



NONWOVEN TERMS

For the informed employee

Spunbond

There are several methods of making nonwovens under the general term of “spunlaid”. The spunbond process is one of these. For many years, thermoplastic (PP, PET, nylon, etc.) fibers have been extruded through dies and collected into bundles to make tow (uncut fibers) or staple fiber (cut fibers). Several companies starting in the 1950’s realized that these fibers could be collected on a moving porous conveyor and by bonding the web, a fabric could be produced.

A spunbond machine consists of (1) a dispensing system to supply thermoplastic pellets, (2) an extruder to melt the plastic and pressurize the resulting liquid, (3) a spin beam to distribute the melt, (4) spinnerettes to form the melt into individual streams, (5) a quench air system to cool the liquid streams into fibers, (6) a high velocity air system to stretch the fibers to reduce their diameter and align the polymer molecules thus increasing the strength of the fibers, (7) a dispensing system that moves the fibers and distributes them evenly, (8) a collecting conveyor to catch the fibers and carry them, (9) a bonding station such as a calendar that causes the fibers to stick together and form a fabric, and (10) a winder to form the fabric into rolls.

Spunbond fabric can be made at high speeds, in light to medium weights, with good strength, and in wide widths. It is used in everything from house wrap to surgical gowns to baby diapers.

Most of the nonwovens in the world are made by the spunbond process or some combination of spunbond with other processes.



Filaments being collected on a Reifenhäuser spunbond machine

Picture location is: <https://ssl.reifenhäuser.com/dweb-bin/d3weblink.cgi/d3?ACL=PP&Q4=P000658316&Q5=Fr&IE=.pdf>

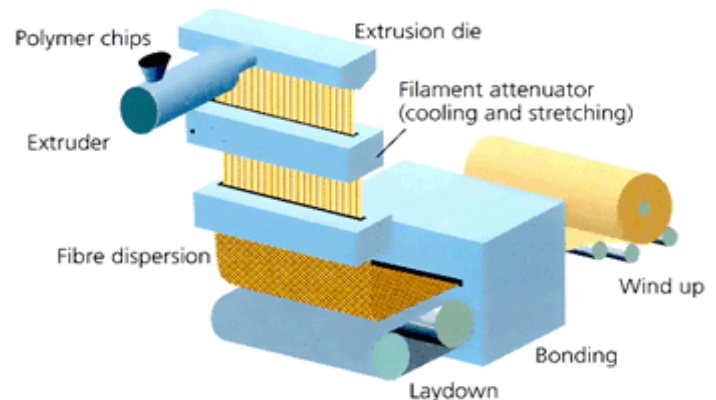


Illustration of the spunbond process from the EDANA website.

Picture location is: <http://www.edana.org/Content/Default.asp?PageID=41>

“If you once forfeit the confidence of your fellow citizens, you can never regain their respect and esteem. It is true that you may fool all of the people some of the time; you can even fool some of the people all of the time; but you can’t fool all of the people all of the time.”

Abraham Lincoln

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