



# Electric Fence FAQ's

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**Q: What size Energizer (Joules)?**

**A: Rule of Thumb – Multiply the Max output Joule Rating x 6 = miles of fence  
(5.0 Joule x 6 = 30 miles)**

**Q: “Grounding” How many ground rods?**

**A: Energizers usually list the amount needed for each type of animal but many require at least 3- six foot galvanized ground rods space 10' apart. In-Line ground rods need to be between 20 to 50' away from last energizer ground.**

**Q: Wire Spacing?**

**A: 6 strand Barb wire & HT requires minimum of 6 wires starting at 4" at the bottom and go 6"+6"+6"+8"+10".**

**Q: Post Spacing**

**A: Barb wire 12 to 20 ft**

**A: HT 20 to 30 ft or greater**

**Q: How long will barb wire or field mesh fence last versus HT electric?**

**A: Normally since livestock will not come in contact with the wire electric should last twice as long.**

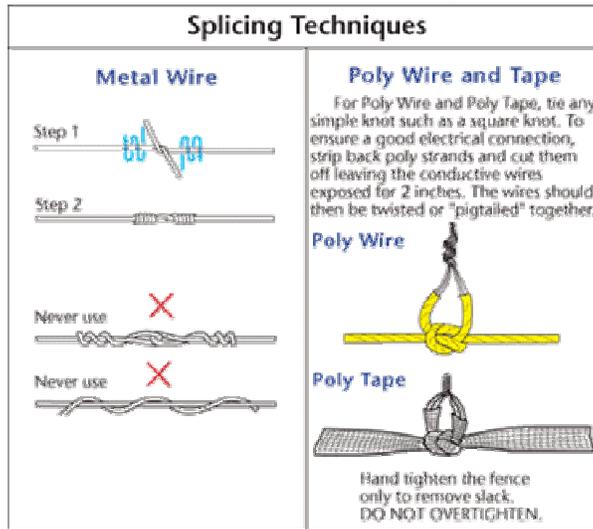
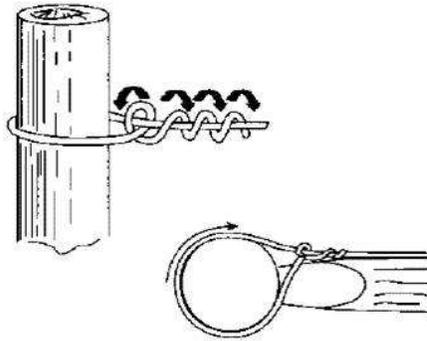
**Q: How should you splice wire?**

**A: With new technology today you probably should use some type of gripper or crimp but below are some suggest splices. Incorrectly joined wires can be a major cause of power leakage.**



**Q: How should corner be tied off?**

**A: Use a New Zealand self locking knot as shown (Max 8" insulator to post)**



**Q: What are the differences in wire sizes and type?**

**A: Choices of wire size range from 9# (largest-clothes line), 12.5 ga, 14 ga, 17 ga. (smallest) and types can be polytape or polywire, galvanized steel (Class I, II, III), maxishock, and cable.**

**Q: What types of post are available?**

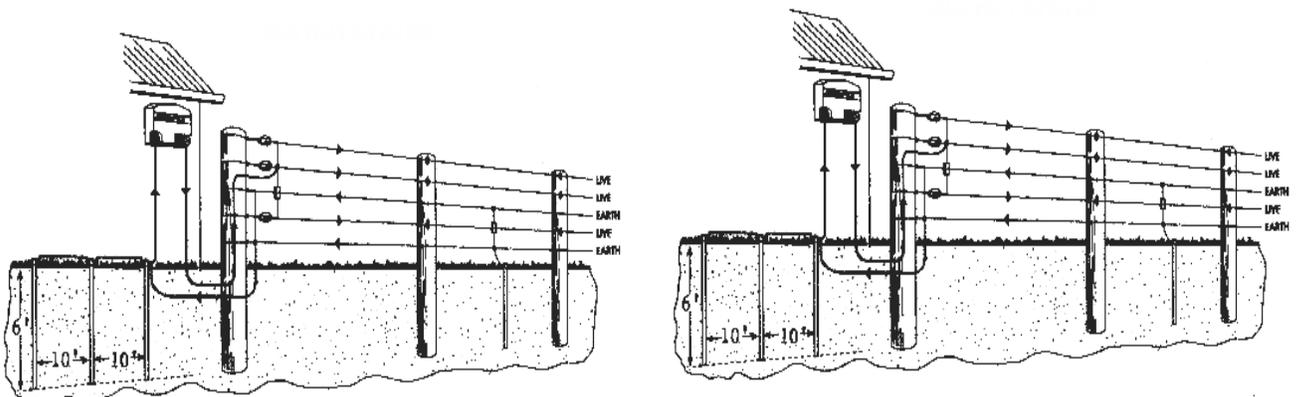
**A: The kinds of post available include wood, fiber glass, plastic, steel, and low-conductivity composites.**

