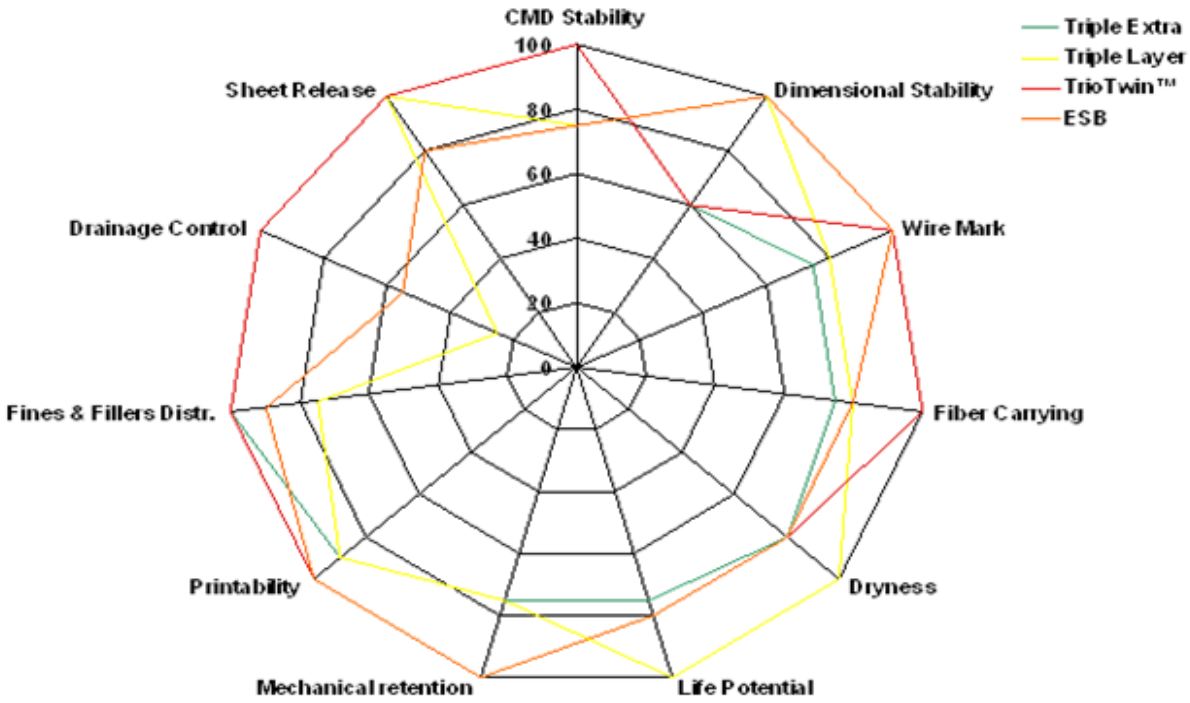
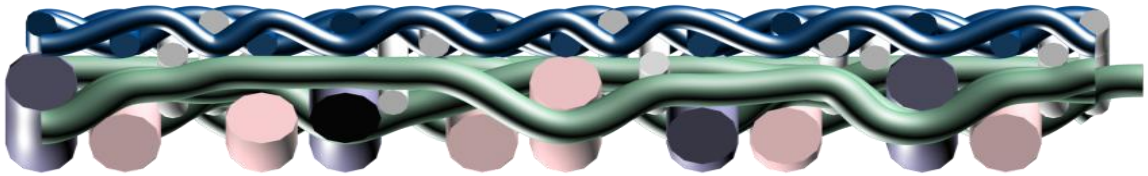
Forming Fabric Solutions to Advance Paper Making Technology

