ExxonMobil

Create new softness for nonwovens

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Vistamaxx™ performance polymers are providing manufacturers of nonwoven fabrics with possibilities to develop new kinds of soft nonwovens. Vistamaxx polymers can be used to satisfy consumer trends for softness and improved comfort and fit in polypropylene (PP)-based nonwovens, while helping the industry's needs for cost-effective production.

Key advantages

- New types of softness
- Improved comfort
- Enhanced drapability
- Cost-effective production
- Reduced weight
- Proven for hygiene applications

Responding to market trends

Manufacturers of nonwoven fabrics are looking for innovative ways to introduce differentiated products that are safer and deliver cost-effective functionality to meet customer needs. Brand owners require new levels of softness, without compromising performance. And, while consumers are looking for enhanced softness as well, they are also seeking better fit and lower weight. As the perception of softness often varies from region to region, manufacturers are searching for ways to tailor the properties of fabrics to meet different customer needs depending on where they are located.

A new kind of soft nonwoven

Blending Vistamaxx polymers with PP resins enables innovative solutions for premium soft nonwovens that are a simple, cost-effective alternative to existing technology. These soft solutions can be run on conventional state-of-the-art spunmelt equipment and often do not require additional machinery.

New possibilities for softness and drapability

Vistamaxx 7020BF is blended with PP homopolymer resin to create nonwovens in which the properties can be tailored to deliver enhanced softness, drapability and touch. Compared to materials such as carded PP nonwovens and bi-component (BiCo) fabrics (PP core, PE sheath), nonwovens containing Vistamaxx polymers demonstrate an attractive combination of performance, mechanical properties and cost reduction opportunities.

As a result, Vistamaxx™ performance polymers are used for nonwoven fabrics that come into contact with skin, including the top sheet and barrier leg cuff of diapers. Vistamaxx polymers are also appropriate for fabrics that influence user perception of softness, such as back sheets, fastening system components, and the acquisition and distribution sub-layers within the nonwoven construction.

Cost effective and easy to process

Adding Vistamaxx polymers to PP resin is a simple, cost-effective alternative to existing technology based on BiCo or carded PP nonwovens. Because Vistamaxx is a tailored solution for existing technologies, such as spunmelt equipment, little or no additional equipment investment is required to upgrade or change existing production lines. A proven solution for nonwovens in hygiene applications, Vistamaxx polymers also provide a reasonable cost-performance balance compared with conventional polypropylene spunbond alternatives.

Additionally, because softness solutions based on Vistamaxx polymers exhibit better tensile properties than a carded PP nonwoven, this creates opportunities to downgauge fabrics such as top sheets. Raw material consumption can be reduced leading to overall unit cost savings.

Vistamaxx performance polymers from ExxonMobil Chemical

Vistamaxx polymers can create new possibilities for manufacturers of nonwoven fabrics due to their versatility and combination of properties that deliver enhanced elasticity, strength, softness, breathability and drapability, while being lightweight.

Because Vistamaxx polymers are polyolefinic copolymers of propylene and ethylene, they exhibit excellent compatibility with other polymers and can be utilized to achieve targeted attributes in many nonwoven applications, including hygiene absorbent products such as diapers, and medical products.

Proven commitment

With over forty years of market leadership, ExxonMobil Chemical is fully committed to the nonwovens industry by continuing to invest in new technology solutions, capacity and application support capabilities to support the growing market demand for nonwovens.

Figure 1:

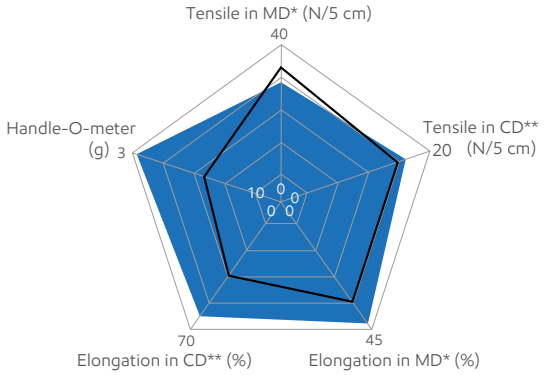
Improvement of nonwovens attributes Softness of spunbond nonwovens is improved by increasing Vistamaxx polymers content, as indicated by the decrease in total hand (stiffness).

Data generated by or on behalf of ExxonMobil Chemical

Test	Based on test method
Total hand	INDA/EDANA WSP90.3
COF (coefficient of friction)	ASTM D1894

Figure 2:

Comparison with spunbond soft nonwoven (NW)



■ 83% ExxonMobil™ PP3155E5 + 16% Vistamaxx 7020BF + 1% slip masterbatch

■ 100% ExxonMobil PP3155E5 fabric

* MD = Machine Direction ** CD = Cross Direction

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Test	Based on test method
Handle-O-meter	WSP 90.3
Tensile and elongation	WSP 110.4

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Contact us for more information:
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