



Tegris Sheet Stock

Technical Data Sheet

Product Description	Tegris 100% polypropylene sheet stock can be used directly as sheet goods or formed into articles yielding products that have a high stiffness-to-weight ratio and high impact resistance even at low temperatures.	
Product Construction	The sheet is comprised of multiple layers of fabric made from our proprietary polypropylene-based tape yarn woven into a twill or plain weave construction. The sheet matrix material is incorporated into the tape yarn making Tegris a self-reinforced polypropylene composite material.	
Typical Physical Properties	Note: The following technical information and data should be considered representative or typical only and should not be used for specification	
		ASTM Standard
	Bulk Density, g/cm ³	D792
	0.78	
	Tensile	D638
	Strength, MPa	200
	kpsi	30
	Modulus, GPa	5-6
	kpsi	720-870
	Elongation at break, %	6
	Flexural Modulus, GPa	D790
	kpsi	720-870
	Heat Deflection Temp, °C	D648
	1820 kPa	95
	455 kPa	130
	CTE (-60 to +40 °C), 10 ⁻⁶ /°C	D696
	10 ⁻⁶ /°F	3
	Gardner Dart Impact -40 °C	D5420
	(1.25 mm thick sheet)	
	J	24.7
	ft-lb	33.6
	Gardner Dart Impact 20 °C	D5420
	(1.25 mm thick sheet)	
	J	24.5
	ft-lb	33.3
	Notched Izod Impact	D256
	(1.25 mm thick sheet)	
	kJ/m	4.8
	ft-lbf/in	90
General Information	Tegris sheet is available in white and silver colors consolidated from plain, twill, and diamond weave fabric. The silver sheet may be better suited to outdoor use as its UV performance is improved. The twill weave has been shown to be slightly more moldable for complicated shapes while the plain weave has a higher screw pullout value for mechanically adhered samples. The diamond weave is available for more decorative needs.	



Tegris Sheet Stock

Technical Data Sheet

Product Characteristics

Impact Resistance – Tegris provides 2X to 15X improvement in impact resistance over typical thermoplastic composites and maintains this performance level at low temperatures (-40°C). With a ductile failure mode, Tegris has a great advantage over standard brittle materials.

Stiffness – Tegris is suitable for applications that have traditionally turned to glass reinforcement to achieve stiffness requirements

Weight Reduction – Tegris, being 100% PP, allows for tremendous weight reduction compared to other, higher density glass-filled composites

Recyclable – Tegris is fully compatible with polypropylene recycle streams

Glass Free – Tegris is free from the safety and processing issues associated with glass-filled composites, namely skin irritation and tool wear.

Applications

Anti-Ballistics	vehicle armor, helmets
Transportation	automotive / truck / bus parts
Sports and Leisure	helmets, recreational safety equipment
Watersports	canoes / kayaks
Construction	architectural panels, building materials

For Additional Information

North America Tegrisinfo@Milliken.com 864-503-1765	Europe TegrisinfoEurope@Milliken.com +49-172-9122105
---	---

Important Notice

EVEN IF MILLIKEN OFFERS TESTING OR ADVICE ABOUT THE USE OF ITS PRODUCT, MILLIKEN MAKES NO WARRANTIES ABOUT THE PRODUCT, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the Milliken product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a Milliken product in a particular application. Given the variety of factors that can affect the use and performance of the Tegris fabric, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for the user's intended purpose.

Limitation of Liability

IF THE MILLIKEN PRODUCT OR PERFORMANCE IS PROVEN TO BE DEFECTIVE OR CAUSES ANY CLAIM OR DAMAGE, THE EXCLUSIVE REMEDY, AT MILLIKEN'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE MILLIKEN PRODUCT. MILLIKEN SHALL NOT OTHERWISE BE LIABLE FOR LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL, REGARDLESS OF THE LEGAL THEORY ASSERTED, INCLUDING NEGLIGENCE, WARRANTY, OR STRICT LIABILITY.

Milliken & Company
Performance Products Division
PO Box 1926, M-153
Spartanburg, SC 29304

07/2007
Milliken Europe N.V
Ham 18-24.
B-9000 Gent
Belgium