Forming Fabric Design Matrix

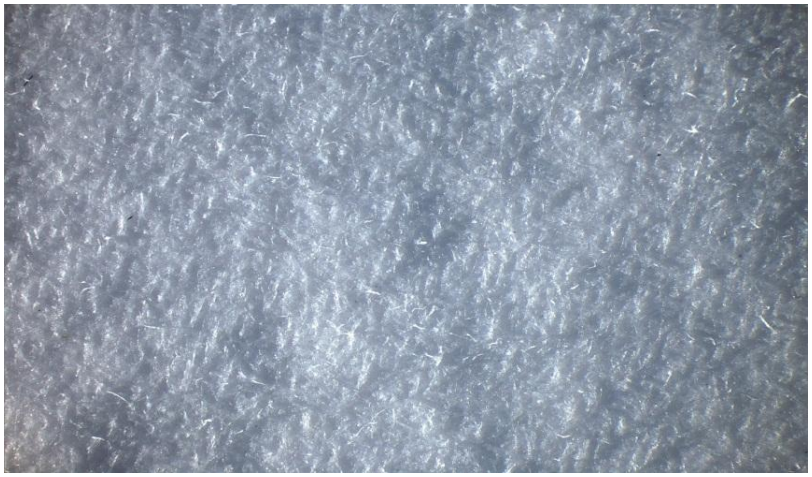


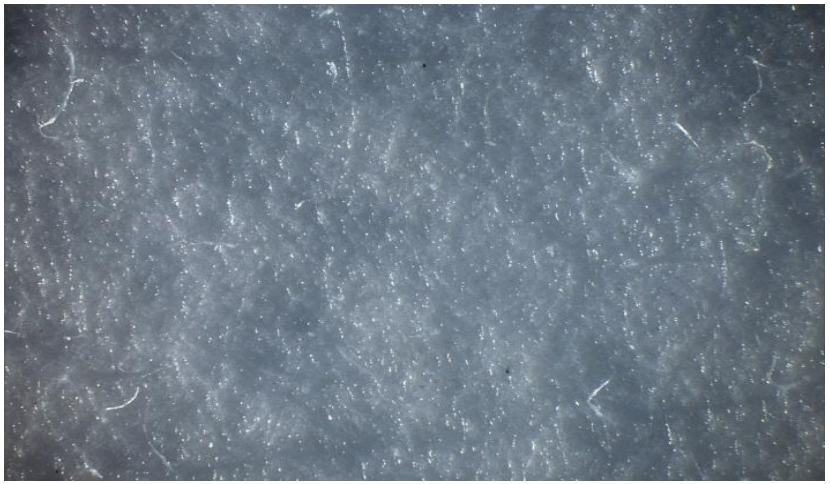
“Plain Weave” Makes a Monoplane Surface



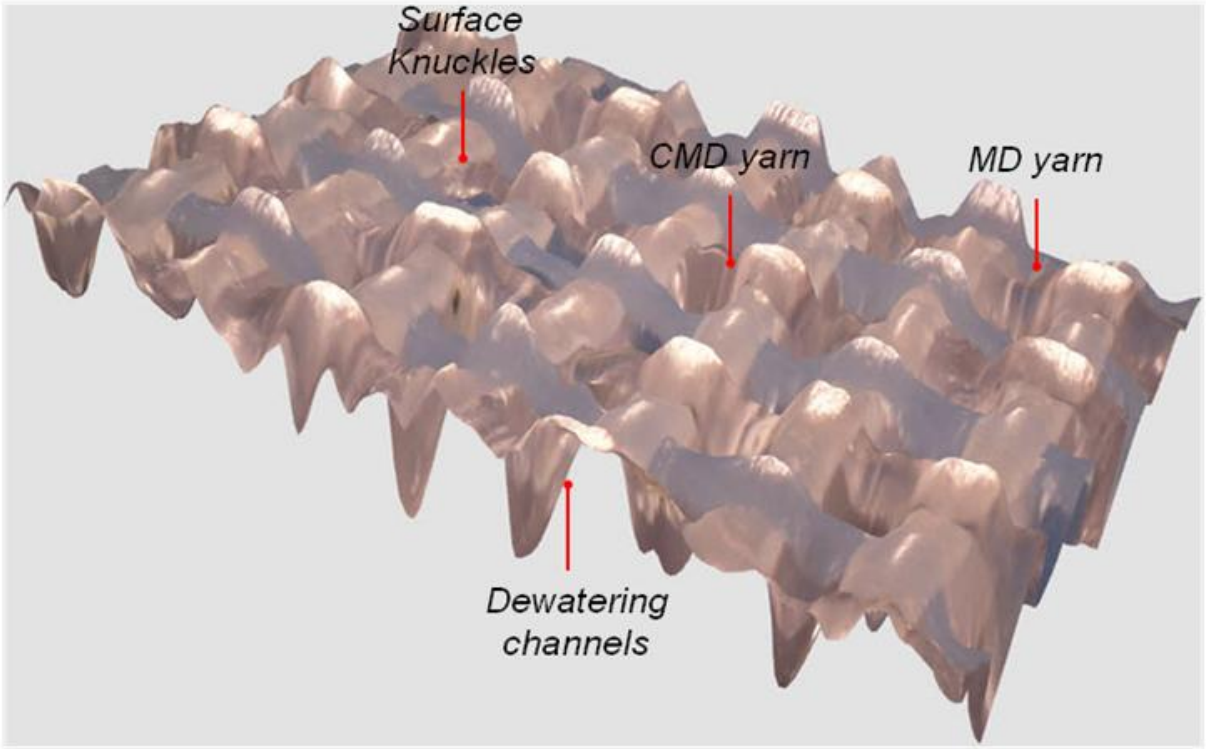
Longer “Floats” Can Retard Drainage

