

NATURAL RESOURCES CONSERVATION SERVICE**CONSTRUCTION SPECIFICATIONS****FENCE - WOVEN WIRE**

(Foot)

CODE 382**II. Woven Wire**

(See Standard Drawing Number FEN-382-WOV.)

A. Wire Spacing

The base of the woven wire shall be placed near the ground surface. The top wire shall be at least 42 inches above ground level and 2 inches below the top of posts on wood posts and 1 inch below top of steel posts. Fences constructed with woven wire less than 39 inches in height shall have at least two barbed or one or more high tensile electric wires above the woven wire. The spacing between the woven wire and the first barbed wire shall be a maximum of 4 inches or for high tensile electric wire, 6-10 inches. The spacing between wires shall be 10 inches or less. Do not use barbed wire as an electric wire!

Fences constructed with woven wire higher than 39 inches shall have at least one barbed or smooth electric wire. The spacing between the woven wire and the barbed wire shall be a maximum of 4 inches or 6-10 inches, if high tensile electric wire.

B. Type Wire

Top and bottom strands of woven wire shall be 12½-gauge or heavier and 14½-gauge or heavier wire for intermediate strands. The wire specifications for the barbed wire shall be the same as for a barbed wire fence. High tensile woven wire may also be used.

C. Pull Assemblies

Two posts with braces shall be spaced at intervals not to exceed 330 feet (20 rods) for woven wire in straight sections of the fence. Wire must be kept tight.

D. Post Spacing, Length, and Depth

First, install posts in dips and rises. Standard woven wire fences shall have a maximum post spacing of 14 feet. High tensile woven wire maximum post spacing is 25 feet.

Wood posts must have a minimum length of 6 feet and set or driven to a minimum depth of 24 inches. When

set, earthfill placed back around posts shall be thoroughly tamped. Wooden line posts shall have a 3-inch top commercial size (2½ inches for Osage Orange).

Steel posts shall be driven a minimum of 18 inches deep. Use standard “T” shaped steel posts a minimum of 5.5 feet long.

Post spacing in areas shallow to rock may vary based on availability of post sites. Probe with a rock probe to determine desirable post sites. Steel pipe and posts are recommended to use in cracks between rocks. Concrete in posts, where possible. Rock bits are available in some areas for drilling rock. Use stays to maintain post spacing. Posts set in a five-gallon bucket of concrete may be used as a line post. Bury as deep as possible. Use live trees as posts where needed (See section F).

E. Line Posts

All wooden posts (except Red Cedar, Osage Orange, or Black Locust) shall be treated with pentachlorophenol, creosote, chromated copper arsenate (CCA) by a method to ensure that complete penetration of the sapwood is obtained.

At least half the diameter of red cedar shall be heartwood. Quality of treated wood shall provide sufficient strength and last for the expected life of the fence.

Pressure treatment shall conform to Material Specification 585. If

treated wood posts are cut off, treat cut with pitch.

Steel posts shall be rolled from high carbon steel and have a protective coating, either galvanized by the hot dip process, painted with one or more coats of high-grade weather-resistant steel paint, or enameled and baked. Steel posts shall be studded, embossed, or punched to aid in the attachment of the wire. Steel posts shall weigh not less than 1.25 pounds per foot of length. For lightning protection, steel posts should be driven every 100 feet to act as a ground, if other forms of grounding are not used.

F. Live Trees as Line, Bracing, and Corner Posts

Live trees used for corner, bracing, and line posts shall have a diameter breast height (DBH) equal to or greater than those prescribed for normal wooden posts.

Some alignment variation shall be allowed, but caution should be taken to minimize offsets.

Wire or insulators will not be fastened directly to trees. When using live trees, protection will be provided between the tree and wire or insulators (CCA treated 2 x 4's, fiberglass, or rigid plastic strip).

Do not wrap wire around the tree. Tie off to 6-inch lag eye bolts screwed into the tree.

**G. Corner, Gate, or End Assembly
(See Standard Drawing Numbers
FEN-382-BR1 and BR2.)**

Braces and end assemblies are required at all corners, gates, and angles up to 150 degrees in the fence line. Tying off wires at the corner posts will lessen stress on them. No brace assembly is required for angles between 150 and 180 degrees; however, use a 6-inch diameter post as a corner post. Lean the corner post 2 inches or more away from the direction of pull.

Brace assemblies will be H-brace, N-brace, or a floating angle brace. Posts will be 6-inch nominal wood or 2.5-inch nominal steel pipe (capped). Steel pipe shall be set in 30 inches of concrete. Wood posts will be sufficient length for the construction of at least a 42-inch-high fence and permit driving or setting the post at least 36 inches deep. Earth backfill shall be thoroughly tamped. If concrete is used, set the posts a minimum of 30 inches deep.

Posts of equivalent strength may be substituted, if they have suitable means of attaching wires and braces. Wood posts will be at least 2 inches higher than the top wire of the fence to prevent splitting.

Posts of other materials shall be at least 1 inch higher than the top wire of the fence.

H. Bracing

**(See Standard Drawing Numbers
FEN-382-BR1 and BR2.)**

The brace member shall be the equivalent of a 4-inch top diameter post or standard weight galvanized steel pipe of 1 5/8-inch diameter installed at least 3 feet aboveground or between the top two wires, whichever is higher. Place brace at least 8 inches below the top of post. The brace member shall be at least 6 feet long or 2.5 times the height of the top wire (i.e., 42 inches x 2.5 = 105 inches or 8.75 feet).

The brace wire shall be number 9-gauge smooth wire or 12-1/2-gauge high tensile strength smooth wire. Twist sticks, or inline strainers will be used to tighten brace wire.

I. Staples and Wire Fasteners

Staples shall be of 9-gauge steel or heavier with a minimum length of 1½ inches for softwoods and a minimum length of 1 inch for close-grained hardwoods. Barbed staples shall be used for pressure-treated posts. Drive staple diagonally to the wood's grain and at a slight downward angle (upward if pull is up) to avoid splitting posts and loosening of staples. Space should be left between staple and post to permit free movement of wire. Barbed staples shall be used for pressure treated posts.

Wires may be attached to steel posts by use of manufacturer's clips or by two turns of 14-gauge galvanized wire.