

Vectran

AKA Liquid Crystal Polymer –
Kururay (fiber manufacturer)
CSR – Braider

Properties: Low volume, minimal elongation, very abrasion resistant, but very abrasive towards other materials. Excellent resistance to fatigue (torsion, folding). Very high UV resistance and hydrophobic.

Vectran is our preferred and most commonly used line type and is available on all our wings. It is a very strong and dimensionally stable line (it holds its trim well). However, it wears more easily than some other lines, especially in abrasive sandy environments.

Vectran is a LCP (Liquid Crystal Polymer) material. An Aramid is a polyamide whose polymer chain contains aromatic "ar-amide" nuclei. Vectran (LCP) is a polyester with aromatic nuclei. Therefore, depending on the source, some classify Vectran as an Aramid material, and others separate it.

PROS: High strength for its size, wear is easy to detect (color change and fibers), dimensionally stable.

CONS: Wears relatively easily- changes color quickly.

Technora

AKA High Modulus Aramid
Teijin (fiber manufacturer)
Edelrid – Braider

Properties: Low volume, very little elongation, moderately abrasion resistant, and mildly abrasive. Less UV resistance (requires a coating) and not hydrophobic (also requires a coating).

Technora, or High Modulus Aramid (HMA), is a very strong, small-diameter line. Compared to Vectran, it's harder to estimate the extent of wear on Technora. This material should be examined often and thoroughly before use. Its soft texture and flexibility correlate with a decrease in the incidence of some malfunction types.

PROS: Best initial strength for its size; wear is detectable (frayed/broken fibers) and dimensionally stable.

CONS: Wear is sometimes more difficult to detect than Vectran (no color change but shows broken fibers), subject to reduced strength over long periods from flexure/bending (typically over 5000 cycles).

Spectra-Dyneema

AKA Ultra High Molecular Weight Polyethylene [UHMWP], also known as Microline
Honeywell (fiber manufacturer)

CSR – Braider

Properties: Low volume, minimal to no elongation, very abrasion resistant, and not very dimensionally stable. We currently do not offer this line on our wings.