Low Angle Light Shows Mark Tendency Between 2.5 Layer Extra Strand and ESB Type

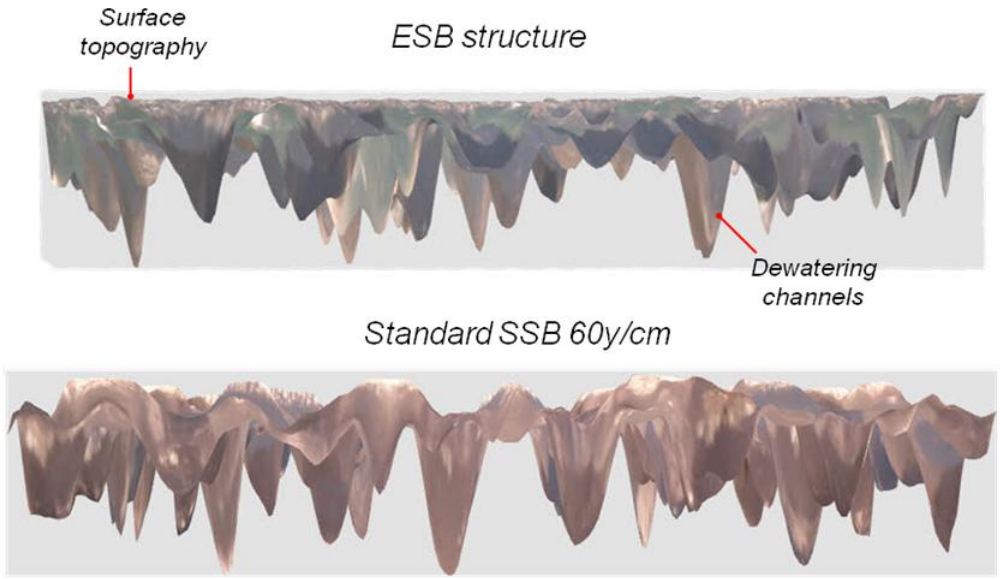




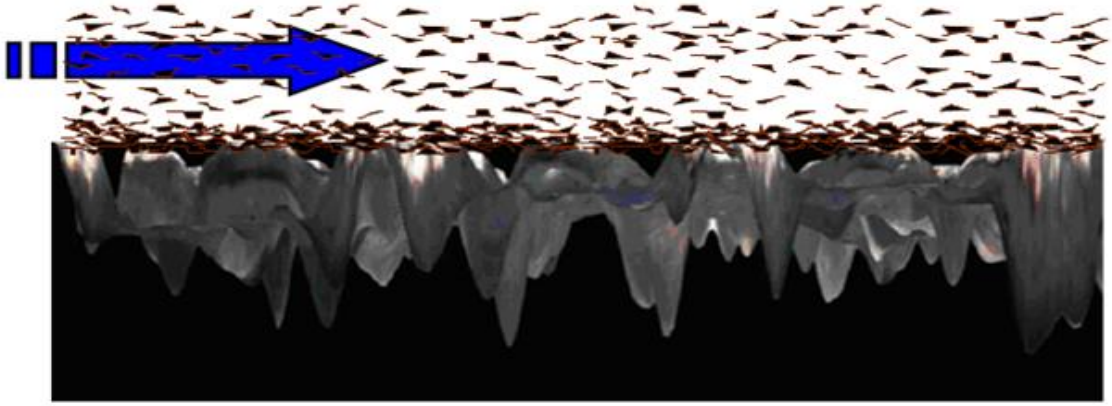
Computerized Tomography (CT) Scans Show Distribution and Size of Drainage Channels



