

## Nonwovens for Automotive Interiors – More Than Just Cost Benefits

a report by

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### What are Nonwovens?

Nonwovens are very much a buzz word in automotive interiors. There are, however, many misconceptions as to what they are and what they can be used for. In simple terms, nonwovens are textiles that are neither knitted nor woven but, from the technical point of view, they refer to textiles that are produced by a wide range of high-capital low-labour technologies that provide optimum control over the desired parameters. These short, highly monitored and controlled processes can produce textiles at an extremely economical rate and at the same time impart the technical properties required for various decorative and unseen applications within the vehicle.

### Not All Nonwovens are the Same

Nonwovens can be produced from under 10 grams per square metre (g/m<sup>2</sup>) to well over 1,000g/m<sup>2</sup> using fibres that can be many times finer than the human hair or extremely coarse. Most natural and synthetic textile fibres can be used, such as polyester, polypropylene, polyamide and wool, with technologies such as chemical bonding, point bonding, needle punching and malfleece. With this range of weights, fibres and technologies, the nonwovens produced can be very different in appearance and performance.

Some of the original automotive nonwovens used for decorative trim, particularly for headliners, were almost blanket-like in appearance due to the use of coarse fibres. The process technology used resulted in poor performance in terms of abrasion and scuffing. These products gave nonwovens a bad reputation in the early stages of their introduction. Nonwovens have come a long way since those days.

A new generation of more sophisticated nonwovens are used today. The Cosmopolitan Textile Company is a leading supplier of high-quality nonwoven

automotive trim. Manufacturing is carried out in both Europe and North America.

### Headliners

Specialising in fine-denier nonwovens for headliners that are used by all of the major original equipment manufacturers worldwide, this range of products offers enormous cost savings when compared with traditional knits that have been around for many years. The range includes non-directional decorative facings, random print designs and technical-looking three-dimensional-effect fabrics.

The fabrics are easily processed and can be subjected to much higher temperatures than some other fabrics. This feature makes 'one-shot moulding' possible. Many of the first-generation nonwovens used latex and other chemicals in an attempt to improve the resistance to scuffing and abrasion but, by contrast, Cosmopolitan fabrics are 100% polyester utilising differential melting-point solution-dyed, bi-component fibres. The end result is a fabric that combines a rich appearance with high technical specifications.

A final plus point concerns the drive towards recyclability. These nonwoven fabrics, coupled with polyethylene terephthalate headliner substrates, are a major development towards achieving that objective. ■

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