

Airlaid Nonwoven Technology

An Overview

The term *airlaid nonwoven* refers to a manufacturing technology that produces a web from short fibers, most often softwood pulp. The process is also referred to as *short fiber airlaid technology* to distinguish it from the Rando Weber airlaid process that handles long synthetic fibers, generally rayon or polyester.

While the principal fiber used to produce airlaid nonwovens is fluff pulp other natural and synthetic fibers can be used. The airlaid process was originally conceived as a method of making paper without the use of water. In paper making, wood pulp is bonded principally by a chemical reaction between the pulp's natural cellulose and water. To enhance the paper's strength bonding agents such as resin are added. In contrast, airlaid nonwoven technology generally uses latex emulsions, thermoplastic fibers or some combination of both to bond the web's fibers and increase the strength and integrity of the sheet. The process yields a paper-like fabric that is thicker, softer and more absorbent than paper. It also has greater tear resistance and tensile strength, particularly when wet.

These physical characteristics of airlaid nonwovens make them suitable for many disposable absorbent applications in consumer, industrial and institutional markets. The main product categories where airlaid nonwovens are currently used include:

Disposable wiping applications :

- Baby wipes
- Wet hand wipes
- Household cleaning wipes and mops (dry and wet)
- Industrial wipes (dry and wet)

Table-top and food handling applications:

- Napkins
- Table covers
- Cooking paper
- Oshibori
- Meat pads

Personal Care Products

- Feminine napkins
- Adult Incontinence products
- Baby diapers, training pants, swimming diapers

Adapted from *Airlaid Pulp Nonwoven Primer* and printed with permission from INDA, Association for the Nonwovens Fabrics Industry.