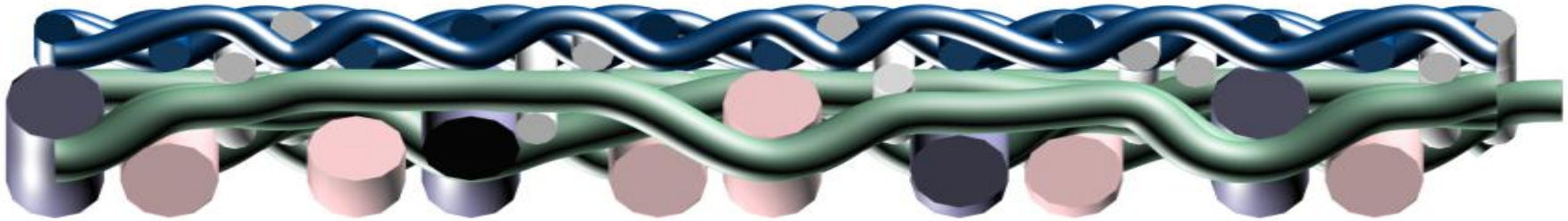
Number and Size of Drainage Channels in ESB vs. Surface Strand Binder (SSB) Structures



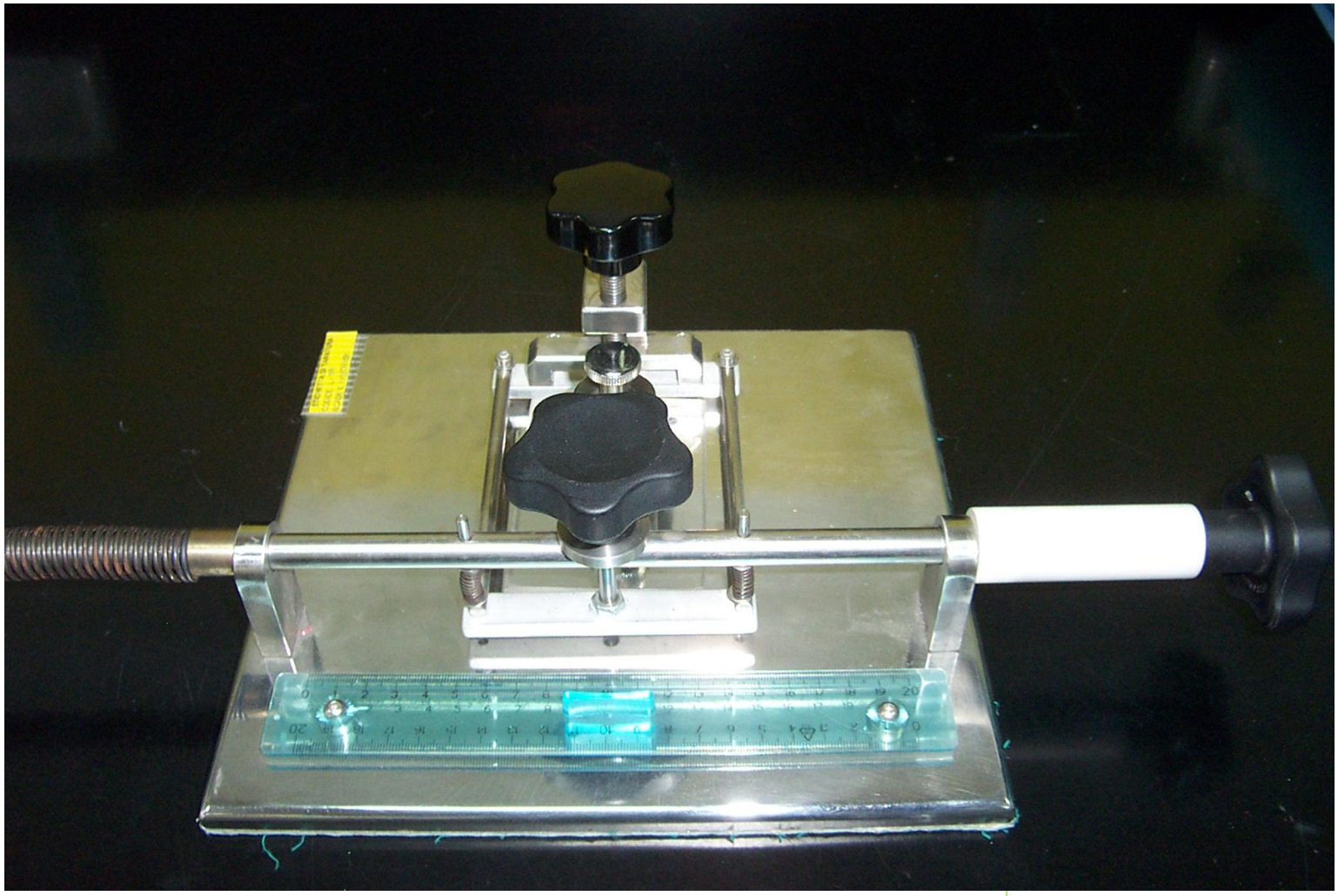
Uniform Drainage Channels Equate to Uniform Sheet Formation



