GRIDCORE™ COMPOSITE UTILITY POLES: DECONSTRUCTED

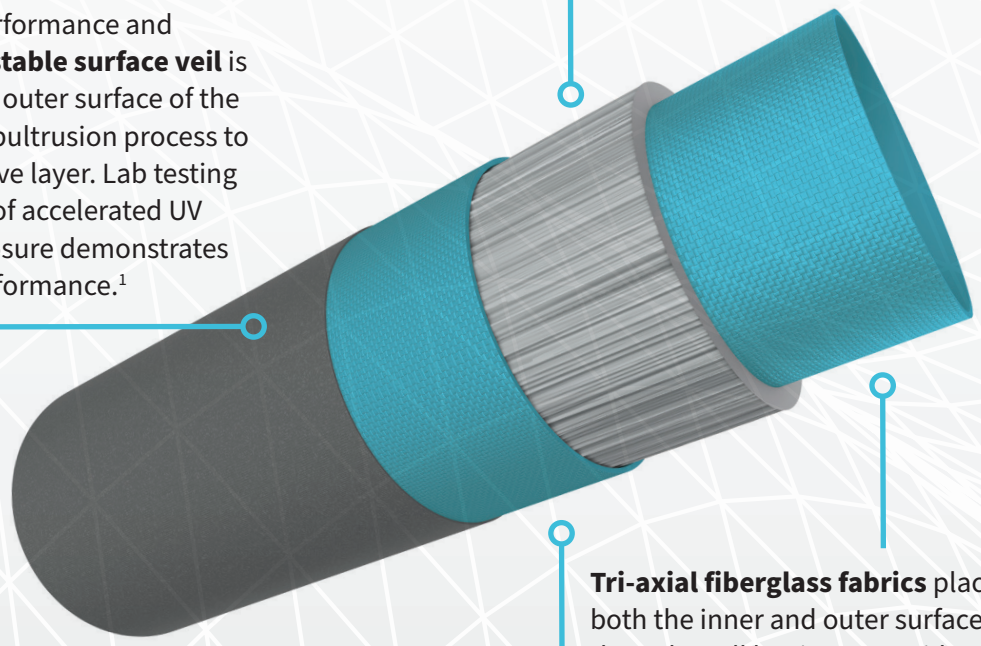
Explore the Material Composition of GridCore Poles

GridCore™ Composite Utility Poles are made using a continuous pultrusion manufacturing process, then fabricated to meet customer specifications including length, hole pattern, and accessories.

In this diagram, we deconstruct a GridCore pole to explain the fibers, fabrics, and resin that work together to provide strength, stiffness, and ultraviolet (UV) stability for a long service life.

Unidirectional E-glass fiber is used as the primary structural reinforcement. It provides superior flexural stiffness and strength to the pole, minimizing deflection.

Unsaturated polyester resin with a UV inhibitor is the matrix of the FRP composite. To further enhance the pole's UV performance and longevity, a **UV-stable surface veil** is deployed on the outer surface of the pole during the pultrusion process to create a protective layer. Lab testing to 10,000 hours of accelerated UV weathering exposure demonstrates excellent UV performance.[1]



Tri-axial fiberglass fabrics placed near both the inner and outer surfaces of the pole wall laminate provide added strength and toughness to the pole.

[1] Testing per ASTM G154

For the latest product information, please visit gridcore.avient.com or call +1.844.4AVIENT.

AVIENT™

Copyright © 2025, Avient Corporation. Avient makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as intypical in or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Avient makes no warranties or guarantees respecting suitability of either Avient's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. AVIENT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.