



NONWOVEN TERMS

For the informed employee

Spunlaid

There are many different methods for making nonwovens and many different materials from which to make them. A large percentage of the nonwovens made today are done so using the method called spunlaid. This method involves using thermoplastic resins such as polypropylene, polyester, and nylon. The resins are melted using heat and pressure in a device called an extruder. The material becomes a viscous liquid like honey and it is made into strands. These strands are cooled and become fibers. The fibers are collected and then bonded, usually by means of a calendar. After bonding, the fibers have become a fabric that can be made into rolls and cut to width.

There are four main types of spunlaid processes.

1. Spunbond employs spinneretts to produce continuous strands of fiber. The strands are stretched to give them strength, randomly dispersed on a moving conveyor made of fine screen, and bonded by a calendar.
2. Melt blown machines use high velocity air to blow the fibers out of the spinnerette onto a moving screen conveyor. The melt blown process produces much finer fibers than the spunbond process. Melt blown webs do not have to be bonded but can be if the product requires greater strength.
3. Flash spinning is a method that uses a solvent and a polymer mixed together. The hot mixture is under high pressure and when released through an orifice, the solvent flashes off and fibers are produced. They are collected on a conveyor and bonded.
4. Electrostatic spinning uses a solvent and polymer solution, but the solution is highly charged and spinning occurs when the mixture is drawn to a grounded collector.

The spunbond and melt blown processes are widely used throughout the world. The fabric is used in hygienic products, medical gowns and drapes, filters, construction products, and industrial fabrics. Flash spinning and electrostatic spinning are not widely commercial but show promise because of the small fibers they are able to make.

“People do not lack strength, they lack will”.

Victor Hugo

Training tools by Nonwoven Tools LLC
Visit us at nonwoventools.com
Copyright Nonwoven Tools LLC 2010