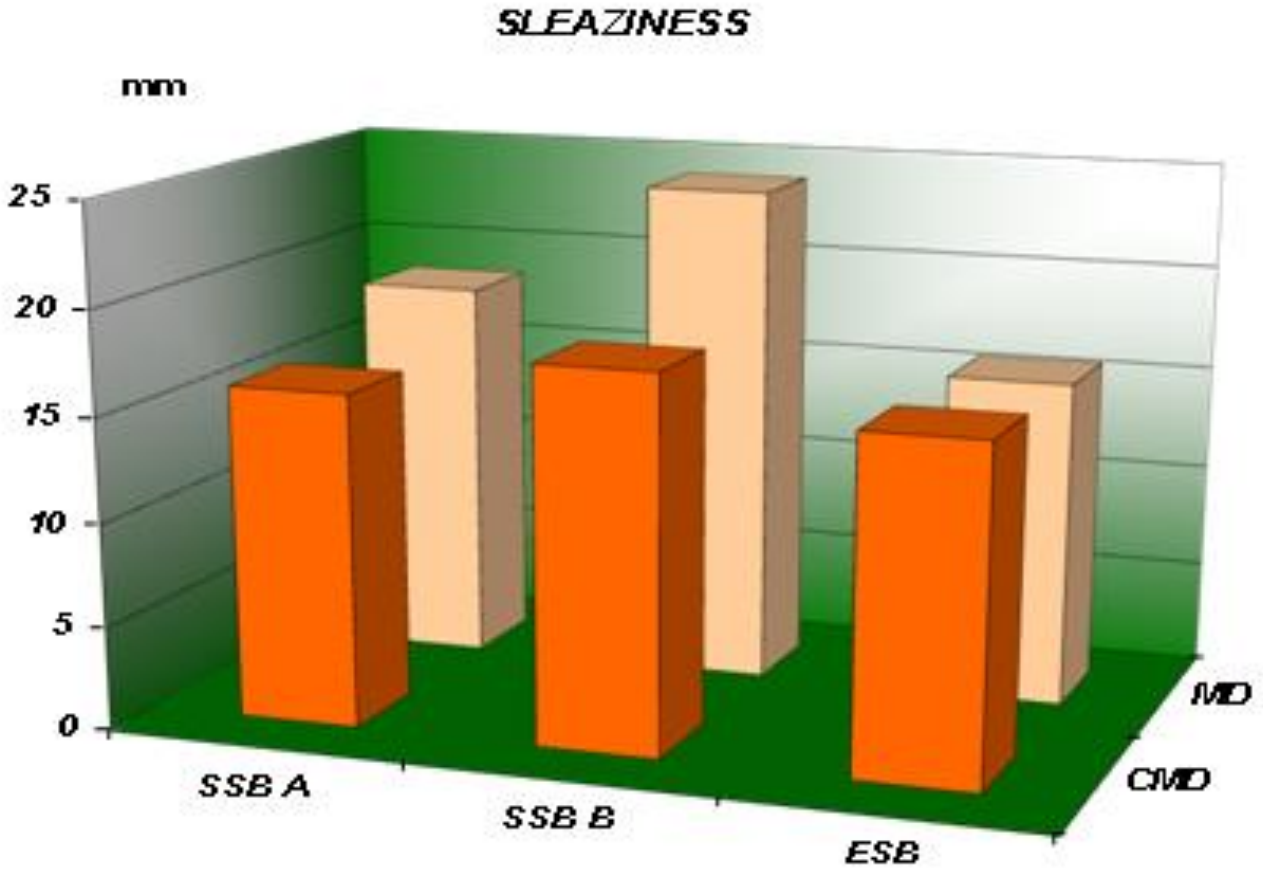
Internal Yarn Binder Reduces Void Volume While Avoiding Sheet Side and Machine Side



