Product Comparison

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Technical Data

Product Description	
MULTIFLEX™ G60 A 11 BT 13893	Thermoplastic Elastomer based Styrenic
Generic TPE	This data represents typical values that have been calculated from all products classified as: Generic TPE This information is provided for comparative purposes only.

General	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE
Manufacturer / Supplier	• DuPont Mobility & Materials	• Generic
Generic Symbol	• TPE	• TPE
Material Status	• Commercial: Active	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
RoHS Compliance	• Contact Manufacturer	--

Physical	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Density / Specific Gravity				
--	--	0.785 to 1.34	g/cm³	ASTM D792
--	1.15	0.828 to 1.21	g/cm³	ISO 1183
--	--	0.870 to 1.18	g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR)				
190°C/2.16 kg	--	0.10 to 22	g/10 min	ASTM D1238
230°C/2.16 kg	--	0.20 to 18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	1.0	4.8 to 8.6	cm³/10min	ISO 1133
Spiral Flow	--	22.9 to 107	cm	
Molding Shrinkage				
Flow	--	0.47 to 2.3	%	ASTM D955
Across Flow	--	0.10 to 2.3	%	ASTM D955
--	--	1.4 to 1.8	%	ISO 294-4
Flow	1.4	--	%	ISO 294-4
Flow Length [2]	680	--	mm	

Mechanical	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Tensile Modulus	--	0.100 to 8.60	MPa	ASTM D638
Tensile Strength				
Yield	--	2.52 to 32.5	MPa	ASTM D638
Yield	--	5.00 to 36.0	MPa	ISO 527-2
Break	--	2.90 to 48.3	MPa	ASTM D638
Break	--	1.70 to 48.0	MPa	ISO 527-2
--	--	0.0414 to 13.8	MPa	ASTM D638
--	--	1.90 to 9.09	MPa	ISO 527-2
Tensile Elongation				
Break	--	320 to 820	%	ASTM D638
Break	--	79 to 850	%	ISO 527-2
Nominal Tensile Strain at Break	--	530 to 1000	%	ISO 527-2
Flexural Modulus				
--	--	1.86 to 338	MPa	ASTM D790
--	--	2.40 to 638	MPa	ISO 178
Flexural Stress	--	2.40 to 19.3	MPa	ISO 178

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Mechanical	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Taber Abrasion Resistance	--	1.18 to 370	mg	ASTM D1044
Films	**MULTIFLEX™ G60 A 11 BT 13893**	**Generic TPE**	**Unit**	**Test Method**
Oxygen Permeability	--	380 to 550	$cm^3 \cdot mm/m^2/atm/24\ hr$	ASTM D3985
Oxygen Transmission Rate (Wet)	--	422 to 516	$cm^3/m^2/24\ hr$	ASTM F1927
Water Vapor Transmission Rate	--	31 to 520	$g/m^2/24\ hr$	ASTM F1249
Elastomers	**MULTIFLEX™ G60 A 11 BT 13893**	**Generic TPE**	**Unit**	**Test Method**
Tensile Set	--	2 to 26	%	ASTM D412
Tensile Stress				
20% Strain	--	0.500 to 3.10	MPa	ISO 37
50% Strain	--	0.0242 to 5.80	MPa	ASTM D412
100% Strain	--	0.0193 to 4.64	MPa	ASTM D412
100% Strain	--	0.100 to 4.35	MPa	ISO 37
Across Flow : 100% Strain	3.10	--	MPa	ISO 37
200% Strain	--	0.0440 to 3.82	MPa	ASTM D412
300% Strain	--	0.0429 to 6.78	MPa	ASTM D412
300% Strain	4.10	0.720 to 6.30	MPa	ISO 37
Tensile Strength				
Yield	--	1.20 to 10.4	MPa	ASTM D412
Yield	--	1.63 to 13.3	MPa	ISO 37
Break	--	2.46 to 12.9	MPa	ASTM D412
Break	6.40	1.00 to 15.1	MPa	ISO 37
--	--	0.300 to 14.0	MPa	ASTM D412
Tensile Elongation				
Yield	--	500 to 1000	%	ASTM D412
Break	--	330 to 900	%	ASTM D412
Break	> 300	290 to 930	%	ISO 37
Tear Strength				
--	--	2.94 to 1880	kN/m	ASTM D624
--	--	8.47 to 44.6	kN/m	ISO 34-1
Flow	29.0	--	kN/m	ISO 34-1
Compression Set				
--	--	8.9 to 67	%	ASTM D395
--	--	8.0 to 81	%	ISO 815
23°C	12	--	%	ISO 815
70°C, 24 hr	24	--	%	ISO 815
100°C, 24 hr	39	--	%	ISO 815
Impact	**MULTIFLEX™ G60 A 11 BT 13893**	**Generic TPE**	**Unit**	**Test Method**
Notched Izod Impact				
--	--	40 to 950	J/m	ASTM D256
--	--	7.0 to 71	kJ/m^2	ISO 180
Hardness	**MULTIFLEX™ G60 A 11 BT 13893**	**Generic TPE**	**Unit**	**Test Method**
Durometer Hardness				
--	--	29 to 93		ASTM D2240
--	--	30 to 91		ISO 868
Shore Hardness	--	28 to 91		ISO 48-4
IRHD Hardness	--	49 to 78		ISO 48

