

CONSTRUCTION SPECIFICATION

NATURAL RESOURCES CONSERVATION SERVICE

FENCE - WOODEN BOARD

(Ft.)

CODE 382

1. Scope

1. Board Spacing

The top of the top board shall be at least 42 in. above ground level and 2 in. below the top of posts on wood posts. Install a minimum of 3 horizontal boards or rails. Space the boards 12 in. to 14 in. apart on center.

Place horizontal boards on the side of posts having livestock. If boards are on the side away from livestock, install one or more barbed or electric wires at nose height of the animal being controlled.

Stagger rail joints so they don't hit the same on every post. For example for a three plank fence, posts would alternately have two or one joint. For a four plank fence, every post would have two joints.

Install a vertical face board to cover joints on every post and two on corners.

2. Type of Board

The horizontal boards shall be a minimum of 1 in. x 5 in. and 12 ft. long. Lumber shall be treated with creosote or comparable preservative. Treatment will meet the American Wood Preservers' Association (AWPA) U1-06/UC3B standard. If painting is desired, lumber shall be treated with an anti-fungal agent or a waterborne preservative such as acid copper chromate, not creosote.

3. Pull Assemblies

Pull assemblies are not required unless more than two wires are pulled in addition to board fence. If more than two wires are pulled see bracing for that type of wire.

4. Post Spacing, Length, and Depth

Space posts 6 to 8 ft. apart to accommodate selected rail length. Rail length may range between 12 and 16 feet.

Wood posts must have a minimum length of 6 feet and set or driven to a minimum depth of 24 inches. When posts are set, earthfill placed back around posts shall be thoroughly tamped. Wooden line posts shall have a minimum 3-in. top diameter.

Post spacing in areas shallow to rock may vary based on availability of post sites. Probe ground with a rock probe to determine desirable post sites. Rock bits are available in some areas for drilling rock. Posts set 5 gallon buckets of concrete, may be used as a line post. Bury buckets as deep as

possible. Use live trees as post only where soils are shallow, See **6. Live Trees as Line, Bracing, and Corner Posts**

5. Line Posts

All wooden posts (except Red Cedar, Osage Orange, or Black Locust) shall be treated according to use category UC4A of the AWPA, U1-06 (See Table 1 below):

Table 1: Minimum treatment rate for selected preservatives				
Use Category	Minimum Retention Rate (pcf)			
	CCA	ACQ*	CBA-A	CA-B
UC3*	0.25	0.25	0.20	0.10
UC4A*	0.4	0.4	0.41	0.21

UC3* refers to exterior construction, above ground, uncoated or poor water run-off. UC4A* refers to Ground Contact or fresh water, non-critical components.

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.* If ACQ preservative is used, then do not allow aluminum wires or staples to be used with this treated wood. Use only galvanized metals.

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

Only use live trees in areas where soils are shallow. 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 (UC3 treated 2 x 4's, fiberglass, or rigid plastic strip).

7. Corner, Gate, or End Assembly

Bracing is not required for a board fence. However, when bracing is used, the brace member shall be the equivalent of a 4 in. top diameter post or standard weight galvanized steel pipe of 2 in. diameter installed at least 3 ft. above ground, or between the top two wires, whichever is higher. Place brace at least 8 in. below the top of post. The brace member shall be at least 6 ft. long or 2.5 times the height of the top wire (i.e., 42 in. x 2.5 = 105 in. or 8.75 ft).

The brace wire shall be number 9 gauge smooth wire or 12½-gauge high tensile strength smooth wire. Twist sticks or inline strainers will be used to tighten brace wire.

8. Fasteners

Attach each rail or horizontal board with two 16d galvanized or equivalent treated nails or screws. On each post install a face board with one nail in each horizontal plank. So for a 3 rail fence, use at least two nails or screws in each horizontal rail and at least six nails or screws in the face board for a total of at least 18 nails or screws per post.