The Interior Textiles Report

SupplierInsight

June 2016

supplierbusiness.com

SECTORAL REPORT

Interiors



Contents

Report Textiles beyond apparels – Future cars to be decked up with more textiles – Limited resources, rising raw material prices driving demand for	4 5 6
technical textiles	6
Factors predominantly determine increased demand for automotive	
textiles	6
 More domand for vehicles globally. 	6
 Need for lightweighting 	7
- Demand for more safety devices	7
- Textiles offer solutions to engineering problems	7
– Textiles help suppress vehicle's noise	7
Weight reduction, cost, process simplicity determine materials usability	8
- Urethane	8
- PU	8
- PC - Homp fibro-roinforced plastics	ð Q
– PP compound: most preferred material for door trim panels	9
- Yanfeng top charts for door trim panels production using PP	10
Processes used for production of door trim panels	11
– Global market for PP resin will continue to grow	12
 Injection moulding process will stay in demand for door panels 	
production	14
Suppliers' market share for door trim panels	15
 Increased level of consolidations OEMs move towards modular platforms to reduce their supplier base. 	16 17
Global automotive interior industry continues to strengthen	10
 More competition going forward 	20
Supplier Profiles	21
Faurecia	22
Grupo Antolin	76
IAC	80
Toyota Boshoku	137
rangieng Automotive interiors	159

COPYRIGHT NOTICE AND DISCLAIMER © 2016 IHS. For internal use of IHS clients only. No portion of this report may be reproduced, reused, or otherwise distributed in any form without prior written consent, with the exception of any internal client distribution as may be permitted in the license agreement between client and IHS. Content reproduced or redistributed with IHS permission must display IHS legal notices and attributions of authorship. The information contained herein is from sources considered reliable, but its accuracy and completeness are not warranted, nor are the opinions and analyses that are based upon it, and to the extent permitted by law, IHS shall not be liable for any errors or omissions or any loss, damage, or expense incurred by reliance on information or any statement contained herein. In particular, please note that no representation or warranty is given as to the achievement or reasonableness of, and no reliance should be placed on, any projections, forecasts, estimates, or assumptions, and, due to various risks and uncertainties, actual events and results may differ materially from forecasts and statements of belief noted herein. This report is not to be construed as legal or financial advice, and use of or reliance on any information in this publication is entirely at client's own risk. IHS and the IHS logo are trademarks of IHS.



Tables

Table 1: Classification of automotive textiles and their applications	5
Table 2: Definitions	5
Table 3: Processes	5
Table 4: Door Trim Panel - OEM Supplier Relationships - Multiregional	-
2016	20

Figures

Figure 1: Materials used in door trim panel production, 2015 to 2021	9
Figure 2: Door trim panel material technology segmentation, 2014	10
Figure 3: Suppliers' production of door trim panels using material typ	e,
2015	11
Figure 4: Production of door trim panels process-wise, 2015	12
Figure 5: Manufacturing processes used for production of door trim	
panels, 2015	13
Figure 6: Door trim panel material technology segmentation, 2021	13
Figure 7: Suppliers' production of door trim panels using material type, 2021	14
Figure 8: Manufacturing processes used for production of door trim	
panels, 2021	15
Figure 9: Suppliers' market share for door trim panel materials, 2015	16
Figure 10: Suppliers' market share for door trim panel materials, 2021	16
Figure 11: OEM supplier count for door trim panel material, 2015 and 2021	17
Figure 12: Top OEMs' sourcing structure, 2015	18
Figure 13: Suppliers' customer base for door trim panels, 2015 and 2021	19

chapter one Report

Textiles beyond apparels

The use of textiles is not just limited to apparels; the transition in the socio-economic structure of environment has enlarged the use of textiles in various applications, including automotive. Unlike apparels, automobile textiles carry a different definition and they are known as *technical textiles*. Technical textiles are textile materials produced for their mechanical traits and performance, rather than their aesthetic and appealing properties.

Automobile textiles, which are non-apparel textiles, are widely used in different product categories of vehicles, including interior trims, safety devices such as seatbelts and airbags, carpets, filters, battery separators, hood liners, hoses, and belt reinforcement. Their use is not only limited to enhanced automotive aesthetics; it is also widely utilised to provide comfort and safety. In addition, automobile textiles have found their use in applications such as design solutions to engineering problems in the form of composites, tire reinforcement, sound insulation, and vibration control. Both woven and non-woven fabrics are deployed in transport textiles because of certain advantages served by them.

Table 1: Classification of automotive textiles and theirapplications

Fibres used	Application areas	Characteristics
Nylon, polyester, polypropylene, wool, cotton, leather	Seat covers	Abrasion and ultraviolet (UV) resistance, attractive design and texture
Polyester, nylon filament yarn	Seatbelts	Tensile strength, abrasion UV resistance
Nylon, polyester, polypropylene	Carpets	Fade resistance, high durability, tensile strength, high abrasion resistance, low inflammability, mouldability
Nylon 6, 6; nylon 4, 6	Airbags	Resistance to high-temperature inflation gases, durability to storage over many years, tear strength
Polypropylene, nylon polyester	Door trims	Abrasion and UV resistance, attractive design and texture, structural rigidity
Polyester blends	Trunk liners	Storage, floor rigidity, abrasion resistance
Polyester, wool, nylon, acrylic	Upholstery	Abrasion and UV resistance, attractive design and texture
Polyester; nylon 6 and 6, 6; rayon; aramid	Tire cords, fabrics	High tensile strength, adhesion to rubber, fatigue resistance, impact resistance
HT polyester, aramid	Rubber reinforcements (hoses, belts, air springs)	Heat resistance, tensile strength, dimensional stability, adhesion to rubber, chemical resistance

