

Precision, Quality, Innovation



MEASUREMENT SYSTEMS FOR THE TIRE INDUSTRY PLY, BELT, AND EXTRUSION FEATURE TRACKER (FT)

Off-Line Profilometer (OFLP)

Off-Line Profilometer SL (PSL)

Off-Line Profilometer 3D (3DP)

On-Line Profilometer (OLP)

Ply, Belt, and Extrusion Feature Tracker (FT)

Profile360 for Apex and Bead Measurement (P360)

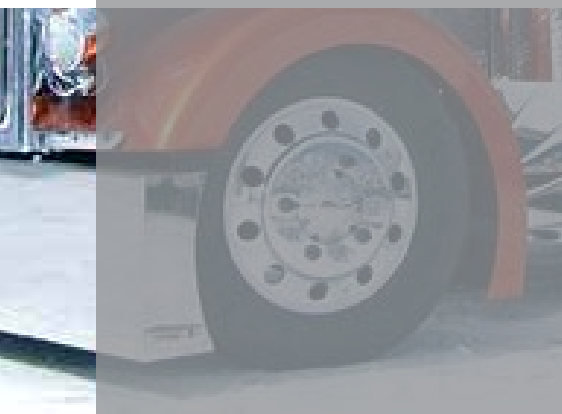
Green Tire Uniformity Diagnostic System (GTU)

Green Tire Uniformity Integrated System (GTUint)

Bead-to-Bead Profile Measurement System (B2B)

Bead-to-Bead Tire Scanner (Tire360)

Circumferential Tread Wear System (CTWIST)

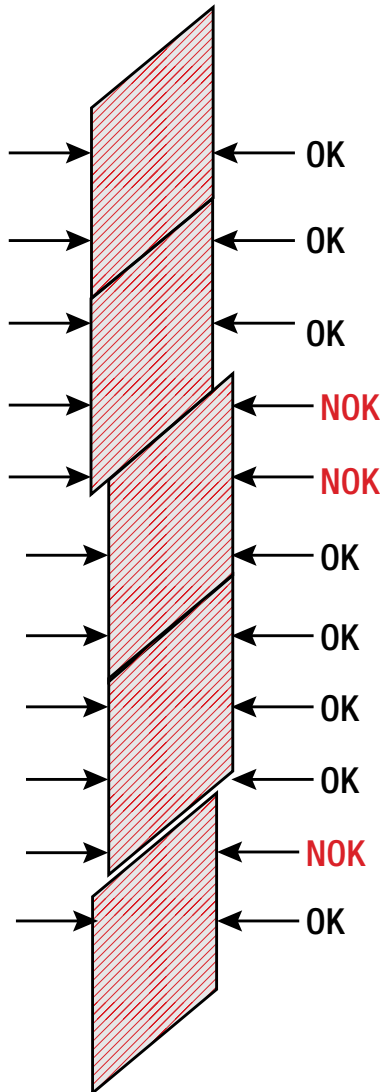


PLY, BELT, AND EXTRUSION FEATURE TRACKER (FT)

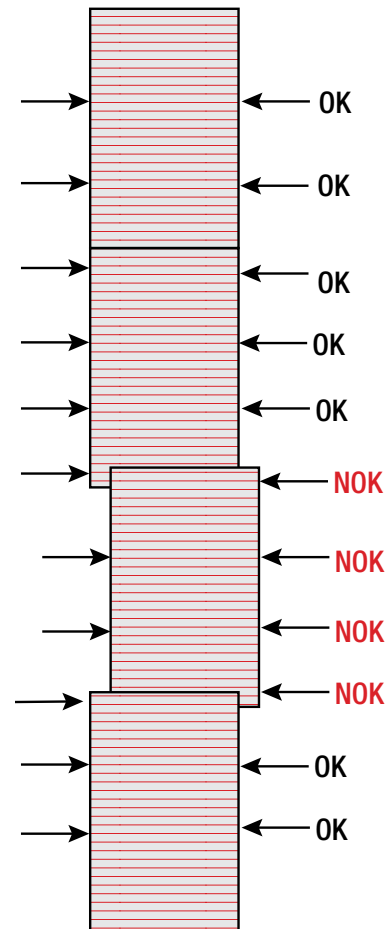
Steel belts and fabric plies are critical components in the tire structure that influence the tire's dynamic behavior. As a result, tire makers are very concerned with the splice alignment in component preparation. Splices that are not well aligned, or "dog-ear" splices, cause discontinuities in the belt edge. Tire process and quality engineers are tasked with making sure no bad splices are sent on to the tire building machines. When a bad splice is found at the tire building machine it is often necessary to reschedule the run while new stock is produced.

Starrett-Bytewise offers the Ply, Belt, and Extrusion Feature Tracker (FT) as a solution to continuously monitor any component process for width and splice alignment so that you can improve your process, and make good products even better by reducing the Cp and Cpk values for the process. This is a non-contact scanning system that provides instantaneous measurement. The system utilizes our own *CrossCheck™ Line Laser Sensors* mounted on an overhead enclosure to detect the component edges and measure the width. Since back-lighting is not required the system can measure the component on the conveyor.

