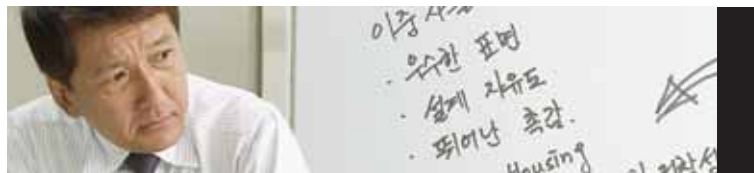


ARNITEL® TPE



Intro



Dedication Makes The Difference

At DSM Engineering Plastics, we're dedicated to providing you with state-of-the-art materials that add value to your end products. But we have a lot more to offer than excellent material performance alone. It's our dedication that makes the difference.

Delivering excellent solutions to your specific needs takes more than just materials, however advanced they may be. Every application is unique. So getting the right results virtually always demands customized application support. We possess in-depth application and process knowledge, gained in the widest possible range of industries and product categories. That means we are in a unique position to help you select the right material grades, and to support your design and production processes. That helps you translate your most innovative designs into new end-products, eliminating costly trial and error and reducing your time to market.

The way we do that is by listening, by understanding your process and your products, and by sharing your goals. Which means in many cases we can come up with solutions that really do make the difference.





The Really Flexible Solution

Arnitel® TPE copolyester elastomers from DSM are a unique family of materials that combine the properties and easy processing of engineering plastics with the flexibility of thermoset elastomers.

These high-grade thermoplastics do not require vulcanization to deliver optimal properties. This in many cases results in big savings in cycle time and component costs. Relative to other elastomers, Arnitel offers highly consistent performance over a wide temperature range, with very low variations in properties between low and high temperature extremes.

Design flexibility

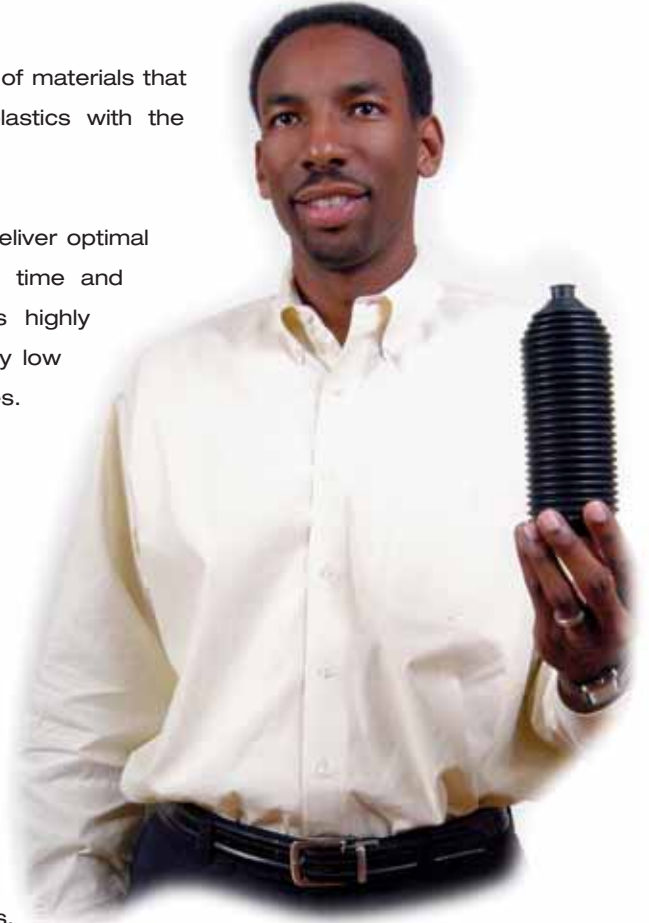
Thanks to its outstanding characteristics, Arnitel also offers you exceptional flexibility in design. Giving you the freedom to implement your most innovative product concepts, and to add value to your design process. And as a result, helping you to meet your customers' demands for ever-higher end-product performance and cost-effectiveness.

Exceeds application demands

Thanks to its outstanding flexibility, Arnitel can fulfill or even exceed the demands of applications that normally require conventional rubbers. And because it is available in a wide range of hardnesses, Arnitel has a unique capability to be used as a replacement for metals, leather, rubber and other thermoplastics. In many cases, delivering both superior performance and lower finished part costs.

Arnitel enables you to create effective solutions for the widest possible range of applications. In the automotive industry, for applications requiring exceptional resistance to fatigue, temperature variations and the effects of oil and grease like boots and bellows, airbag covers, airducts, auto interior, and tube and hose. In consumer goods, for mechanical components, two component (2K) solutions, soft touch applications, wire and cable, household appliances and many other components. In breathable films used for food packaging, medical applications, roofing membranes and garments. And in numerous other situations demanding an excellent combination of mechanical, electrical, thermal and chemical characteristics.

To experience the difference that our dedication can make, and to find out how your business can benefit from our materials, visit www.arnitel.com



Automotive



Airducts



Airducts that use Arnitel can be designed with thinner wall sections than other materials. Faster cycling with Arnitel reduces processing cost lowering total part costs by as much as 30%. Further benefits are better acoustic damping (by up to 10%) and easier mirror welding.

