

Generic TPV

Thermoplastic Vulcanizate

Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.879 - 0.999	g/cm ³	ASTM D792
23°C	0.901 - 0.983	g/cm ³	ISO 1183
--	0.879 - 0.893	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR)			
230°C/2.16 kg	0.54 - 2.5	g/10 min	ASTM D1238
190°C/5.0 kg	2.0 - 6.2	g/10 min	ISO 1133
Molding Shrinkage			ASTM D955
Flow: 23°C	1.3 - 3.0	%	ASTM D955
Transverse flow: 23°C	0.97 - 1.6	%	ASTM D955
Detergent Resistance	f4		UL 2157
Detergent Resistance	f3		UL 749
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	45 - 90		ASTM D785
Durometer Hardness			
23°C	28 - 95		ASTM D2240
23°C	34 - 93		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield, 23°C	4.48 - 110	MPa	ASTM D638
Fracture, 23°C	3.00 - 22.0	MPa	ISO 527-2
23°C	1.00 - 13.5	MPa	ASTM D638
23°C	4.10 - 8.40	MPa	ISO 527-2
Tensile Elongation			
Fracture, 23°C	300 - 710	%	ASTM D638
Fracture, 23°C	440 - 610	%	ISO 527-2
Elastomers	Nominal Value	Unit	Test Method
Tensile Set (23°C)	6 - 33	%	ASTM D412
Tensile Stress			
50% strain, 23°C	0.965 - 3.01	MPa	ASTM D412
100% strain, 23°C	0.500 - 4.82	MPa	ASTM D412

100% strain, 23°C	0.995 - 5.92	MPa	ISO 37
300% strain, 23°C	1.11 - 9.76	MPa	ASTM D412
300% strain, 23°C	2.07 - 10.3	MPa	ISO 37
Tensile Strength			
Yield, 23°C	1.38 - 17.3	MPa	ASTM D412
Yield, 23°C	2.94 - 22.2	MPa	ISO 37
Fracture, 23°C	2.33 - 12.1	MPa	ASTM D412
Fracture, 23°C	2.05 - 18.0	MPa	ISO 37
Tensile Elongation			
Yield	300 - 700	%	ASTM D412
Fracture, 23°C	280 - 680	%	ASTM D412
Fracture, 23°C	330 - 700	%	ISO 37
Tear Strength			
23°C	7.21 - 51.7	kN/m	ASTM D624
23°C	11 - 55	kN/m	ISO 34-1
Compression Set			
--	15 - 63	%	ASTM D395
23°C	9.2 - 37	%	ISO 815
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (23°C)	-61 - -0.20	%	ASTM D573, ISO 188
Change in Ultimate Elongation in Air (23°C)	-70 - 26	%	ASTM D573, ISO 188
Change in Durometer Hardness in Air (23°C)	-4.0 - 8.0		ASTM D573, ISO 188
Change in Tensile Strength (23°C)	-32 - 31	%	ASTM D471, ISO 1817
Change in Ultimate Elongation (23°C)	-50 - 25	%	ASTM D471, ISO 1817
Change in Durometer Hardness (23°C)	-3.0 - 3.0		ASTM D471, ISO 1817
Change in Mass (23°C)	-1.7 - 2.2	%	ASTM D471
Change in Mass (22.8°C)	-1.7 - 2.2	%	ISO 1817
Change in Volume			
23°C	0.0 - 1.2	%	ASTM D471
23°C	0.0 - 0.70	%	ISO 1817
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	125 - 140	°C	ASTM D794
Brittleness Temperature			
--	-60.6 - -59.5	°C	ASTM D746
--	-60.4 - -55.8	°C	ISO 812
Melting Temperature	158 - 160	°C	
RTI Elec	50.0 - 100	°C	UL 746
RTI Imp	50.0 - 65.0	°C	UL 746
RTI	50.0 - 95.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (23°C)	1.0E+3 - 2.8E+16	ohms · cm	ASTM D257

Dielectric Strength (23°C)	12 - 32	kV/mm	ASTM D149
Dielectric Constant			
23°C	2.29 - 2.70		ASTM D150
23°C	2.30 - 2.70		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Burning Rate	15 - 32	mm/min	ISO 3795
Oxygen Index	24 - 27	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	69.4 - 90.0	°C	
Drying Time	2.0 - 3.0	hr	
Suggested Max Moisture	0.080 - 0.083	%	
Rear Temperature	142 - 201	°C	
Middle Temperature	162 - 205	°C	
Front Temperature	179 - 206	°C	
Nozzle Temperature	195 - 211	°C	
Processing (Melt) Temp	196 - 217	°C	
Mold Temperature	29.3 - 47.8	°C	
Injection Pressure	4.14 - 104	MPa	
Back Pressure	0.0400 - 0.663	MPa	
Screw Speed	73 - 150	rpm	
Clamp Tonnage	5.5	kN/cm ²	
Cushion	4.76 - 14.6	mm	

Injection instructions

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Extrusion	Nominal Value	Unit
Drying Temperature	78.9 - 90.0	°C
Drying Time	1.8 - 3.0	hr
Hopper Temperature	168 - 171	°C
Cylinder Zone 1 Temp.	160 - 191	°C
Cylinder Zone 2 Temp.	170 - 193	°C
Cylinder Zone 3 Temp.	174 - 197	°C
Cylinder Zone 4 Temp.	180 - 199	°C
Cylinder Zone 5 Temp.	181 - 206	°C
Adapter Temperature	200 - 201	°C
Melt Temperature	194 - 205	°C
Die Temperature	170 - 210	°C
Back Pressure	12.5	MPa

Extrusion instructions

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