

# T & T Marketing TPE 5490

Thermoplastic Elastomer

T & T Marketing, Inc.

## Message:

TPE 5490 is a natural, olefin-based thermoplastic elastomer (TPE) intended for wire and cable insulation and jacketing. It is designed to offer excellent low temperature flexibility and deformation resistance. TPE 5490 offers good extrusion processing characteristics on either conventional polyethylene or PVC extrusion lines.

TPE 5490 is readily pigmented to a variety of colors using standard wire and cable color concentrates designed for thermoplastic or crosslinked polyolefins. UV weather resistance is obtainable by the addition of a suitable carbon black or UV additive.

## Application

TPE 5490 is intended for pump cable, flexible cord insulation, and fixture applications. It is also suitable for use in 75°C wet locations.

General Information			
Features	Flexibility at low temperatures		
Uses	Cable sheath		
	Wire and cable applications		
	Insulating material		
Agency Ratings	UL 62, Class 36		
RoHS Compliance	RoHS compliance		
Appearance	Natural color		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.890	g/cm <sup>3</sup>	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A, 0.762mm	82		ASTM D2240
Shore D, 0.762mm	34		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (0.762 mm)	25.5	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	650	%	ASTM D412
Aging	Nominal Value	Unit	Test Method
Tensile strength retention-7 days at 136°C (762.0 µm)	> 85	%	UL 1581
Elongation retention rate-7 days at 136°C (762.0 µm)	> 85	%	UL 1581
Heat Deformation (150°C, 762.0 µm)		%	UL 1581
Extruder Screw L/D Ratio	24:1		
Extruder Screw Compression Ratio	2.7 to 3.5:1		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -45.6	°C	ASTM D746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength (1.91 mm)	26	kV/mm	ASTM D149

Dielectric Constant (1.91 mm, 60 Hz)	2.20	ASTM D150
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	188	°C
Cylinder Zone 2 Temp.	199	°C
Cylinder Zone 3 Temp.	204	°C
Cylinder Zone 4 Temp.	210	°C
Melt Temperature	210	°C
Die Temperature	210 - 232	°C
Extrusion instructions		

Screw: Barrier or Single Flight Die: Smooth transition, With  $\geq 1/8$  in. land, Die & Tip include angle: 22-35° Throat: Water-cooled

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