

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSTRUCTION SPECIFICATIONS**

**FENCE - BARBED WIRE**

**(Ft.)**

**CODE 382**

**I. Barbed Wire**

**(See Standard Drawing Number FEN-382-BRB.)**

**A. Wire Spacing**

Barbed wire fences shall have a minimum of four wires for farm borders. A minimum of three wires shall be used for cross fencing or excluding livestock from special areas such as wildlife, forested, or other special use areas. Wires shall be spaced approximately an equal distance apart. The top wire shall be at least 42 inches high and placed 2 inches below the top of post on wood posts and 1 inch below the top on steel posts. The bottom wire shall be 12 to 18 inches above ground level.

**B. Type of Wire**

Each line wire may consist of two twisted strands of 12 ½-gauge wire or high tensile strength wire of 15 ½-gauge. The barbs shall be either 1- or 4-point barbs on approximately 4-inch centers, or 4-point barbs on approximately 5-inch centers. Attach wires to the side of the post closest to the livestock, except on corners. Place wire on outside of corner.

**C. Pull Assemblies**

Two posts with braces shall be spaced at intervals not to exceed 1,320 feet (80 rods) for barbed wire in straight sections of the fence. Wires must be kept tight.

**D. Post Spacing, Length, and Depth**

Standard fences shall have a maximum post spacing of 14 feet unless stays are used between posts, and then posts shall not exceed 18 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).

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

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 steel 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 line posts. Bury as deep as possible. Use live trees as posts where needed (See Section F).

**E. Line Posts and Stays**

1. Australian ironwood (eucalyptus), 1 x 1.5 inches in diameter.
2. Fiberglass, rigid plastic, and polyvinylchloride solid round sucker rod of at least 5/8 inch in diameter.
3. Fiberglass T-posts and stays of at least 1 inch in cross-section.

For the above posts, attach wire to posts by loose clips or by running through holes in posts. Attach to stays with tight clips to hold in place.

4. Use wood posts of black locust, red cedar, Osage Orange, redwood, pressure-treated pine, or other wood of equal life and strength. At least one-half of the diameter of the red cedar and redwood posts shall be heartwood. Pressure treatment shall conform to Materials Specification 585. Line posts

shall be at least 3 inches in diameter.

Steel posts may be “T” posts that are a minimum of 1.25 pounds per one 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, 4.5 feet aboveground) 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 will not be fastened directly to trees. When using live trees, protection will be provided between the tree and wire (CCA treated 2 x 4’s, fiberglass, or rigid plastic strip). Do not attach wire to high-value timber species or short-lived species such as elm and musselewood. Do not use fast-growing trees as end posts. Do not wrap wire around the tree. Tie off to a 6-inch lag eye bolt screwed into the tree.

**G. Corner, Gate, End or Pull Assembly, and Brace Posts (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, do use a 6-inch diameter post as a corner post. Lean the corner post 2 inches or more away from the direction of pull.

Corner, gate, and end or pull assemblies will be an H-brace, N-brace assembly, or a floating angle brace. Posts will be 6-inch nominal wood or 2.5-inch nominal steel pipe (capped). Steel posts 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 posts 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 the post. The brace member shall be at least 6 feet long or 2.5 times the height of the top wire (i.e., 42" x 2.5 = 105" or 8.75').

Brace wire composed of number 9-gauge smooth wire or 12½-gauge high tensile strength smooth wire may be used. 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 pine 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.

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