

## Technical Bulletin 39: Twin-Path® slings with Kevlar® core yarn

Slingmax® was the first company to develop a high-performance fiber (HPF) synthetic roundsling using Kevlar®, by DuPont®, which was one of the first high performance fibers available. Kevlar is an aramid fiber with a very high tensile strength, and as with all aramid fibers it is susceptible to yarn-on-yarn abrasion. The Kevlar fiber used in our original Twin-Path® slings had a coating applied to help reduce this friction and extend the life span of the core fibers. Today there are numerous manufacturers of high-performance fibers and Slingmax is constantly evaluating and improving their performance in roundslings.

Our current K-Spec® core yarn is a blend of high-performance fibers. Blending the fibers allows us to combine the advantages of multiple fiber types, while offsetting any disadvantages of using a single fiber type in a sling. Slingmax has continually utilized technological advances in its K-Spec core yarn production to ensure that it is always the strongest and longest lasting sling fiber available in the marketplace.

Twin-Path slings with K-Spec fiber have been subjected to extremely harsh cycle testing by an independent organization. Slings were cycled 50,000 times to 150% vertical rated capacity (50% overload) over comparably rated shackle bows, and the bearing points remained unchanged throughout the testing.

After the testing was completed, each of the slings were removed and inspected. A break test was completed on one of the slings and a 4.2:1 design factor was still achieved after 50,000 overloaded cycles. There is no other round sling manufacturer with comparable slings and testing to match. Additional information on this testing can be found in Technical Bulletin 9 at [www.slingmax.com](http://www.slingmax.com).

Slingmax discontinued use of Kevlar fiber in 1999 and strongly recommends replacing any active Twin-Path Kevlar based slings with Twin-Path slings manufactured with the most current covers, core fibers, and patented inspection devices.