

Technical Bulletin 35: Check-Fast® Inspection System

Since the inception of the Twin-Path® sling, the product has always included built-in inspection aids. The Covermax® cover is bulked nylon tube that protects the load bearing core fibers. It includes two layers with contrasting colors to easily give the inspector a visual indication of potential damage to the sling. The Covermax cover has been continuously improved since its introduction and is still used today.

Originally, Twin-Path slings were equipped with Tell Tails to detect overload and a fiber optic inspection system to detect possible internal damage. As new high-performance fibers were introduced, the proprietary K-Spec® core yarn blend used in the slings began to change and Slingmax began to consider options for a new, more efficient and more objective inspection device for their synthetic roundsling products.

The objective was to develop a single device that could detect both internal core fiber damage as well as severe overload. The development and testing took several years, and the end result was the Check-Fast inspection system. The system is comprised of a sacrificial strand, one load-bearing core yarn of K-Spec, installed in one path of the sling. Between the loops in the sacrificial strand is installed another high-performance fiber loop called the weak link. The weak link has a break strength of approximately 65% of a strand of K-Spec and is designed to fail upon severe overload. The visual indicator for the Check-Fast system is the External Warning Indicator, or EWI, which attaches to the system and extends past the tag area. This EWI is the only component of the Check-Fast inspection system that is visible to the rigger. Upon severe overload, the weak link breaks, the sacrificial strand recoils, and the EWI is immediately pulled into the sling. The process of how the system works is shown in Figures 1 – 3 below.

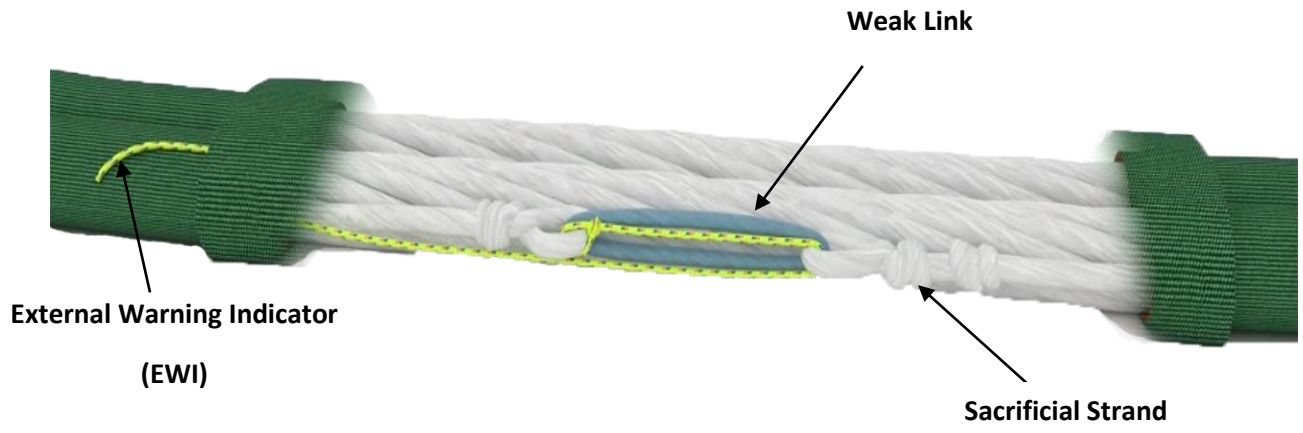


Figure 1 – Check-Fast Before Overload



Figure 2 – Check-Fast During Overload



Figure 3 - Check-Fast After Overload

The system works in any capacity roundsling. Every type of roundsling contains multiple strands in the core that share equally in the load placed on the sling. This is especially true for our Twin-Path slings with Rifled Cover® Technology. And since the Check-Fast system utilizes an actual load bearing core yarn of the sling, not only will it detect overload but it will also be susceptible to the same internal wear and damage from yarn on yarn abrasion, cutting, crushing, or chemical degradation as the rest of the core fibers.

The installation and performance of the Check-Fast inspection system is continuously monitored through audits of the Slingmax Dealer network. Annually, sample slings are submitted to Slingmax. The slings are inspected for fabrication accuracy and pulled to destruction to validate the correct operation of the system.

Though initially developed in the Twin-Path sling, the system has been expanded into other Slingmax products, including single path and Twin-Path Sparkeater® slings.