



Practice Specification Fence (Code 382) Woven

Intended Use of Fence

Fences are constructed to provide a means to control the movement of animals, people, and vehicles to accomplish specific conservation objectives.

Woven Wire Fences may be designed or installed as permanent use.

The type and class of livestock, as well as the degree of control needed, will have a specific influence in the type of fence selected. Consider the following in the planning process:

- The number and spacing of fence wires
- The height of the fence
- The need for an electric component to the system
- The terrain
- The lifespan of the materials
- The operation and maintenance of the fence

Permanent fencing is intended to be in place for long periods of time with minimum maintenance requirements; therefore, it should be built with durable materials and constructed to endure a 20 year or longer life span. Permanent fences are most often used for grazing, property boundaries, or when excluding animals or humans from woodland or sensitive areas.

Types of Fence

Barbed wire top wire is commonly used as a top wire on permanent woven wire fencing for perimeter fences, land use boundaries, exclusion, livestock containment and isolation areas.

Woven wire fences consist of a series of horizontal (line) wires and vertical (stay) wires and are offered in two main types including “hinge joint” and “continuous stay fixed knot.”

In a hinge joint woven wire fence the vertical stays wrap around the line wires. In a continuous stay fixed knot fence the vertical stay wires are fixed with another separate wire to the line wire. Both main fence types come in various designs (line and stay spacing), tensile strength grades, and metallic coating types and grades. High tensile continuous stay fixed knot woven wire 12½ gauge may be used for all animals as specified by manufacturer.

Spacing

Line Post Spacings are different for the High Tensile Fixed Knot Fence and the Conventional Low Carbon Hinge Joint Field Fence. See page (2) two of this specification.

Electric fence top wire may be used. The electrical power source can be from 110v or 220v electrical current or from a battery. Batteries may be re-charged by solar or electrical power. Livestock must be trained to respect electric fence.

Wire

Fences will be constructed of at least five horizontal wires woven plus at least one wire either barbed or electrified smooth. Conventional woven wire shall be at least 32 inches high, have 9-11 gauge or larger top and bottom strands, 12 1/2 -14 1/2 gauge or larger intermediate and stay wires, with stay wires spaced not more than twelve inches on center. High tensile woven wire shall be at least 32 inches high, have 12 ½ gauge or larger top and bottom strands, 14 gauge or larger intermediate and stay wires, with stay wires spaced not more than twelve inches on center.

At least 1 strand of barbed wire or energized,

high tensile, smooth wire must be placed above the woven wire or a wooden board may be affixed above the woven wire. Barbed wire shall be double strand 12 ½ - 15 ½ gauge or larger. High tensile energized wire will be 12 ½ gauge, minimum 170,000 p.s.i. break strength.

Total height to the top (barbed or electrified) wire of the fence is to be determined on a site specific basis depending upon terrain and livestock species/class/frame score, but not less than 42 inches. All wire shall be new galvanized or aluminum coated material. Note: In flood prone zones where the primary purpose of the fence is exclusion, woven wire is not recommended.

Posts

Wood Line Posts

New, untreated posts of such species as cedar, locust or Osage Orange, or non-durable wood properly treated with a wood preservative may be used. Top diameter for wooden line posts shall be a minimum of 4 inches. The length of line posts must be a minimum of 6 feet long and sufficient to provide for the construction of at least a 42 inch high (minimum) fence, permit stapling of the top wire without splitting, and to allow the post to be set in the ground to a minimum depth of 24 inches. When line posts are set in depressions or low places, posts should be anchored. Wood preservative should meet industry standard for "ground contact".

Line posts will be spaced at a maximum interval of 25 feet apart for High Tensile Continuous Stay Fixed Knot Woven Wire.

Line posts will be spaced at a maximum interval of 14 feet apart for conventional low carbon hinge joint field fence woven wire.

Every third line post shall be wood.

Steel Line Posts

Standard "T" or "U" section steel posts may be used in lieu of wooden line posts. The length of steel line posts must be a minimum of 5 1/2 feet and set in the ground to a minimum depth of 18 inches. Wire shall be attached to the posts by wrapping with 12 1/2 to 14 gauge galvanized wire or by use of the manufacturer's specially designed clips. In rolling terrain, steel posts shall not be used exclusively as line posts. Every third post shall be wood.

Steel line posts will be spaced at a maximum interval of 25 feet apart for High Tensile Continuous Stay Fixed Knot Woven Wire.

Steel line posts will be spaced at a maximum interval of 14 feet apart for conventional low carbon hinge joint field fence woven wire

Wood Corner, Gate and Brace Posts

New, untreated posts of such species as cedar, locust or Osage Orange, or non-durable wood properly treated with a wood preservative may be used. Top diameter for wooden brace and corner posts shall be a minimum of 6 inches.

Minimum length shall be 8 feet to allow at least a 42 inch high fence. Post length must also permit setting brace and corner posts at least 36 inches in the ground by either being driven or set and tamped or set in at least 30 inches of concrete. Length must also permit stapling of the top wire without splitting.

Gate posts shall be of sufficient construction to support the gate assembly. Gate posts used in brace and corner situations will require the same specifications as mentioned previously for brace and corner posts.

Wood preservative should meet industry standard for "ground contact".

Bracing

Brace Assemblies

Bracing is required at all corners, gates, ends and at all angles greater than 20 degrees. (In an 8-foot long section, 20 degrees is approximately 3 feet off the straight line). All fence bracing/pull post assemblies and stretch distances must be installed in consideration of fence type, terrain, soil conditions and other site specific conditions.

Brace assemblies for Conventional Low Carbon Hinge Joint Field Fence should be installed at distances not to exceed 330 feet apart.

Brace assemblies for High Tensile Fixed Knot Woven Wire Fence should be installed at distances not to exceed 660 feet apart.

Generally stretch distances for all fencing shall be reduced on rough terrain. All fence bracing/ pull post assemblies and stretch distances must be installed consistent with the wire manufacturer's recommendations. The brace wire shall be tightened to secure the brace and pull post assemblies.

The selection of brace wire can be soft 9 ga wire or 12.5 ga high tensile wire. The 9 ga brace wire and 12.5 ga high tensile wire should be wrapped around the posts in two loops or two wire strands on each side of the brace posts and rail. The wire can be tensioned with a 3/16 inch cable and a ceramic roller friction device, a ratchet type strainer or a spool type tensioner.

If a wide stream or gully is to be crossed, the fence section will be terminated on one bank with a brace assembly and a new section started on the other bank. A floodgate or water gap will be installed across the stream or gully to restrain livestock and constructed so as to minimize debris buildup and prevent structural damage to the line fence on either side during flooding events.

Brace Rails

Brace rails (horizontal brace) shall be either 2 inch diameter by 10 foot long galvanized steel pipe, or a 4 inch by 4 inch square (8) eight foot long timber, or a 3 1/2 inch minimum diameter (8) eight foot long round post or pole. Horizontal braces will be attached to posts using galvanized steel pins at least 3/8 inch diameter and at least 10 inches long.

The longer the brace rail the stronger the brace assembly.

7. Specific Site Requirements