

Technological Highlight

May 2024

CCI's Airbag Solution by High Density Weaving

Highlight: Airbag Fabric Sample
Solutions: IN THE STUDIO solution

Industry: Functional & Technical Fabric Industries
Products: Evergreen II (Weaving)
Mini Lutan (Warping)

[Market Challenges]

Automotive airbag fabric is one of the most important applications in technical textile. The fabric is required to have excellent compactness, high flexibility and high tensile strength. This means extreme performance, durability, and reliability are of the utmost importance. Thus, high-quality and high-density weave is essential to airbag R&D success. During design and test phase, you may run a small size sample on conventional production equipment. However this can be inefficient. CCI's sampling solution is capable of satisfying your needs for high weave constructions. See how CCI completes airbag fabric which could be deployed in automotive industry.

[CCI Sampling Solution]

CCI's sampling loom, **Evergreen II**, is equipped with the outstanding beat-up device which is controlled independently by a powerful servo-motor. It generates strong and accurate beat-up which is important for achieving high weave density and high strength effect, especially for airbag fabric production. In addition, its



Evergreen II - sampling loom



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designs of shedding device, weft selection & insertion device, and high level of automation ensure higher speed and better stability during machine running, as they determine the quality of the final woven fabric.

There are Dobby and Jacquard (up to 5760 hooks) options available with Evergreen II. With electronic jacquard machine mounted on our sampling loom, complex structures can be woven into the fabric of one-piece woven airbag, and no subsequent conventional cutting and sewing is required.



Jacquard option

The single-end warping machine, **Mini Lutan**, is capable of creating warp beam at high density that could be successfully woven on the sampling loom for airbag fabric production. Its single-end warping design concept just requires minimum one bobbin to do the warping job and eliminate the

hassle of preparing a great number of yarn bobbins. Besides, the unique “Ring” warping design gives the machine the most efficient warping method and best quality of warp sheet with consistent tension.



Mini Lutan - single-end warping machine

The combination of Evergreen II and Mini Lutan is an ideal choice for producing most types of airbag fabric sample in a relatively short time scale.

[Results]

CCI's airbag solution will help you complete the warping and weaving jobs in a very short time while minimizing the use of materials, labor and space requirement. That means the good quality of warp sheet produced by Mini Lutan could be woven on Evergreen II at high weave constructions. Together, they were able to complete the airbag fabric with 900 mm width, in 470 dtex & 53 ends/inch x 53 picks/inch. The fabric's structural stability can withstand inflation and collision forces when the airbag is deployed during an accident.



Airbag textile sample

[Machines Recommended]

Evergreen II | Sampling Loom

Quick Facts:

- Weaving Speed: 50 ~ 100 ppm max.
- Weaving Length: 30 m
- Weaving Width: 500 mm / 900 mm
- Weaving / Preparation Time (approx.): 14 hrs / 12 hrs for 900 mm width



Evergreen II J | Jacquard Sampling Loom

Quick Facts:

- Weaving Speed: 50 ~ 100 ppm max.
- Weaving Length: 30 m
- Weaving Width: 500 mm / 900 mm
- Weaving / Preparation Time (approx.): 14 hrs / 2 hrs for 900 mm width



Mini Lutan | Single-end Warping Machine

Quick Facts:

- Warping Speed: 400 m/min max.
- Warping Length: 30 m
- Warping Width: 500 mm / 900 mm
- Number of Bobbins Required: 1
- Warping Time (approx.): 3 hrs for 900 mm width



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