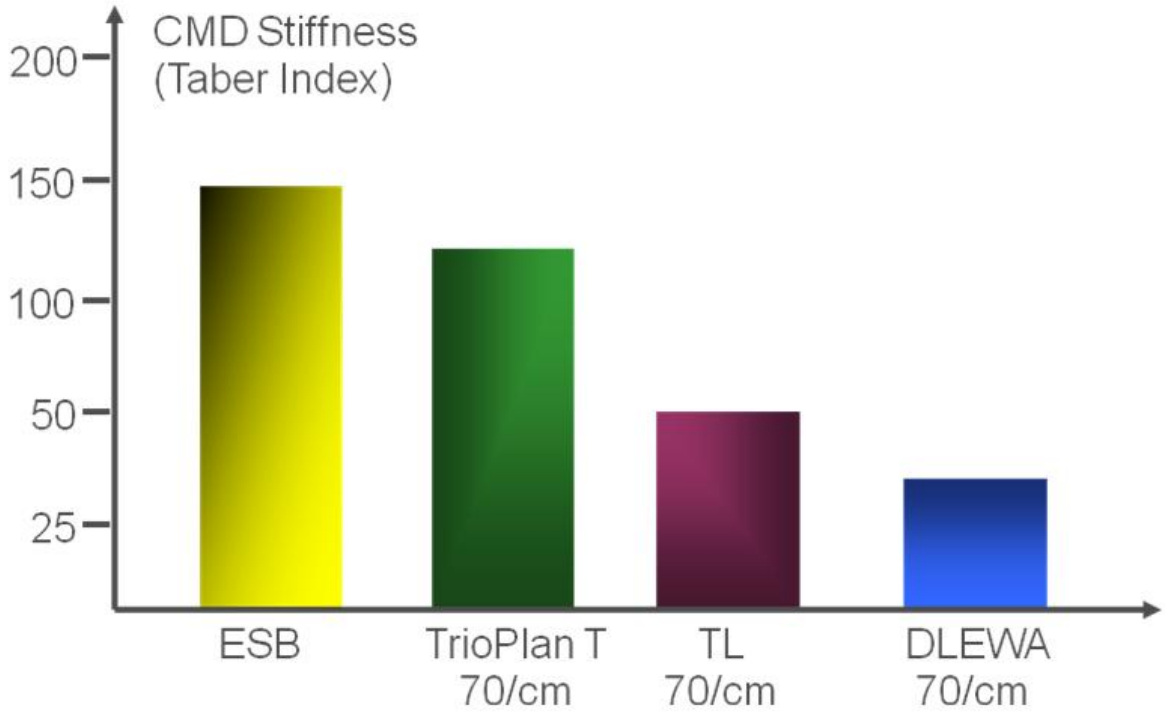
Device to Measure Diagonal Stability (Sleaziness)



