Table 724:5, and ANSI/AASHTO/AWS D1.6, "Structural Welding Code - Stainless Steel."

Table 724:5  
Filler Metal Specifications for Stainless Steel

Filler Metal	Specification
Shielded metal arc welding (SMAW) electrodes	ANSI/AWS A5.4
Electrodes and fluxes for submerged arc welding (SAW)	ANSI/AWS A5.9
Electrodes for gas metal arc welding (GMAW)	ANSI/AWS A5.9
Electrodes for flux-cored arc welding (FCAW)	ANSI/AWS A5.22

Ensure electrodes and electrode-flux combinations are compatible with the type and thickness of the welded steel. Use electrodes and electrode-flux combinations with the type current, polarity, and positions in accordance with ANSI/AASHTO/AWS D1.6, "Structural Welding Code - Stainless Steel."

#### **B. Weathering Steel Bearing Assemblies**

For bridge structure anchor plates, provide structural steel plate and angles in accordance with AASHTO M270 (ASTM A 709), Grade 50W. Charpy V-Notch (CVN) Impact Testing will not be required. Paint the structural steel anchor plates after all welding in accordance with Section 512. Use a category "N", IZ-E-U paint system in accordance with subsection 512.04.B.(2). Coat all faying surfaces with inorganic zinc primer only. Apply the primer coat at the fabrication facility, and the intermediate and top coats at the project site.

For bridge structure anchor bolts, provide continuously threaded steel bars in accordance with AASHTO M 270 (ASTM A 709), Grade 50W. Charpy V-Notch (CVN) Impact Testing will not be required. Galvanize the anchor bolts in accordance with subsection 724.06.

Provide steel nuts for anchor bolts in accordance with AASHTO M 291 (ASTM A 563), Grade C3 or DH3. Galvanize the nuts in accordance with subsection 724.06.

Provide steel washers for anchor bolts in accordance with AASHTO M293 (ASTM F 436), Type 3, circular. Galvanize the washers in accordance with subsection 724.06.

Welding of weathering steel bearing assemblies will be in accordance with Section 724.03.