**Q: What size wire should be used for the lead out?**

**A: A 12½ gauge double insulated cable should be used as the lead out. Larger diameter wire creates less resistance and therefore has better current flow. Aluminum is a better conductor than steel however cost can be prohibitive.**

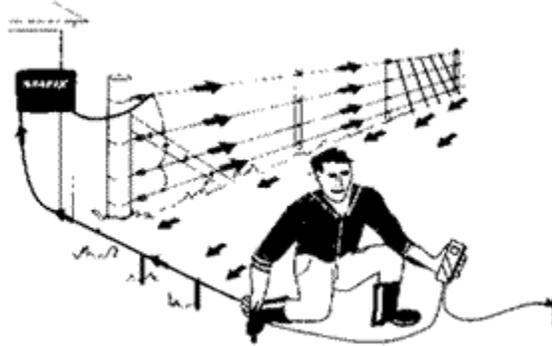
**Q: Do Fences need to be all "hot" or can you alternate "hot" and "ground"?**

**A: Both types can be used but make sure ground wires are connected to a ground rod to provide the best results.**



## TESTING YOUR GROUND EARTH RETURN

Create a dead short by placing enough steel stakes against the fence line to reduce the voltage to 1000 volts or less. These stakes should be at least 330ft from the ground system. Connect one clip from your Digital Voltmeter to the last ground rod. Connect the other clip to a small stake placed in the ground at least 3ft from any other ground rods. The reading on the Voltmeter should be 0.3 kV or less. If it is greater than this, the ground system is inadequate and more ground rods will need to be added.



## TESTING YOUR FENCE EARTH RETURN

Do this test as close as possible to the end of the fence line. Place a steel rod or stake at least 1ft into the ground, preferably into damp soil. Measure the voltage between the ground wires and live wires on the fence and then between the steel rod and the live wires. The voltage between the ground stake and live wire should not be more than 0.3kV greater than the voltage between the live and ground wire. If the difference is greater than 0.3 kV then check the ground return wire for loose connections. Also remember to check the live wires. If the live wires are alright you will need to add more ground rods along the fence line and attach these to the ground wires.

## LIGHTNING PROTECTION

Lightning can cause serious damage to your energizer. When lightning strikes close to (or directly on) an electric fence, it causes a massive surge in voltage which flows back to your energizer to find the quickest path to earth.

The only fail safe method to avoid damage occurring to your energizer during an electrical storm is to disconnect it from the fence line and from the mains power supply. For safety reasons, never disconnect the energizer during an electrical storm.

A practical alternative to this is to install a Lightning Diverter Kit. The kit contains all the components needed including a choke. The choke creates a blocking effect for the extremely high voltages caused by lightning. The voltage is blocked by the choke and diverted across the arrestor to earth. The ground system on the lightning arrestor must be as good as, or better than, the ground system for the energizer.

For the best possible protection install the Lightning Diverter as close as possible to the energizer. This can either be in the lead-out or in the first section of fence line. Full instructions are supplied with each kit.

# Fence Cost

Comparison: Barb vs Electric  
80 Acres

Perimeter (7468 ft) Cost

Barb Wire		HT Woven Electric	
Wood Post	\$125	Wood Post	\$125
T-Post (12')	\$2005	Fiber Composite (21')	\$2390
Wire (5 strand)	<u>\$3650</u>	Wire (HT Mesh + Gr)	<u>\$2550</u>
Total	\$5780	Total	\$5065



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