

# MANUFACTURING HIGH-LOFT NONWOVENS



# THROUGH-AIR LINES

For insulation, cushioning and filtration materials

# Through-air bonding solutions for high-loft nonwovens

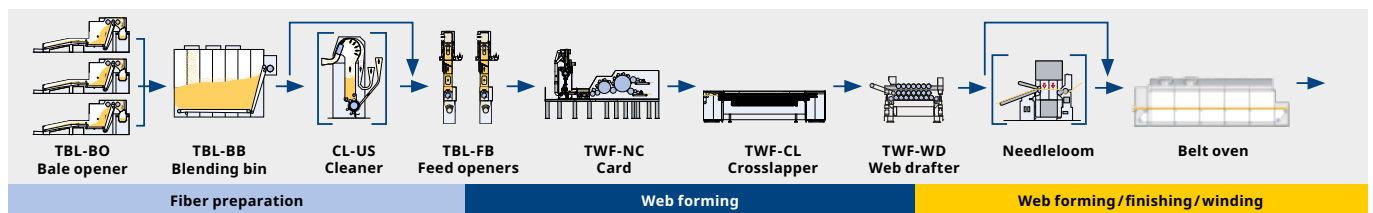
High-loft nonwovens have a distinct three-dimensional structure with a significant thickness or loft, making them useful for various applications that require cushioning, insulation, and comfort.

In the apparel sector their insulating properties offer benefits in outdoor clothing, winter jackets, and sleeping bags. In mattresses, pillows, and upholstered furniture they provide cushioning, comfort, and insulation.

The bulky, yet porous and lightweight structures can further be used for gas and liquid filtration processes and also for protective packaging. They make for an excellent foam substitute that brings comfort to car seat cushions and reduces noise from the engine.

High-loft nonwovens can be engineered with different fiber blends, densities, and thicknesses to achieve specific performance characteristics to meet applications' needs.

## A typical high-loft nonwovens line



## The production process

High-loft nonwoven lines implement a through-air bonding process. When hot air surpasses bicomponent fibers or a blend of fibers with different melting points, fibers melt or soften and bond together as they cool.

To maximize profitability and efficiency, recycling fibers from the line can be re-introduced with a high dosing accuracy. Our special recycling tower perfectly serves each different recipe.

## Cooperation for belt ovens

Trützschler Nonwovens partners up with various oven suppliers. We provide the complete production line including the oven and all outlet units suited to the application. Belt ovens generate thick, low-density nonwovens tailored to the end product's requirements.

## Key components in through-air bonding

All machinery is carefully chosen:

- The T-BLEND equipment ensures reliable and highly precise fiber opening and blending
- The TWF-NC card is known for precise carding, a perfect fiber distribution and forming a homogeneous web.

## Good to know

- For nonwovens up to 2,000+ gsm
- The highly precise pan weighing system of the bale openers delivers a blend accuracy of +/- 1% and thus saves expensive bico fibers
- The T-WEB forming process provides leading carding quality and very precise, superior webs for every weight and application
- For some application a vertical or elliptic pre-needling process can be integrated

## Cooperation partner Texnology

Texnology s.r.l. optionally supplies the pre-needler. The company is a leading manufacturer of next-generation needlelooms, profiling and high-speed crosslapper systems designed to minimize vibrations, noise, wear, tear and maintenance efforts.

The high-loft web with precise edges and fitting layers is formed by our high-capacity crosslapper and web drafter.

- Trützschler's T-BLEND and T-WEB components implement the "Clean Concept" which enables high machine availability and overall line efficiency