



Wood Crossarms: Six Overlooked Benefits From a Century of Performance

In overhead line systems, one of the most underappreciated, yet essential components in carrying power and communications is the wood crossarm. With more than 150 million utility poles in service in North America, there are a similar number of wood crossarms delivering electricity and communications throughout the continent.

Wood crossarms remain the top choice for utilities, despite alternative materials that have entered the field. Often lost in the rush toward “new and innovative” are the reasons why utilities regularly choose wood crossarms to carry wires and equipment critical to distributing electricity, telephone and cable services.

1 Proven performance

With more than a century of service in all climates, wood crossarms have a documented record of long-lasting performance that extends for decades. Alternatives such as composite fiberglass crossarms claim long service life, but have been in use for a relatively short time compared to wood. Studies that simulate accelerated weathering and extended ultraviolet light (UV) exposure indicate composite crossarms do degrade over time in ways that can impact long-term service.

2 Strength and structure

All crossarms, no matter the material, must meet minimum strength requirements as specified under the National Electrical Safety Code for overhead line systems. Claims that one material is stronger than another is meaningless in context of the code and often such claims are not confirmed by any independent testing. It is known that because of natural variations, wood crossarms have more resiliency to handle extreme loads when trees or other debris collapse into power lines. Alternative materials can be much stiffer, which under extreme conditions can break poles at the top.

3 Weighty question

It's typically assumed other crossarm materials, such as composite fiberglass, are significantly lighter than wood. Those assumptions, however, are often incorrect when it comes to putting a crossarm into service. Wood crossarms are drilled and prepared for hardware prior to treating, so necessary equipment can be attached when a lineworker is on the pole. By comparison, composite fiberglass crossarms require special brackets, which are often attached to the crossarm when delivered to the utility. The combined weight of the fiberglass crossarm and hardware brackets are typically only a few pounds lighter than a wood crossarm. The attached brackets also make composite crossarms harder to store compared to the rectangular wood crossarms which can be easily stacked for storage.

4 Sustainable, natural quality

Not just any piece of wood can become a crossarm. Each wood crossarm is sawn to meet demanding standards that ensure it has the strength and natural resiliency to perform for decades in service. Also, wood crossarms are made from the original sustainable resource, trees. The growth in American forests exceeds harvests by more than 20 percent today, ensuring a future supply of wood for new crossarms, utility poles and other products.

5 Better bottom line

Wood crossarms are significantly more cost competitive compared to alternative materials. In many cases, the cost of a composite fiberglass or steel crossarm are three to four times more expensive than a functionally equivalent wood crossarm. Utilities purchasing wood crossarms are making a wise investment of ratepayer funds rather than needlessly spending more money for unproven benefits of alternative materials.

6 Environmentally friendly

Not only are wood crossarms made from sustainable trees, they are more friendly to the environment compared to alternative materials. According to life cycle assessments conducted under internationally recognized standards, preservative treated wood has far less environmental impact than fiberglass, steel or concrete. The production and use of preservative treated wood uses less energy and resources, stores carbon and has lower environmental impacts in five out of six impact indicators. Wood crossarms are safe to handle and are made from material that is renewable and natural.



**North American
Wood Pole Council**