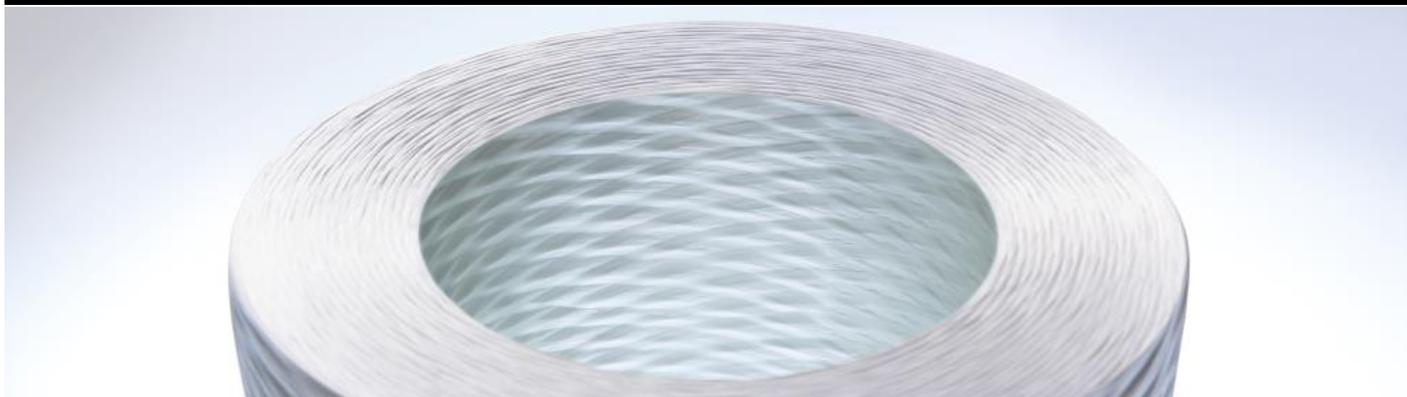


New PUR composite window lineal

FOR BETTER ENERGY CONSERVATION



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The burgeoning building and construction industry in China makes it the world's largest market for windows – around 36 percent of global manufacturing output at present. Windows play essential roles in determining the overall energy profile of residential and other buildings where the efficiency, durability and maintenance of lineals is a key factor. To help meet stricter regulations in China¹, Shanghai-based Collodin, which specializes in building insulation solutions, teamed up with Owens Corning and Huntsman Polyurethanes to improve the energy efficiency of its window lineals by fully exploiting PUR pultrusion technology.

EXTRAORDINARY MECHANICAL PROPERTIES²

Dr. Yan Huang, Project Director at Collodin said the new PUR composite window lineal system has exceptional flexural strength – up to 50 times greater than PVC, 6 times better when compared to aluminium alloy and 3 to 4 times that of unsaturated polyester (UPE) composite profiles.

“In addition, when comparing the coefficient of thermal expansion, the new profiles expand 10 times less vs. PVC, 3 times less than aluminum alloy and 12 percent less than UPE composite profiles.” he added.

Their abrasion resistance and superior toughness show little or no micro-cracking during subsequent assembly operations such as cutting, machining and drilling for screw-fixed fittings such as handles. The optimized glass fiber reinforcement developed by Owens Corning displays high mechanical properties even in unidirectional sections. This eliminates the need for additional steel stiffeners like those usually found in other thermoset (TS) and aluminum profiles, which act as thermal bridges, thereby affecting insulation properties.

¹2nd Five-Year Comprehensive Work plan for Energy Conservation and Emission Reduction. September 7, 2011.

²Mechanical and Thermal Properties, comparative data. Source: Shanghai Collodin Material Scientific & Technological, 2014 and Huntsman Polyurethanes, MI USA 2014.

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Pub number: 1002xxxx. PUR Composite window lineals Case Study_ww_08-2015_Rev0_EN, August 2015