



Telcar® TELC-1000-92

Teknor Apex Company - Thermoplastic Elastomer

General Information

Product Description

Telcar TELC 1000-92 is a high hardness, low density general purpose thermoplastic elastomer designed for interior injection molding applications in the automotive industry.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Bondability • Filled • Good Colorability • Good Mold Release	• Good Moldability • Good Processability • High Hardness • High Melt Strength	• High Viscosity • Low Density • Low Flow • Low Specific Gravity
Uses	• Automotive Applications	• Automotive Interior Parts	
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-DB-590 CPN4660	• FORD WSB-M4D734-A	• TOYOTA TSM 050G Color: Black
Appearance	• Colors Available	• Natural Color	• Natural Color
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.913		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	2.6	g/10 min	ASTM D1238
Molding Shrinkage - Flow			ASTM D955
356°F, 30 min	0.013	in/in	
24 hr	0.011	in/in	
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus	42100	psi	ASTM D790
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
Flow : 100% Strain	1390	psi	
Across Flow : 100% Strain ²	1020	psi	
Tensile Strength			ASTM D412
Flow : Yield	1440	psi	
Across Flow : Yield ²	1070	psi	
Tensile Elongation			ASTM D412
Across Flow : Break ²	370	%	
Flow : Break ³	270	%	
Tear Strength - Across Flow	497	lbf/in	ASTM D624
Compression Set			ASTM D395
73°F, 22 hr	60	%	
158°F, 22 hr	74	%	
194°F, 70 hr	93	%	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (-40°F)	No Break		ASTM D256
Gardner Impact (-22°F)	300	in-lb	ASTM D3029
Tensile Impact Strength	224	ft-lb/in ²	ASTM D1822

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Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore D, 1 sec	49		
Shore D, 5 sec	41		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	145	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	105	°F	ASTM D648
Glass Transition Temperature	-68.6	°F	DSC
CLTE - Flow (-22 to 86°F)	6.6E-5	in/in/°F	ASTM D696
CLTE - Transverse (-22 to 86°F)	6.5E-5	in/in/°F	ASTM D696
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air			ASTM D573
230°F, 1008 hr	1.6	%	
257°F, 168 hr	4.3	%	
Change in Ultimate Elongation in Air			ASTM D573
230°F, 1008 hr	-43	%	
257°F, 168 hr	-40	%	
Change in Durometer Hardness in Air			ASTM D573
Shore D, 230°F, 1008 hr	1.7		
Flammability	Nominal Value	Unit	Test Method
Burning Rate	1.2	in/min	ISO 3795
Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity (392°F, 206 sec ⁻¹)	516	Pa·s	ASTM D3835
Additional Information			
Instrumented Dart Impact Energy @ Yield, -40°C, 9000 in/min, Ductile Failure: 200 in-lbs			
Instrumented Dart Impact Deflection @ Break, -40°C, 9000 in/min, Ductile Failure: 1359 mils			
Instrumented Dart Impact Energy @ Break, -40°C, 9000 in/min, Ductile Failure: 350 in-lbs			
Fogging, Kaake Buchler, 3 hrs, 100°C: 92			
Tear Strength, ASTM D1004, Die C: 364 lb/in			
Heat Aging Performance Izod Impact, 1000 hrs, 120°C: No Break			
Flammability Burn Rate, FMVSS 302, Max 100, 30.2 mm/min: Pass			
Flammability Burn Rate, FMVSS 302, Max 100, 1.2 in/min: Pass			
Poisson's Ratio, ASTM D 638, @-35°C = 0.337, @+23°C = 0.419, @+85°C = 0.363			

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	340 to 380	°F
Middle Temperature	350 to 390	°F
Front Temperature	360 to 400	°F
Nozzle Temperature	370 to 410	°F
Processing (Melt) Temp	370 to 410	°F
Mold Temperature	77 to 150	°F

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Injection	Nominal Value	Unit
Injection Pressure	200 to 1000	psi
Injection Rate	Moderate-Fast	
Back Pressure	25.0 to 50.0	psi
Screw Speed	50 to 100	rpm
Cushion	0.150 to 1.00	in
Extrusion	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	2.0	hr
Cylinder Zone 1 Temp.	330 to 370	°F
Cylinder Zone 2 Temp.	340 to 380	°F
Cylinder Zone 3 Temp.	350 to 390	°F
Cylinder Zone 5 Temp.	360 to 400	°F
Die Temperature	374 to 410	°F
Extrusion Notes		
Screw Speed: 30 to 100 rpm		

Notes

¹ Typical properties: these are not to be construed as specifications.

² 2.0 in/min

³ Type 1, 20 in/min