

# T & T Marketing TPE 5345

Thermoplastic Vulcanizate

T & T Marketing, Inc.

Message:

TPE 5345 is a flexible natural, olefin-based thermoplastic vulcanizate (TPV) intended for wire and cable insulation and jacketing applications where high temperature performance and excellent flame resistance are required. TPE 5345 complies with "Restriction of Hazardous Substances" Directive, Citation 2002-95-EC, commonly known as RoHS without exemption. TPE 5345 exhibits excellent wet and dry electrical properties and superior chemical resistance. It also provides good resistance to abrasion, impact and crush. TPE 5345 also exhibits superior low temperature properties as demonstrated by it passing cold bend and impact testing at -40°C.

TPE 5345 contains a halogen-based, flame retardant additive package designed to reduce normal PE flame spread characteristics. It also offers good extrusion processing characteristics on either conventional polyethylene or PVC extrusion lines.

TPE 5345 is readily pigmented to a variety of colors using standard wire and cable color concentrates designed for thermoplastic or crosslinked polyolefins. UV light standards can be met with the addition of carbon black UV masterbatch.

General Information			
Additive	Flame Retardant		
Features	Flame Retardant		
	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Electrical Properties		
	Good Flexibility		
	Good Impact Resistance		
	Halogenated		
Uses	Cable Jacketing		
	Flame Retardant Insulation		
	Insulation		
	Wire & Cable Applications		
	Wire Jacketing		
Agency Ratings	UL 62, Class 1.14		
	UL 62, Class 1.18		
	UL 62, Class 2.20		
	UL 62, Class 2.28		
	UL 62, Class 36		
RoHS Compliance	RoHS Compliant		
Appearance	Natural Color		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.17	g/cm <sup>3</sup>	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 0.762 mm)	92		ASTM D2240

Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus (0.762 mm)	290	MPa	ASTM D790
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (0.762 mm)	16.5	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	600	%	ASTM D412
Aging	Nominal Value	Unit	Test Method
Retention of Tensile Elongation - 7 days at 136°C (762.0 µm)	75	%	UL 1581
Retention of Tensile Strength - 7 days at 136°C (762.0 µm)	90	%	UL 1581
Extruder Screw Compression Ratio	3:1		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-40.0	°C	ASTM D746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (1.91 mm)	1.6E+16	ohms·cm	ASTM D257
Dielectric Strength (1.91 mm)	26	kV/mm	ASTM D149
Dielectric Constant (1.91 mm, 60 Hz)	2.40		ASTM D150
Dissipation Factor (1.91 mm, 60 Hz)	2.7E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	25	%	ASTM D2863
Extrusion	Nominal Value	Unit	
Drying Temperature	82.2	°C	
Drying Time	3.0	hr	
Cylinder Zone 1 Temp.	185	°C	
Cylinder Zone 2 Temp.	193	°C	
Cylinder Zone 3 Temp.	202	°C	
Cylinder Zone 4 Temp.	213	°C	
Melt Temperature	213 to 218	°C	
Die Temperature	216	°C	

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