

Geolast™ 701-70

Thermoplastic Vulcanizate

Product Description	Key Features		
A soft, black, oil resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good hot air and hot oil resistance for use in a wide range of applications. This grade of Geolast TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and completely recyclable.	<ul style="list-style-type: none"> • Recyclable. • Designed for improved fluid resistance. • EU and China RoHS compliant. 		
General			
Availability ¹	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific 	<ul style="list-style-type: none"> • Europe • Latin America 	<ul style="list-style-type: none"> • North America • South America
Applications	<ul style="list-style-type: none"> • Automotive - Seals and Gaskets 	<ul style="list-style-type: none"> • Oil Resistant Seals and Gaskets 	
Uses	<ul style="list-style-type: none"> • Automotive Applications 	<ul style="list-style-type: none"> • Industrial Applications 	
Agency Ratings	<ul style="list-style-type: none"> • EU 2003/11/EC 		
RoHS Compliance	<ul style="list-style-type: none"> • RoHS Compliant 		
Automotive Specifications	<ul style="list-style-type: none"> • CHRYSLER MS-AR50 Type A 	<ul style="list-style-type: none"> • GM GMP.E/P.081 	
Color	<ul style="list-style-type: none"> • Black 		
Form(s)	<ul style="list-style-type: none"> • Pellets 		
Processing Method	<ul style="list-style-type: none"> • Blow Molding • Coextrusion • Extrusion 	<ul style="list-style-type: none"> • Extrusion Blow Molding • Injection Blow Molding • Injection Molding 	<ul style="list-style-type: none"> • Multi Injection Molding • Profile Extrusion • Sheet Extrusion
Revision Date	<ul style="list-style-type: none"> • 10/24/2008 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	1.04	1.04	ASTM D792
Density	1.04 g/cm ³	1.04 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C), 0.0787 in (2.00 mm)	75	75	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	551 psi	3.80 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	551 psi	3.80 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	841 psi	5.80 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	841 psi	5.80 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	220 %	220 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	220 %	220 %	ISO 37

Typical properties: these are not to be construed as specifications.

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ExxonMobil Chemical Geolast™ 701-70
Thermoplastic Vulcanizate

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tear Strength - Across Flow (73°F (23°C), Die C)	114 lbf/in	20.0 kN/m	ASTM D624
Tear Strength - Across Flow 73°F (23°C), Method Bb, Angle (Nicked)	110 lbf/in	20 kN/m	ISO 34-1
Compression Set			ASTM D395B
158°F (70°C), 22.0 hr, Type 1	29 %	29 %	
257°F (125°C), 70.0 hr, Type 1	36 %	36 %	
Compression Set			ISO 815
158°F (70°C), 22.0 hr, Type A	29 %	29 %	
257°F (125°C), 70.0 hr, Type A	36 %	36 %	

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-26 °F	-32 °C	ASTM D746
Brittleness Temperature	-26 °F	-32 °C	ISO 812

Injection Notes

Geolast TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide.

Extrusion Notes

Geolast TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Extrusion Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 257°F (125°C), 168 hr	5.0 %	5.0 %	ASTM D573
Change in Tensile Strength in Air 257°F (125°C), 168 hr	5.0 %	5.0 %	ISO 188
Change in Ultimate Elongation in Air 257°F (125°C), 168 hr	-23 %	-23 %	ASTM D573
Change in Tensile Strain at Break in Air 257°F (125°C), 168 hr	-23 %	-23 %	ISO 188
Change in Durometer Hardness in Air Shore A, 257°F (125°C), 168 hr	0.0	0.0	ASTM D573
Change in Shore Hardness in Air Shore A, 257°F (125°C), 168 hr	0.0	0.0	ISO 188

Additional Information

Values are for injection molded plaques, fan-gated, 102.0 mm x 152.0 mm x 2.0 mm (4.000" x 6.000" x 0.080").
Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.
Compression set at 25% deflection.

This product is manufactured by a third party under contract with Exxon Mobil Corporation or one of its affiliates, pursuant to a quality management system which complies with the requirements of ISO 9001:2000.

Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

This product, including the product name, shall not be used or tested in any medical application without the prior written acknowledgement of ExxonMobil Chemical as to the intended use.

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ExxonMobil Chemical Geolast™ 701-70 Thermoplastic Vulcanizate

Processing Statement

Desiccant drying for 3 hours at 80°C (180°F) is recommended. Geolast TPV has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC. The melt temperature should be maintained below 215°C (420°F). For more information, please consult our Material Safety Data Sheet, Injection Molding Guide, Extrusion Guide and Blow Molding Guide.

Notes

¹ Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

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Geolast™ 701-87W183

Thermoplastic Vulcanizate

Product Description	Key Features
<p>A hard, black, oil resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good hot air and hot oil resistance for use in a wide range of applications. This grade of Geolast TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and completely recyclable.</p>	<ul style="list-style-type: none"> • Recyclable. • Designed for improved fluid resistance. • EU Directive 2002/95/EC (RoHS) compliant.

