Telcar® TELC-1000-92

Thermoplastic Elastomer

Teknor Apex Company

Message:

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 Information			
Features	Low Specific Gravity		
	Low density		
	Low liquidity		
	Fill		
	High hardness		
Uses	Car interior parts		
Appearance	Natural color		
Forms	Particle		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	0.911	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	2.6	g/10 min	ASTM D1238
Molding Shrinkage - Flow			ASTM D955
180°C, 30 minutes	1.3	%	ASTM D955
24 hours	1.1	%	ASTM D955
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shaw D, 1 sec	49		ASTM D2240
Shaw D, 5 seconds	41		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Flexural Modulus	290	MPa	ASTM D790
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ASTM D412
Flow: 100% strain	9.60	MPa	ASTM D412
Transverse flow: 100% strain [1]	7.02	MPa	ASTM D412
Tensile Strength			ASTM D412
Flow: Yield	9.90	MPa	ASTM D412
Transverse flow: Yield [2]	7.40	MPa	ASTM D412
Tensile Elongation			ASTM D412
Transverse flow: Fracture [3]	370	%	ASTM D412
Flow: Fracture [4]	270	%	ASTM D412

Tear Strength - Across Flow	87.0	kN/m	ASTM D624
Compression Set			ASTM D395
23°C, 22 hr	60	%	ASTM D395
70°C, 22 hr	74	%	ASTM D395
90°C, 70 hr	93	%	ASTM D395
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (-40°C)	No Break		ASTM D256
Dart Drop Impact (-30°C)	33.9	J	ASTM D3029
Tensile Impact Strength	471	kJ/m^2	ASTM D1822
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air			ASTM D573
110°C, 1008 hr	1.6	%	ASTM D573
125°C, 168 hr	4.3	%	ASTM D573
Change in Ultimate Elongation in Air			ASTM D573
110°C, 1008 hr	-43	%	ASTM D573
125°C, 168 hr	-40	%	ASTM D573
Change in Durometer Hardness in Air (support d, 110°C, 1008 hr)	1.7		ASTM D573
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	62.5	°C	ASTM D648
1.8 MPa, not annealed	40.7	°C	ASTM D648
Glass Transition Temperature	-55.9	°C	DSC
Linear thermal expansion coefficient			ASTM D696
Flow: -30 to 30°C	1.2E-4	cm/cm/°C	ASTM D696
Lateral: -30 to 30°C	1.2E-4	cm/cm/°C	ASTM D696
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate	30	mm/min	ISO 3795
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Apparent Viscosity (200°C, 206 sec^-1)	516	Pa·s	ASTM D3835

Additional Information

Instrumented Dart Impact Energy @ Yield, -40°C, 9000 in/min, Ductile Failure: 200 in-lbsInstrumented Dart Impact Deflection @ Break, -40°C, 9000 in/min, Ductile Failure: 1359 milsInstrumented Dart Impact Energy @ Break, -40°C, 9000 in/min, Ductile Failure: 350 in-lbsFogging, Kaake Buchler, 3 hrs, 100°C: 92Tear Strength, ASTM D1004, Die C: 364 lb/inHeat Aging Performance Izod Impact, 1000 hrs, 120°C: No BreakFlammability Burn Rate, FMVSS 302, Max 100, 30.2 mm/min: PassFlammability Burn Rate, FMVSS 302, Max 100, 1.2 in/min: PassPoisson's Ratio, ASTM D 638, @-35°C = 0.337, @+23°C = 0.419, @+85°C = 0.363

Legal statement

Injection	Nominal Value	Unit

Rear Temperature	171 - 193	°C
Middle Temperature	177 - 199	°C
Front Temperature	182 - 204	°C
Nozzle Temperature	188 - 210	°C
Processing (Melt) Temp	188 - 210	°C
Mold Temperature	25.0 - 65.6	°C
Injection Pressure	1.38 - 6.89	MPa
Injection Rate	Moderate-Fast	
Back Pressure	0.172 - 0.345	MPa
Screw Speed	50 - 100	rpm
Cushion	3.81 - 25.4	mm
Extrusion	Nominal Value	Unit
Drying Temperature	80.0	°C
Drying Time	2.0	hr
Cylinder Zone 1 Temp.	166 - 188	°C
Cylinder Zone 2 Temp.	171 - 193	°C
Cylinder Zone 3 Temp.	177 - 199	°C
Cylinder Zone 5 Temp.	182 - 204	°C
Die Temperature	190 - 210	°C
Extrusion instructions		
螺杆转速30 - 100 rpm		
NOTE		
1.	51 mm/min	
2.	51 mm/min	
3.	51 mm/min	
4.	Type 1, 510mm/min	

Recommended distributors for this material

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