



NONWOVEN TERMS

For the informed employee

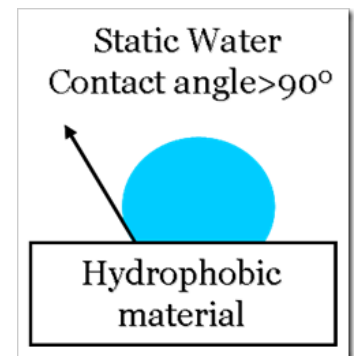
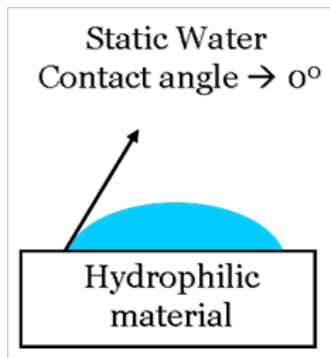
Hydrophobic/Hydrophilic

Depending on the end use of a nonwoven fabric, it may be advantageous or detrimental for the fabric to be able to absorb water. There are two terms used to describe a fiber or fabric's propensity to absorb or repel water. Those terms are hydrophilic and hydrophobic. "Hydro" is a Greek word meaning water. "Philic" means loving and "phobic" means hating. Thus hydrophilic means water-loving and hydrophobic means water-hating.

With respect to fibers, natural fibers tend to be hydrophilic, especially when natural oils have been removed from them. Thermoplastic fibers tend to be hydrophobic unless they are treated with chemicals to make them hydrophilic.

Things are a little different with nonwoven fabric depending on the thickness of the fabric and how the fabric is made. Thin fabric tends to behave like the fibers from which it is made. Thick fabric such as a needlepunch can absorb water even if it is made from fibers that do not naturally absorb because the water can migrate by capillary action into spaces within the fabric. Mechanical methods such as pushing the fabric under the water or squeezing the fabric under water can have an effect as opposed to just lying the fabric on the surface of the water.

Chemicals such as surfactants, wetting agents, and rewetting agents can make a fabric that is naturally hydrophobic into one that is hydrophilic. There are also chemicals that can make hydrophilic fabric hydrophobic.



The leaves of the lotus blossom are naturally hydrophobic. Water just beads up.

“One important key to success is self-confidence. An important key to self-confidence is preparation.”

Arthur Ashe

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