

Telcar® TL-8452

Thermoplastic Elastomer

Teknor Apex Company

Message:

Telcar TL-8452 is a high performance, halogen-free thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-8452 is a high durometer grade that is UV stabilized and RoHS compliant. This grade is suitable for both injection molding and extrusion.

General Information	
Features	No frost
	High elasticity
	High tensile strength
	Good UV resistance
	Good heat aging resistance
	Good flexibility
	Good coloring
	Medium liquidity
	Ozone resistance
	Good weather resistance
	Sunlight resistance, 720 hours
	General
	Halogen-free
	Extended tensile rate
Uses	Underground cable
	Cable sheath
	Electrical wire sheath material
	Electrical conductor insulation material
	Wire and cable applications
	Wire sheath
	Industrial cable insulation material
	Connector
	cord sheath
RoHS Compliance	RoHS compliance
	Opacity
Forms	Particle
Processing Method	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.998	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	19	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	82		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ¹			ASTM D412
100% strain, 0.508mm ²	4.14	MPa	ASTM D412
300% strain, 0.508mm ³	5.86	MPa	ASTM D412
Tensile Strength (fracture, 0.508mm)	17.2	MPa	ASTM D412
Tensile Elongation (fracture, 0.508mm)	700	%	ASTM D412
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (136°C, 168 hr)	-6.0	%	ASTM D573
Change in Ultimate Elongation in Air (136°C, 168 hr)	-23	%	ASTM D573
Change in Tensile Strength (60°C, 168 hr, in IRM 902 Oil)	-5.0	%	ASTM D471
Change in Ultimate Elongation (60°C, 168 hr, in IRM 902 Oil)	-2.0	%	ASTM D471
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	105	°C	ASTM D794
Brittleness Temperature	-60.0	°C	ASTM D746
RTI Elec	50.0	°C	UL 746
RTI	50.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (50°C)	9.6E+16	ohms · cm	ASTM D257
Dielectric Strength	42	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	2.10		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.810 mm, ALL)	HB		UL 94
Oxygen Index	18	%	ASTM D2863
Injection	Nominal Value	Unit	
Rear Temperature	199 - 216	°C	
Middle Temperature	213 - 221	°C	
Front Temperature	221 - 227	°C	
Nozzle Temperature	221 - 229	°C	
Processing (Melt) Temp	221 - 229	°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
Injection instructions		
Drying is not necessary. However, if moisture is a problem, dry the pellets for 2 to 4 hours at 150°F (65°C).		
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	193 - 210	°C
Cylinder Zone 2 Temp.	199 - 216	°C
Cylinder Zone 3 Temp.	213 - 221	°C
Cylinder Zone 5 Temp.	221 - 227	°C
Die Temperature	221 - 229	°C
Extrusion instructions		
Screw Speed: 30 to 100 rpm		
NOTE		
1.	die cut from extruded tapes	
2.	Mouth die C, 510mm/min	
3.	C mold, 510mm/min	

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