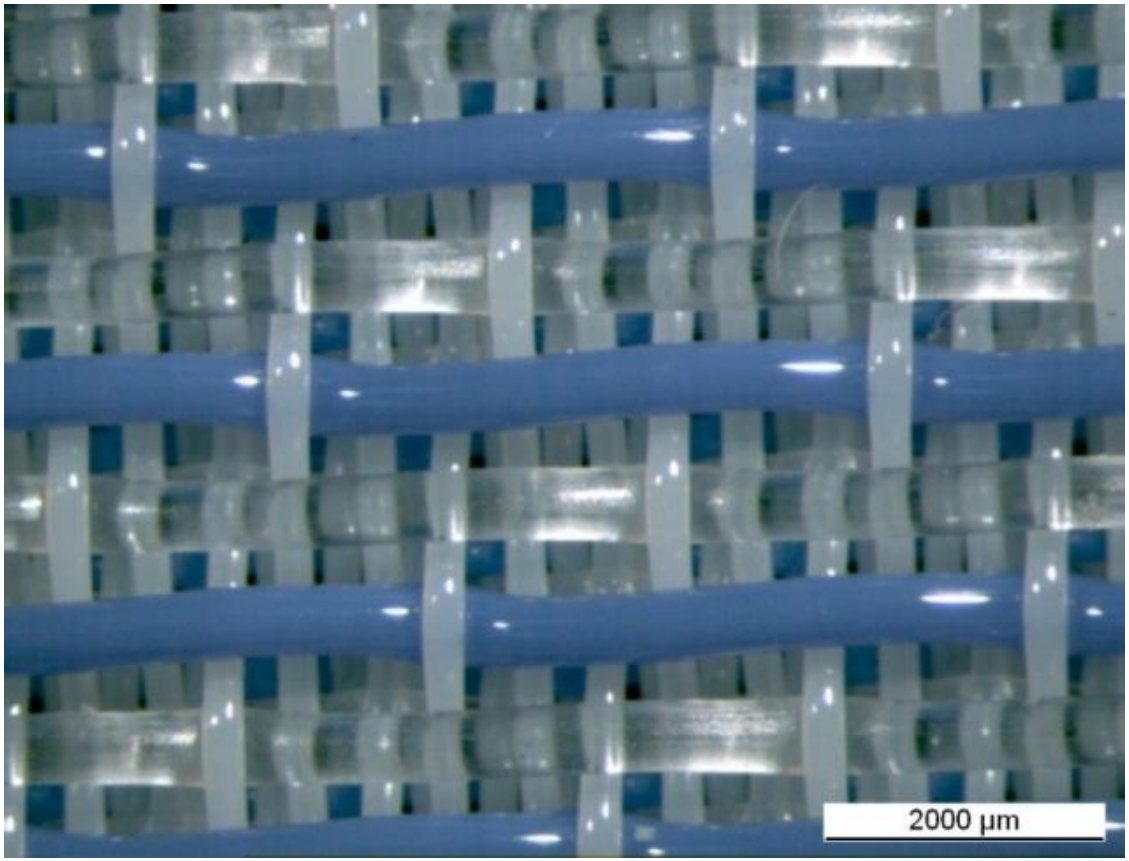
Reduced Diagonal Deflection for ESB Compared to Two Similar Yarn Sized SSB Structures



Increased CMD Stability Compared to Triple Layer Weft Bound, Triple Warp Bound, and Double Layer Extra Strand



Unique Bottom Side Yarn Pattern Designed to Reduce Drag Load



MD Yarns (round x-section at bottom) Are Completely Out of Wear Plane

Conclusions

- A new family of fabrics can eliminate fabric design trade-offs
- Same sized yarns, evenly spaced and in plain weave, presents the ultimate in surface monoplanarity
- CT Scans show more frequent and evenly spaced drainage channels
- Internal binding reduces unwanted void volume for easy drainage
- Internal binding does not disrupt sheet formation and is not exposed to wear
- These fabrics show higher stability in both CMD and Diagonal
- Unique wear side yarn pattern reduces drag load and exposes less yarn surface to wear