



The Business

The Provenance Company is a producer of twine and rope, under the brand name Twool, from the wool of Whiteface Dartmoor sheep. Twool started as a British garden twine product, providing a local, sustainable alternative to imported jute. The Whiteface Dartmoor breed is known for having wool with a long staple length, suitable for spinning a twisted worsted yarn. Success with this product has led to a variety of colour choices, the development of thicker rope versions, both plaited and twisted, and the continuing development of further lines.



The Challenge

CALMARE was challenged to find the physical properties of a variety of Twool products and to see how these compared in stiffness and tensile strength to other materials. The centre carried out a number of physical tests on twine, polypropylene twine, plaited rope, twisted worsted rope and large twisted worsted rope, and conducted research into the properties of wool, twine and rope.



The Result

CALMARE put together a report of its findings, which demonstrated that these new sustainable products offered similar physical properties to less sustainable and more commonly used materials.

The twine, although having a slightly lower breaking strength, had increased elasticity, which could be of significant benefit in its main application as garden twine around trees and plants, allowing for more movement. The ropes, particularly the thicker ones, showed similar strength to standard products, with the barrier rope holding a force of just under 1.8 tonnes (approximately the weight of a Ford Mondeo).

This information is of great benefit to support the company's decisions about the strategic direction and to validate its belief in its products. It is continuing to develop new products from sheep's wool and was shortlisted for Product of the Year at the Chelsea Flower Show in 2013 and 2014.