Table 2: Definitions ABS Acrylonitrile-butadiene-styrene GRU Glass-reinforced urethane Hardboard Wood fibre-based Olefin polymer A synthetic fibre made from a polyolefin, such as polypropylene or polyethylene PC/ABS Polycarbonate and acrylonitrile-butadiene-styrene Powdered Finely divided particles of a metal metal PP Polypropylene PP/ABS Polypropylene and acrylonitrile-butadiene-styrene PP/flax A blend of primary flax fibre with polypropylene in a nonwoven (felt) mat, which is then compression-moulded to form a 3-D flax fibre composite-based part PP/natural fibre A blend of polypropylene and natural fibre composites PP/wood fibre Polypropylene and a blend of wood or natural fibres and/ or thermoplastics PU Polyurethane PUR Polyurethane-backed PUR/natural A blend of polyurethane and natural fibre composites fibre Wood fibre A blend of wood or natural fibres, and/or thermoplastics PBS/hemp Polybutylene succinate, a thermoplastic polymer resin of the polyester family, blended with hemp PP/ethylene Polypropylene and a blend of ethylene

Table 3: Processes

Cast skin	Cover is formed through the use of rotating mould	
Compression moulding	A one-step compression thermoform process that create a substrate and cover material in one step	
Dielectric	Cover material is bonded via electric wave generation	
Injection moulding	Molten plastic is forced into a die to form part/cover material	
Low- pressure moulding	A one-step low-pressure injection moulding process, which allows cover material to be placed in mould and fused to the substrate	
Slush cast	A variation of permanent mould casting that is used to produce hollow parts	
Spray urethane	Urethane is sprayed into a hot tool and then cooled to form skin; retainer and foam are added in the second step	
Vacuum die- cast	A method for die-casting using a vacuum die-casting machine	
Vacuum formation	Cover material is drawn over part via a vacuum process	
Foam Iamination	Cut and sewn with foam lamination	
Foil Iamination	Cut and sewn with foil lamination	
Hand wrapped	Hand wrapped (aka leather wrapped): leather cover is wrapped around the door trim panel	
Lamination	Cut and sewn with lamination	
Slush cast	A variation of permanent mould casting that is used to produce hollow parts	
Noto: Door trime	appel forecast as montioned in the report is as of lanuary 2017 and is	

Note: Door trim panel forecast as mentioned in the report is as of January 2016 and is subject to change.

Future cars to be decked up with more textiles

Technical textiles form a key part of a car and their use is growing day by day. Textiles determine the aesthetic aspect of a car, and hence have become a key selling point when customers demand for vehicle comfort and style. While some textiles are prominently visible to everyone, others are inconspicuous and yet highly effective such as tire cords, hoses, air and fuel filters, noise and vibration dampening, and body panel reinforcements. They are now being increasingly used because of their contribution towards reduction in overall weight (compared with alternative materials like plastics or wood), comfort, attractive design (improved look of textile surfaces such as seats and roof liners), safety, and recyclability.

Barring a global recession, prospects in the automotive sector look exceedingly bright for textile makers. There will be three big trends that will reverberate all the way down the supply chain and make big winners - and possibly a few losers - in the future automotive textile industry. The first trend is the continuation of more stringent regulatory standards that influence OEMs in many aspects, ranging from design to content. To this end, suppliers have improved their offerings by enabling automakers to lightweight their vehicles. While steel and aluminium have fought, or continue to fight their battle for material supremacy, on the sidelines, we have seen the increased use of plastics, especially composites. This comes alongside safety standards that have been regulated by the government or mandated by consumers, which is the counter-force to making vehicles lighter, and hence adding more compounds or resins that are lightweight.

The second key trend outlined is mass customisation. With constantly changing consumer demand, automakers have transitioned to mega-platforms with modular production systems that can support up to 10 separate – but related – vehicle families. These can give automakers the ability to roll out successive iterations and variations of contemporary models not only faster, but also more targeted to consumer preferences and needs. With urbanisation seen as a third key trend, growing urban population will have a profound impact on auto buyers and sellers, implying global transportation needs by 2050 are likely to double. All these factors will collectively influence demand for technical textiles.

Limited resources, rising raw material prices driving demand for technical textiles

Car interiors have become more important in recent years for a variety of reasons. People spend more time in their cars travelling longer distances, and hence they demand for an enhanced look and feel, which give them a pleasant and soft touch. In this regard, one of the senses getting a lot of attention in automotive interiors is touch. Apart from offering decoration and soft touch to the overall vehicle interiors, textiles are also used in more functional applications. For instance, carpets and textile headliners not only contribute to the overall comfort and furnishings of the interior, they also play an important part in the damping of sound and vibration. In tires, textile contributes to the performance, road handling, and tire durability.

To counter rising raw material prices and make best use of scanty resources, carmakers are committed to optimising vehicle's weight using textiles. OEMs are increasingly investing in developing lightweight materials for their mainstream passenger car models, with technologies initially used in low-volume, high-performance, and highvalue cars gradually being developed for more mainstream models. New manufacturing and design techniques make the use of these technologies more practical and cost-effective in a volume environment. Textiles provide important contributions and their applications are becoming more numerous and surprising.

Factors predominantly determine increased demand for automotive textiles

Increased demand for changing car interiors

Growing customer demand for cabin comfort, safety, and convenience will collectively influence growth in the automotive interior components market. Presently, car interior designs are largely influenced by consumers who place greater attention to comfort. Consumers these days demand for more comfortable seats that do not cause fatigue, and minimise noise from within and outside a car.

Interestingly, there has been a demand for premium look in a car as a result; appeal for luxury cars in terms of interior and seating style is filtering down to cost-efficient segments. All these changes have propelled a greater level of demand for enhanced textiles. For instance,