

Second Chance

Recycling gives textiles, plastic bottles a new life in nonwovens.

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Reduce. Reuse. Recycle. Whether this mantra is viewed as a way to trim costs and tighten margins, as a means to offer an environmentally friendly alternative to customers or both, nonwovens manufacturers are giving many products a second life and significantly reducing the amount of materials in landfills.

This trend is being seen across disposable and durable markets ranging from wipes to insulation to automotive materials to carpet backing and using recycled materials has become such a hot trend that sourcing materials to recycle has become a challenge.

Bonded Logics, Phoenix, AZ, has dealt with sourcing challenges through the formation of a second company, Phoenix Fibers, that is dedicated solely to textile waste recycling. This company sorts and recycles both pre- and post-industrial textile materials and turns them into virgin fibers that Bonded Logics—as well as external customers—use in construction materials and other airlaid nonwovens.

In addition to textile scraps, nonwovens producers are sourcing recycled polyester bottles to turn into PET-based nonwovens in a variety of industries. However demand for these bottles has been steep due to foreign demand as well as problems with recycling infrastructures in the U.S. Still, the environmental impact of recycling polyester cannot be ignored. According to the National Association for Container Resources (NAPCORO recycling PET reduces energy consumption by 84% and greenhouse emissions by 71% (compared to using virgin fiber). Annual recycling of 1.5 billion pounds of PET containers into fiber resulted in 46 trillion BTUs of energy saved, enough to power 486,000 homes. In terms of end results, 85 16-ounce polyester bottles will produce the fill for one sleeping bag, five two-liter bottles will produce a 72-count box of wipes and five 16-ounce bottles can make the acquisition distribution layer material for one 72-count box of diapers.

A PET Project

Poole & Company, a Greenville, SC distributor of recycled fibers and polyester fiber, has found that using recycled fibers can produce an equivalent wipe product that goes through the same testing and approvals as virgin fibers, yet it is environmentally friendly and sustainable. The company's EcoSure recycled fiber product is made from post consumer recycled materials,

which have been specifically diverted from a landfill.

The process of how a PET bottle becomes a nonwoven wipe starts when the bottle is collected by independent private and public collection agencies. The PET undergoes a rigorous sorting and washing process and is ground into flake. During the fiber-making process, the flake is melted down at 290°C into liquid polymer. The liquid polymer is extruded and spun into polyester staple fiber using the same process as high-quality staple virgin fibers. The fiber is purchased and used by manufacturers to produce nonwoven fabrics, using spunlace, thermal or adhesive bonding as well as needlepunching processes.

EcoSure fibers range from 1.2 denier to 500 denier and are made from 100% PCR PET. “Very few manufacturers can make the whole gamut of denier using cycled fibers,” CEO David Poole says. “EcoSure is suitable for hygiene, industrial products, geotextiles and all types of textile products

“EcoSure is a very good fit for single-use items like wipes where earth-friendly and sustainable issues are problematic. Wipes with virgin content are used once and thrown away. Wipes made with EcoSure fibers essentially have two lives.” [Article continued.](#)

Source: Nonwovens Industry

http://www.nonwovens-industry.com/issues/2013-04/view_features/second-chance/