

A NONWOVEN IS

A primarily fibrous assembly — other than a traditional paper, woven, or knit — which has been engineered to some level of structural integrity by physical and/or chemical means.

Addendum: Relative Terminology Defined

FIBROUS ASSEMBLY

A predetermined amount and arrangement of natural or manufactured fibrous material such as, but not limited to fibres, continuous filaments, or chopped yarns of any length or cross-section. It can be a planar (two-dimensional) or three-dimensional alignment of fibrous material.

ENGINEERED

An application of science to design, plan and manufacture products to utility specifications.

STRUCTURAL INTREGRITY

A measureable level of unity.

PHYSICAL AND/OR CHEMICAL MEANS

A specific method of bonding technology.

PAPER

Paper is traditionally regarded as a thin material produced by pressing moist, refined, wet laid cellulose fibers together and drying them to create a hydrogen bonded sheet.

The fibers in paper are typically short and always wet laid from a water suspension. When re-wet, the hydrogen bonds between fibers are broken, and paper typically loses almost all of its strength. The wet laying of refined fibers, plus the primary role of the hydrogen self-bonding that occurs between cellulose

fibers during drying, distinguish paper from nonwovens.

In a wet laid process where cellulose or other fibers are engineered to a level of structural integrity by physical and/or chemical means other than hydrogen bonding, the assembly can be considered to be a nonwoven. In some papers, to achieve wet strength, a polymeric binder (referred to as “wet strength resin”) is added to the structure, which would render it a nonwoven.

WOVEN OR KNIT FABRICS

These begin as a thread or yarn and are bonded together by interweaving, not arranged as individual fibers, thus being woven or knitted and not nonwoven.

FILMS, NETS AND FOAMS

These are cast from chemicals into their final form without individual fiber bonding, even though perforated films can appear to have individual fibers.

STITCHBOND

These materials are classified as nonwovens. They are primarily fibrous, and engineered to a given level of integrity by physical means for specific applications. The fibers are bonded by stitches sewn through the web to form a fabric assembly.

WADDING

Waddings are assemblies, primarily fibrous, engineered to a given level of integrity by various means for specific applications. Waddings are not woven, knitted, or made by a traditional paper process and can be considered nonwovens when bonded throughout the assembly.

COMPOSITES AND MULTI-COMPONENT STRUCTURES

NONWOVEN COMBINATION SYSTEM LAMINATES AND
COMPOSITES

Generally, nonwoven composites and nonwovens combined with other discrete materials as a laminate can be considered as nonwovens.