

## Creel monitoring.

### Fibrevision Creel Monitoring System (CMS)

The requirement for on line quality monitoring in DTY processes has been recognised for many years and Unitens and Unitens Plus is well established as the market leader in this sector.

Fibrevision Creel Monitor System (CMS) takes quality monitoring in the DTY process to the next level by now including the POY material in its quality concept.

CMS allows the production and classification of splice free packages and also the ability to track POY change to improve traceability. Providing both substantial quality benefits and process cost reductions.

The specially developed CMS optical sensor is located within the DTY machinery creel and detects the point of transfer from the expiring current running package to the new POY package. The event of transfer is flagged by the Unitens system along with the effect of the transfer splice on the yarn tension within the texturing zone. During transfer the splice runs in to the texturing zone and in doing so, always creates a disturbance within the twist insertion which results in the following:

- Deterioration of the yarn properties (tenacity, elongation)
- Bulk defects
- Change in dye uptake (darker)
- Distorted stitch within the knitted fabric.

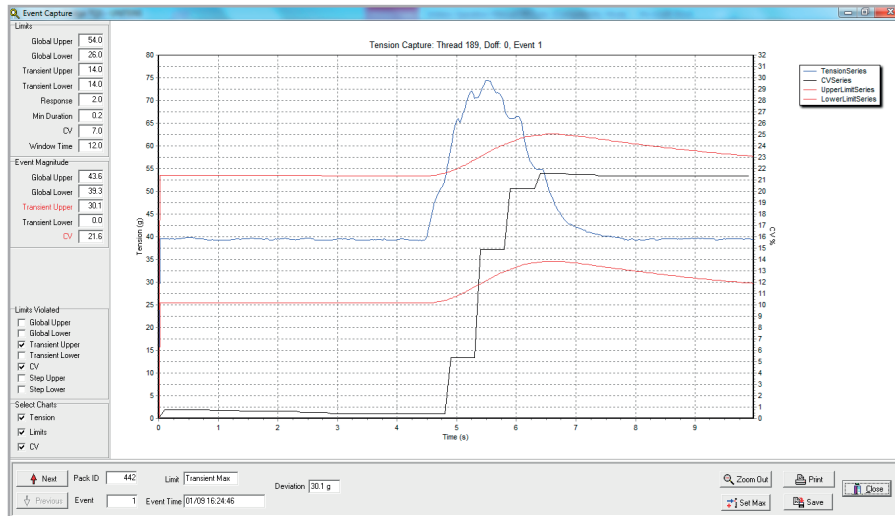


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#### Features and benefits

- Production of knot/splice free packages
- Elimination of the discontinuous process
- Transfer detection and analysis
- Doff or cut at transfer
- Ability to track POY packages
- System can be used as part of Industry 4.0 data analysis
- Integrated on any machine or available as a stand-alone system
- No operator intervention
- No moving parts
- Cost effective
- Fits both gate and rotary creels

### Splice Fault



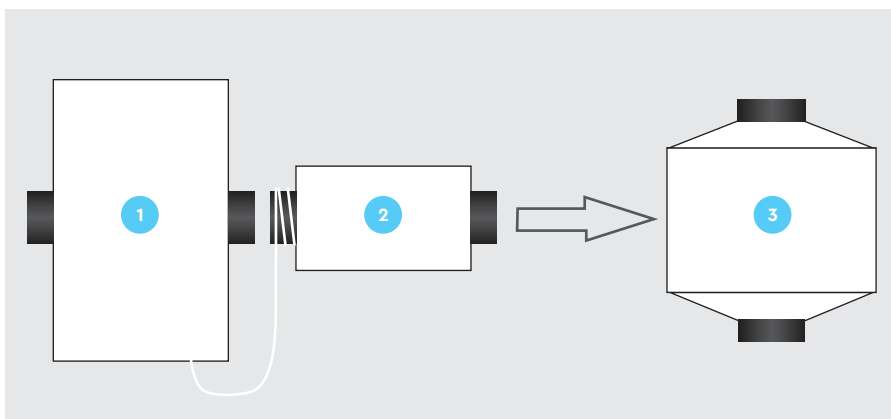
Fault capture of disturbance in T2 tension

The fault capture shows the disturbance in T2 tension during the transfer of the splice. A two second disturbance – corresponds to damage in the final product over a length of 30 meters.

CMS completely eradicates this economic disadvantage and allows a continuous process which allows splice free packages or classifying according to product quality.

The yarn disturbance caused by the splice, is unacceptable in downstream processing (warp applications) and hence the reason that a discontinuous process is used which is totally uneconomical due to the decrease in machine efficiency.

### Layout



- 1 Reserve POY package
- 2 Running POY package
- 3 DTY package