CASE STUDY

Eco-Titan™ Composite Pole Turns Conventional Thinking on Its Side

Breakthrough power distribution pole reinforced with Cem-FIL® alkali-resistant glass fibers

Composite Pipe Process
- Vertical winding

Matrix and Reinforcement
- High-performance lightweight concrete
- Cem-Fil alkali-resistant glass fiber roving

Principal Markets
- Agriculture
- Communications
- Power

A breakthrough power distribution pole is turning heads in the composites and power pole industries.

Developed by CMT Worldwide and Langdale Industries, the Eco-Titan™[1] pole is made with high-performance lightweight concrete reinforced with Cem-FIL® alkali-resistant glass fibers from Owens Corning. The result combines the strength of concrete with lightweight construction.

Among the head-turning aspects of the Eco-Titan™ pole is a vertical winding process that maximizes the performance of the raw materials. While a typical glass fiber-reinforced concrete application uses chopped fiber and attains a maximum of 5 percent glass loading by weight, the vertical winding process uses roving and fabric to achieve a multiple of that percentage, providing superior tensile strength and enhanced compressive capabilities. The product was nominated for the JEC Innovation Awards program for 2010 and will be on display at the show in Paris.

“Eco-Titan™ is the first truly new product for the distribution pole market in 15 years,” says Allen Sells, president of CMT Worldwide. “Our combination of materials and process technology results in an incredibly strong high-performance pole with excellent weight-to-strength qualities.”

[1] Eco-Titan is a trademark of CMT Worldwide



CMT Worldwide invested 10 years developing the product. The OCV™ businesses supported the project with technology for the reinforcements and fabrics. Langdale Industries has been a leading provider of wooden utility poles for more than half a century. The company sees the need for an engineered product that compliments the wood distribution pole.

Eco-Titan™ technology is now being licensed globally. The first to sign up outside the U.S. was Dulhunty Power Ltd., near Melbourne, Australia. Poles from the Dulhunty plant in the state of Victoria are expected to provide a needed option for utilities facing bushfire events each summer. Fires in Victoria in February 2009 exposed power lines to destructive conditions and loss of power due to burned poles. In February 2010, CMT Worldwide initiated fire testing in accordance with Australian Standard (AS) 1530.8.1, which replicates bushfire events.

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Owens Corning Cem-FIL® AR glass:
http://www.ocvreinforcements.com/solutions/Cem_FIL.asp.

OCV™ Reinforcements | OCV™ Technical Fabrics | OCV™ Non-Woven Technologies

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