General			
Availability ¹	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific 	<ul style="list-style-type: none"> • Europe • Latin America 	<ul style="list-style-type: none"> • North America • South America
Applications	<ul style="list-style-type: none"> • Automotive - Seals and Gaskets 	<ul style="list-style-type: none"> • Oil Resistant Seals and Gaskets 	
Uses	<ul style="list-style-type: none"> • Automotive Applications 	<ul style="list-style-type: none"> • Industrial Applications 	
Agency Ratings	<ul style="list-style-type: none"> • EU 2003/11/EC 		
RoHS Compliance	<ul style="list-style-type: none"> • RoHS Compliant 		
Automotive Specifications	<ul style="list-style-type: none"> • CHRYSLER MS-AR50 Type C 		
Color	<ul style="list-style-type: none"> • Black 		
Form(s)	<ul style="list-style-type: none"> • Pellets 		
Processing Method	<ul style="list-style-type: none"> • Blow Molding • Coextrusion • Extrusion 	<ul style="list-style-type: none"> • Extrusion Blow Molding • Injection Blow Molding • Injection Molding 	<ul style="list-style-type: none"> • Multi Injection Molding • Profile Extrusion • Sheet Extrusion
Revision Date	<ul style="list-style-type: none"> • 09/07/2007 		

Physical	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity	1.02	1.02	ASTM D792
Density	1.02 g/cm ³	1.02 g/cm ³	ISO 1183

Hardness	Typical Value (English)	Typical Value (SI)	Test Based On
Shore Hardness			ISO 868
Shore A, 15 sec, 73°F (23°C), 0.0787 in (2.00 mm)	87	87	

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tensile Stress at 100% - Across Flow (73°F (23°C))	711 psi	4.90 MPa	ASTM D412
Tensile Stress at 100% - Across Flow (73°F (23°C))	711 psi	4.90 MPa	ISO 37
Tensile Strength at Break - Across Flow (73°F (23°C))	1220 psi	8.40 MPa	ASTM D412
Tensile Stress at Break - Across Flow (73°F (23°C))	1220 psi	8.40 MPa	ISO 37
Elongation at Break - Across Flow (73°F (23°C))	280 %	280 %	ASTM D412
Tensile Strain at Break - Across Flow (73°F (23°C))	280 %	280 %	ISO 37
Tear Strength - Across Flow (73°F (23°C), Die C)	171 lbf/in	30.0 kN/m	ASTM D624

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**ExxonMobil Chemical Geolast™ 701-87W183
Thermoplastic Vulcanizate**

Elastomers	Typical Value (English)	Typical Value (SI)	Test Based On
Tear Strength - Across Flow 73°F (23°C), Method Bb, Angle (Nicked)	170 lbf/in	30 kN/m	ISO 34-1
Compression Set 158°F (70°C), 22.0 hr, Type 1 258°F (126°C), 70.0 hr, Type 1	38 % 55 %	38 % 55 %	ASTM D395B
Compression Set 158°F (70°C), 22.0 hr, Type A 257°F (125°C), 70.0 hr, Type A	38 % 55 %	38 % 55 %	ISO 815

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Brittleness Temperature	-27 °F	-33 °C	ASTM D746
Brittleness Temperature	-27 °F	-33 °C	ISO 812

Injection Notes

Geolast TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Injection Molding Guide.

Extrusion Notes

Geolast TPV is incompatible with acetal and PVC. For more information regarding processing and mold design, please consult our Extrusion Guide.

Aging	Typical Value (English)	Typical Value (SI)	Test Based On
Change in Tensile Strength in Air 257°F (125°C), 168 hr	2.0 %	2.0 %	ASTM D573
Change in Tensile Strength in Air 257°F (125°C), 168 hr	2.0 %	2.0 %	ISO 188
Change in Ultimate Elongation in Air 257°F (125°C), 168 hr	-18 %	-18 %	ASTM D573
Change in Tensile Strain at Break in Air 257°F (125°C), 168 hr	-18 %	-18 %	ISO 188
Change in Durometer Hardness in Air Shore A, 257°F (125°C), 168 hr	2.0	2.0	ASTM D573
Change in Shore Hardness in Air Shore A, 257°F (125°C), 168 hr	2.0	2.0	ISO 188

Additional Information

Values are for injection molded plaques, fan-gated, 102.0 mm x 152.0 mm x 2.0 mm (4.000" x 6.000" x 0.080").
Tensile strength, elongation and tensile stress are measured across the flow direction - ISO type 1, ASTM die C.
Compression set at 25% deflection.

This product is manufactured by a third party under contract with Exxon Mobil Corporation or one of its affiliates, pursuant to a quality management system which complies with the requirements of ISO 9001:2000.

Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

This product, including the product name, shall not be used or tested in any medical application without the prior written acknowledgement of ExxonMobil Chemical as to the intended use.

Processing Statement

Desiccant drying for 3 hours at 80°C (180°F) is recommended. Geolast TPV has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC. The melt temperature should be maintained below 215°C (420°F). For more information, please consult our Material Safety Data Sheet, Injection Molding Guide, Extrusion Guide and Blow Molding Guide.

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ExxonMobil Chemical Geolast™ 701-87W183 Thermoplastic Vulcanizate

Notes

¹ Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

For additional technical, sales and order assistance:

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