

One Tough PUPi™

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CASE STUDY: KNOXVILLE UTILITIES BOARD

TORQUEGUARD™ MAKES PUPi® THE RIGHT CHOICE FOR H-FRAME PROJECTS

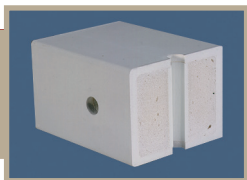
Recently, the Knoxville Utilities Board in Knoxville, Tenn., decided it was time to update the company's 69-kV transmission lines that deliver bulk power from Tennessee Valley Authority power generation plants to KUB's 68 electrical substations.

Zane Howard, P.E., an electrical engineer with the company, says that the wood crossarms on their H-frame structures, which were built in the late 1950s, needed to be replaced due to rotting from rain and UV rays, as well as damage from woodpeckers. "Our system uses bundled conductors, which means we have multiple conductors per phase," says Howard. "The conductors we use are very heavy, which can put a lot of stress on the crossarms and bolts, so the crossarms we choose have to be able to handle the loads placed on them. We were in the market to upgrade our lines with crossarms built to last a long time and resist crushing."

Because of their specific criteria, the Knoxville Utilities Board, which uses PUPi® fiberglass products in their 13 kV distribution lines, made the decision to approve these fiberglass crossarms in their transmission structures based on their positive experience with the material. "Fiberglass crossarms have specific properties that make them a good choice for use with transmission lines. The PUPi brand offers a unique feature in their fiberglass products — TorqueGUARD™ bushings — that keeps their crossarms from deforming during the installation process," says Howard. "A special sleeve prevents the fiberglass from collapsing when impact is applied to the material when tightening bolts. It forms a strong, solid foundation for the bolt to connect to the pole. No other manufacturer in the industry offers this feature."



"The strength and longevity of the PUPi fiberglass products with TorqueGUARD bushings justifies our decision to choose PUPi crossarms over other brands."



- Application: Utility transmission crossarms
- Project Scope: Updating 114, 69-kV transmission lines
- Product: PUPi® fiberglass crossarms with TorqueGUARD™ bushings

Knoxville Utilities Board

- Installation: 2015
- Location: Knoxville, Tennessee