

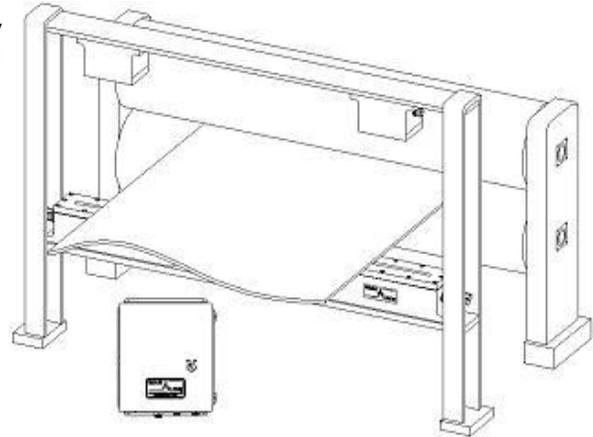
Calendering Line Width & Position Monitoring

Problem

Calendered web material that is not within specifications may result in scrap or defective tires. When calendered web material does not meet specifications, is it usually due to:

- Faulty data from a radiation gage?
- Small holes?
- Uneven distribution of rubber material on the web?
- Existence of small holes in the web?
- Folds or laps in the web material?
- Use of improper width fabric due to error in spreader set-up?

In addition to the challenges that exist in the production of in-spec calendered product, the personnel responsible for calendering processes also face the requirement of complete and accurate traceability documentation.



Width & Position Monitoring System

SCAN-A-LINE™ Solutions

Monitoring of web width and position is of great help in the early detection and correction of improperly calendered web. SCAN-A-LINE™ Width Measurement Systems (WM Systems) monitor the exit of the spreader, verifying that the spreader settings are the desired width. Width monitoring also permits the control of radiation gage scans so that the gages maintain proper position. The WM System can also monitor the position of the web for proper alignment as it enters the calendering line.

Monitoring the position of both green rubber and web allows the best match of the two parts. Correct positioning reduces scrap and assures a uniform distribution of the product. When a problem is detected, the malfunction can be immediately corrected. As the product exits the line, the SCAN-A-LINE™ WM System monitors the web width to detect product neckdown and other width problems than may result from folds or laps in the web. The WM System can also verify the centerline position of the material on the web (optional). Concurrent monitoring of web width and position results in more efficient process start-up. While performing the position monitoring functions, SCAN-A-LINE™ WM System can also provide feedback for control of spreaders or other positioning equipment.

SCAN-A-LINE™ systems for hole detection (HD Systems) detect holes that may occur in the web material. Any defective web material can then be removed from the tire building process. This prevents the production of defective and/or blemished tires.

Because many SCAN-A-LINE™ systems readily interface with most computers, PLCs and data recorders, they can supply measurement data of web width for documentation of characteristics and traits. Such documentation can be used for statistical process control (SPC) purposes and to provide the product certification and traceability required by the global marketplace.



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