

## **Section 710. — FENCE AND GUARDRAIL**

**710.01 Barbed Wire.** Furnish galvanized wire conforming to AASHTO M 280 or aluminum coated wire conforming to AASHTO M 305, type I.

**710.02 Woven Wire.** Furnish galvanized fabric conforming to AASHTO M 279 or aluminum coated fabric conforming to ASTM A 584.

**710.03 Chain Link Fence.** Furnish fabric, posts, rails, ties, bands, bars, rods, and other fittings and hardware conforming to AASHTO M 181.

Furnish 4.5-millimeter coiled spring steel tension wire conforming to ASTM A 641M hard temper with a class 3 galvanized coating or an aluminized coating having a minimum coating mass of 120 grams per square meter of aluminum. Use the same coating on the tension wire as used on the rest of the chain link fence.

### **710.04 Fence Posts and Bollards.**

**(a) Wood.** Conform to AASHTO M 168.

Peel all bark, except for red cedar posts and bracing, which do not require peeling. Trim all knots flush with the surface and season the wood.

For dimension lumber for fences, bollards, or gates, use timber that is sound, straight, and reasonably free from knots, splits, and shakes. Provide S4S finish.

**(b) Concrete.** Conform to Section 601.

**(c) Steel.** For line fence posts, conform to AASHTO M 281. For chain link fence, conform to AASHTO M 181.

**710.05 Fence Gates.** For frame gates used with chain link fences, conform to AASHTO M 181. Use the same chain link fabric in the gate and the fence.

**710.06 Metal Beam Rail.** Conform to AASHTO-AGC-ARTBA *A Guide to Standardized Highway Barrier Hardware*.

**(a) Galvanized steel rail.** Furnish W-beam or thrie beam rail elements fabricated from corrugated sheet steel conforming to AASHTO M 180 for the designated shape, class, type, and mass of coating specified.

**(b) Corrosion resistant steel rail.** Furnish W-beam or thrie beam rail elements and associated weathering steel hardware conforming to the following:

- |                       |              |
|-----------------------|--------------|
| (1) Shapes and plates | ASTM A 242   |
| (2) Rail elements     | AASHTO M 180 |
| (3) Fasteners         | AASHTO M 180 |

**710.07 Box Beam Rail.** Furnish steel box beam rail elements conforming to the AASHTO-AGC-ARTBA *A Guide to Standardized Highway Barrier Hardware*.

**710.08 Steel-Backed Timber Rail.** Furnish timber conforming to AASHTO M 168. Fabricate the timber rail, blockouts, and posts from dry, well seasoned, and dressed rough sawn Douglas fir, southern pine, or other species having a stress grade of at least 10 megapascals. Treat the timber rail, blockout elements, and posts according to AASHTO M 133.

Fabricate the steel backing elements from 9.5-millimeter structural steel conforming to ASTM A 242. For fastener hardware, conform to ASTM A 242.

**710.09 Guardrail Posts.** Conform to AASHTO-AGC-ARTBA *A Guide to Standardized Highway Barrier Hardware*.

Do not use a wood guardrail post that has a through check, shake, or end slit in the same plane as, or a plane parallel to the bolt hole and extending from the top of the post to within 75 millimeters of the bolt hole.

For steel-backed timber rail posts, furnish 250 by 300-millimeter posts conforming to Subsection 710.08.

**710.10 Guardrail Hardware.** Conform to the AASHTO-AGC-ARTBA *A Guide to Standardized Highway Barrier Hardware*.

For angles, channels, wide flanges, and plates not contained in the above standard, conform to ASTM A 36M. For structural tubing for short steel posts, conform to ASTM A 500 or ASTM A 513, grade 1008. Galvanize soil plates and structural tubing according to AASHTO M 111M. Do not punch, drill, cut, or weld the metal after galvanizing.

Manufacture reflector tabs from 4-millimeter aluminum or galvanized steel sheets. Use an adhesive that resists peeling with a force of 0.89 kilograms per centimeter of width. Use mildew-resistant adhesive that has no staining effect on retroreflective sheeting.

**710.11 Temporary Plastic Fence.** Furnish plastic noncorrosive fence fabricated from polyethylene (HDPE) and UV stabilized for outdoor weathering. Conform to the following:

- |                   |                      |
|-------------------|----------------------|
| (a) Height        | 1200 mm min.         |
| (b) Mesh openings | 80 to 85 mm          |
| (c) Color         | International orange |
| (d) Mass          | 0.25 kg/m min.       |