SLINGMAX® Technical Bulletin

TB# 8

Date September 14, 1996

Fiber on Fiber Abrasion Testing

These tests were to determine the difference between K-Spec™ core yarn and polyester core yarn as used in SLINGMAX® rigging products.

The yarns were each weighted to 2.7% of their breaking strength. They were water and air cooled so that there would be no deterioration caused by heat. The polyester has a breaking strength of 600lbs. in a sling and was weighted to 16lbs. The K-Spec™ has a breaking strength of 1800lbs. in a sling and was weighted to 48lbs. The test consisted of raising and lowering this load through a 2" are consisting of a loop of the same material. This is a very severe test and it is highly unlikely that similar conditions would ever be present in the field use of these products.

The machine was set on speed #4; the material passed through the loop at a 90 degree angle; each cycle was about .96 seconds.

MATERIAL:	K-Spec™	Polyester
CYCLES TO FAILURE:	8,672	1,574
TOTAL WEIGHT MOVED:	416,256 lbs.	25,184 lbs
TIME TO FAILURE:	2:31	:21

The cycles to failure for K-Spec™ were 5.5 times higher than polyester.
The weight moved by K-Spec™ was 390,472 lbs. more than polyester.
The ratio of weight moved was 16.52 times higher for K-Spec™ than for polyester.

Update July 19, 2004

Fiber on Fiber Abrasion / Fatigue Testing

Twin-Path® or Round Sling Core Yarn	Cycles to Failure-	Duration of Test until Failure *(Minutes)*	Total Weight Moved *(lbs.)*
K-Spec® Fiber- (Available Only in Twin-Path® Extra Slings)	18,582	358	908,660
Technora® Fiber	821	16	40,146
Polyester Fiber	731	14	11,915
Kevlar® Fiber	340	7	10,200