
Material Specification 591—Field Fencing Material

1. Scope

This specification provides the minimum quality requirements for the material used in the construction of field fences.

2. Wire gauge

When the size of steel wire is designated by gage number, the diameter shall be as defined for U.S. Steel Wire Gauge.

3. Fencing

Fencing material shall conform to the requirements of ASTM A 121 for barbed wire, ASTM A 116 for woven wire, ASTM A 390 for poultry fence or netting, and ASTM A 854 for high-tensile wire. Barbed wire and woven wire shall be class 3 zinc coated as specified in ASTM A 641 unless otherwise specified. High-tensile wire shall have type I zinc coating unless otherwise specified.

4. Stays, fasteners, and tension wire

Stays and fasteners shall conform to the requirements of the appropriate ASTM for the fencing material specified unless otherwise specified. Tension wires shall have a tensile strength not less than 58,000 pounds per square inch. Stays, fasteners and tension wire shall have class 3 zinc coating as specified in ASTM A 641 unless otherwise specified.

5. Wood fence posts and braces

Unless otherwise specified, wood posts shall be naturally rot resistant, preservative-treated, or other wood of equal life and strength. At least half the diameter or diagonal dimension of naturally rot resistant posts shall be in heartwood. Provide new wood posts that are sound, free from decay with all limbs trimmed substantially flush with the body. All posts shall be substantially straight throughout their full length. Make tops convex rounded or inclined. Provide posts free of ring shake, season cracks more than a quarter-inch wide, splits in the end, and unsound knots. Pine shall be pressure treated in conformance with Material Specification 585, Wood Preservatives and Treatment. Wood braces shall be of wood material equal to or better than construction grade Douglas fir. Wood braces shall be pressure treated in conformance with Material Specification 585.

6. Steel fence posts and braces

Steel fence posts and braces shall conform to the requirements of ASTM A 702 for steel fence posts and ASTM A 53 for bracing pipes. Posts with punched tabs for fastening the wires shall not be installed.

7. Concrete fence posts

Concrete fence posts shall be manufactured to the specified requirements of size, shape, and strength.

8. Panel gates

Panel gates shall be the specified types, sizes, and quality and shall include the necessary fittings required for installation. Gates shall be of rigid construction free from sag or twist. The fittings shall consist of not less than two hinges and one latch or galvanized chain for fastening. Latches shall be of such design that a padlock may be used for locking. All fittings shall not be of lesser quality than the gate manufacturer's standard.

9. Wire gates

Wire gates shall be the type shown on the drawings, constructed in accordance with specifications, at the locations, and to the dimensions shown on the drawings. The material shall conform to the kinds, grades, and sizes specified for new fence, and shall include the necessary fittings and stays.

10. Staples

Staples required to secure the fence wire to wood posts shall be 9-gauge galvanized wire with a minimum length of 1.5 inches for soft woods and a minimum length of 1 inch for close-grain hardwoods.

11. Galvanizing

All iron and steel fencing material, except as otherwise specified, shall be zinc coated by the hot dip process meeting the requirements of Material Specification 582. Clips, bolts, and other small hardware may be protected by electro-deposited zinc or cadmium coating.