Airbag Covers



Airbag covers in Arnitel deliver superior low temperature performance and provide an attractive finish that blends in perfectly to the surrounding interior. No other TPE used today for an airbag cover can surpass the cold temperature resistance of Arnitel in deployment behavior at -35°C (-30°F).

RELIABILITY. PERFORMANCE. UNDERSTANDING.



Boots



Arnitel provides the best overall wear and abrasion performance for rack and pinion boots than any other thermoplastic elastomer.



Arnitel meets the most stringent automotive requirements for CV Joint boots. CV Joint boots made from Arnitel withstand more than three times the minimum requirement.

Convolute Tubing



Arnitel offers better durability, product integrity and easier processability than TPU or PA12 for automotive convolute tubing.

Vacuum Brake Tubing



Arnitel provides superb heat resistance under the hood for brake booster tubes and remains stiff, even at elevated temperatures up to 170°C (340°F). The stiffness of Arnitel helps eliminate the danger of a tube collapsing due to exposure to high heat.

Automotive Film



Arnitel lends flexibility, high temperature resistance, and resistance to fuels and oils for film used in automotive noise panels.

Door Strikers and Latches



Arnitel shows an excellent flow compared to other TPE-E preventing short shots, machine wear and giving shorter cycle time. These features are combined with excellent mechanical properties required for door strikers and latches. Arnitel can reduce part cost by 10%.

Electrical & Electronics



Keypads



The adhesion between Arnitel and PC is better than the adhesion between TPR / TPV and PC making the feeling of the Arnitel keypad similar to silicon rubber.

Antenna Covers



Arnitel offers excellent moldability of the hand-phone antenna cover and is available in a variety of colors making it easy to blend the antenna into the phone aesthetically. Studies quantifiably show that the shielding of the antenna is more effective in reducing harmful emissions to the brain.

Flexible Lids



Arnitel ensures outstanding aesthetics through easy colorability and consistency in color matching for flexible lids. The easy moldability of Arnitel with its outstanding flow ensures that even the very thin hinges are filled effectively giving the hinges adequate strength for repeated opening and closing operations.

Low Noise Gears



Low noise gears made with Arnitel reduce noise generation and display improved wear and friction properties. Special Arnitel grades ensure that there is no flash even on molds that are worn out lowering investments into new molds and bringing in additional savings to the molder.

RELIABILITY. PERFORMANCE. UNDERSTANDING.



Consumer

Ski Laminates



Arnitel provides temperature and impact resistance as well as fatigue endurance for ski and snowboard cover laminates. Arnitel exhibits excellent printability using sublimation print techniques and shows excellent UV stability.

Ski Bindings



Arnitel's excellent balance of strength and flexibility over a wide temperature range makes it the perfect fit for molded straps in ski bindings. By using Arnitel the straps are able to withstand UV exposure and are resistant to attack by chemicals.

Golf Balls



When Arnitel is used for the intermediate layer of a 3 piece golf ball the result is good adhesion, excellent flowability, and longer ball life. Arnitel in the middle layer gives the golf ball additional flight and a premium rebound during the strike.

Furniture



Arnitel offers a unique combination of stiffness, elongation and creep resistance for the suspension fabric in the seat carrier. Next to this, it provides strength and excellent fabric retention for the fabric containers.

Breathable Textiles



Arnitel based membranes are highly breathable while remaining wind and waterproof. Arnitel is elastic and soft by nature. Moreover Arnitel has a good washability and can be extruded on standard film equipment.

Tools



Arnitel offers the excellent grip and soft touch properties combined with excellent chemical resistance that is expected over the long lifetimes of hand tools like screwdrivers. Because Arnitel is ideal for the 2K injection molding that is frequently called for in ergonomic tool designs, it offers more design freedom and productivity options than alternative thermoplastic materials.

Tupperware Covers



Tupperware Kitchen Tools have a pleasant feel due to the two-part combination of soft and hard plastic materials. The use of Arnitel for the soft touch grip on the handle provides excellent adhesion to polycarbonate in 2K injection molding. Additionally, Arnitel has a superb scratch resistance, which make kitchen tools look better even after years of intensive usage.

Industrial



Railpads



With its superior performance over a wide temperature range, resistance to chemicals and fatigue, Arnitel railpads last twice as long as any other material.

Tubes and Hoses



The combination of excellent oil resistance, superior low temperature flexibility, good kink resistance and good heat resistance make Arnitel the material of choice for hydraulic and pneumatic tubes and hoses. The excellent processability of Arnitel enables extrusion with higher line speeds and better dimensional control than competitive products.

Wire and Cable



The outstanding flexibility and mechanical strength up to continuous use temperatures of 150°C (300°F) with flexible choice of processing options (tube extrusion and pressure die coating) makes Arnitel the unique choice for wire and cable applications.

Film



Arnitel based films offer water vapor permeability and ductility for medical garments and applications, roof membranes, and special food packaging.

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