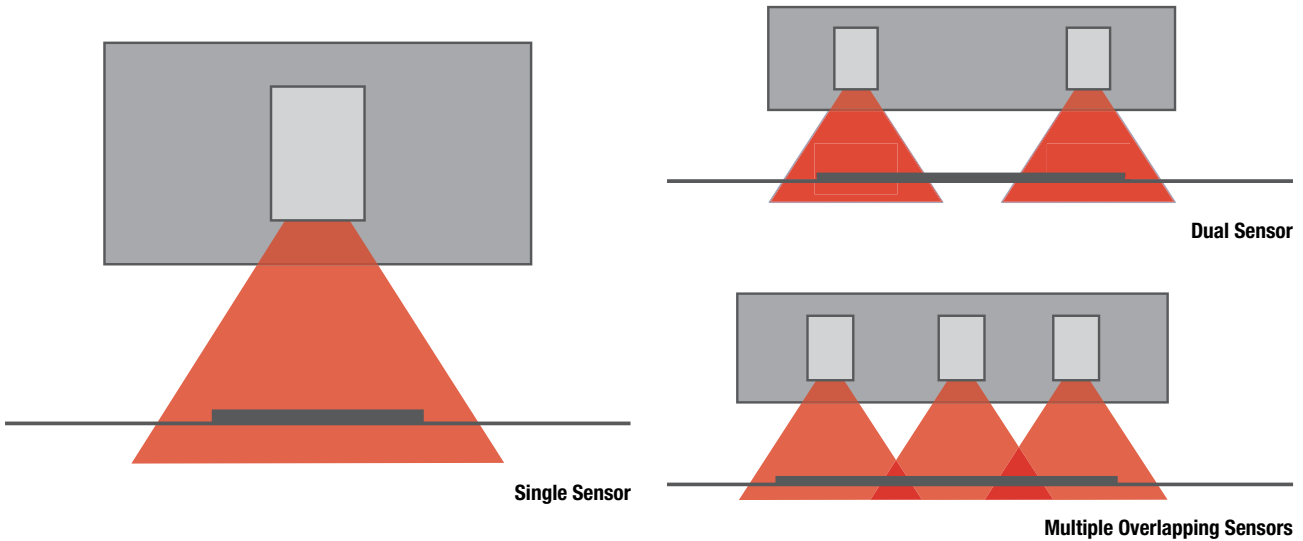
The belt stock shown below illustrates two types of measurements. First the overall width is measured and graded as pass/fail. Second the shift in the edge is detected and graded as pass/fail. This edge shift is caused by misaligned splices. This permits you to verify that the correct width is produced, and that any splices that exceed the allowable limits are identified.



The ply stock shown below illustrates the same conditions. First the overall width is measured and graded as pass/fail. Second the shift in the edge is detected and graded as pass/fail.



Systems are configured according to the width range for the components measured. The illustrations below are typical for various width ranges. Sensors are mounted on a back-plate with a steel cover.



The Controller includes an Industrial PC with optional Touchscreen Monitor. Options include a PLC Protocol Gateway, Vortex Cooling for hot environments, and an Alarm Tower.

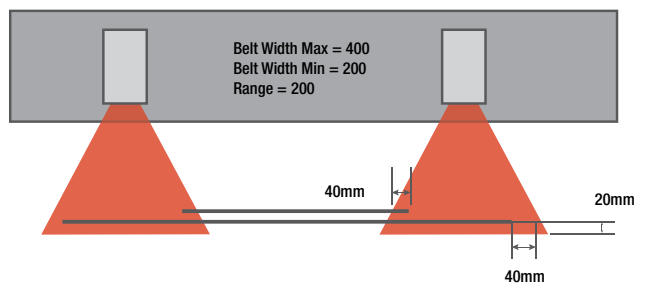
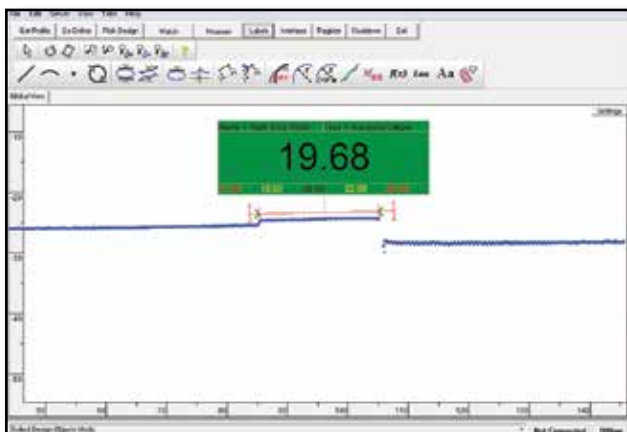


PSViewer Software provides for real-time *data acquisition, display, and data logging*. Each measurement cycle produces a data record that is stored along with its timestamp on the hard drive in a data log file.



One-sided measurement enables FT to precisely measure the width of gum strips allied to the belt on a conveyor.

The illustration below shows a typical dual-sensor system covering a width range from 200mm to 400mm.





MEASUREMENT SYSTEMS FOR THE TIRE INDUSTRY



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