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Thermal	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Continuous Use Temperature	--	105 to 107	°C	ASTM D794
Brittleness Temperature				
--	--	-65.2 to -54.9	°C	ASTM D746
--	--	-67.9 to -64.9	°C	ISO 812
Glass Transition Temperature	--	-57.2 to -39.0	°C	DSC
Vicat Softening Temperature	--	40.0 to 207	°C	ASTM D1525
Melting Temperature	--	160 to 218	°C	
Specific Heat	--	1600 to 3100	J/kg/°C	ASTM C351
Thermal Conductivity	--	0.15 to 0.23	W/m/K	ASTM C177
RTI Elec	--	50.0 to 90.0	°C	UL 746B
RTI Str	--	50.0 to 90.0	°C	UL 746B

Aging	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Change in Tensile Strength in Air				
--	--	-22 to 29	%	ASTM D573
--	--	-13 to 22	%	ISO 188
Change in Ultimate Elongation in Air				
--	--	-26 to 5.2	%	ASTM D573
--	--	-17 to 21	%	ISO 188
Change in Shore Hardness in Air	--	-0.16 to 4.7		ISO 188
Change in Tensile Strength				
--	--	-32 to -0.98	%	ASTM D471
--	--	-5.0 to 1.0	%	ISO 1817
Change in Ultimate Elongation				
--	--	-44 to 5.4	%	ASTM D471
--	--	-5.0 to 4.0	%	ISO 1817
Change in Shore Hardness	--	1.0 to 1.1		ISO 1817
Change in Volume				
--	--	-12 to 74	%	ASTM D471
--	--	-12 to 23	%	ISO 1817

Electrical	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Surface Resistivity	--	6.0E+2 to 2.5E+14	ohms	ASTM D257
Volume Resistivity	--	5.1E+5 to 9.7E+16	ohms·cm	ASTM D257
Dielectric Strength	--	20 to 46	kV/mm	ASTM D149
Dielectric Constant				
--	--	2.10 to 2.53		ASTM D150
--	--	4.28		IEC 60250
Dissipation Factor				
--	--	7.0E-5 to 0.050		ASTM D150
--	--	0.013 to 0.069		IEC 60250

Flammability	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Burning Rate	--	100	mm/min	ISO 3795
Glow Wire Flammability Index	--	952 to 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	--	650 to 850	°C	IEC 60695-2-13
Oxygen Index				
--	--	17 to 32	%	ASTM D2863
--	--	25 to 40	%	ISO 4589-2

Optical	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Light Transmittance	--	91.0 to 94.0	%	ASTM D1003
Haze	--	1.00 to 36.2	%	ASTM D1003

Fill Analysis	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit	Test Method
Apparent Viscosity	--	0.116 to 41.5	Pa·s	ASTM D3835
Melt Viscosity	--	6.50 to 138	Pa·s	ASTM D3835

Additional Information	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit
Compatibility	Polyolefins	--	

Injection	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit
Drying Temperature	--	59 to 101	°C
Drying Time	--	2.0 to 3.6	hr
Dew Point	--	-18	°C
Suggested Max Moisture	--	0.020 to 0.081	%
Suggested Max Regrind	--	20	%
Hopper Temperature	--	25 to 163	°C
Rear Temperature	--	135 to 209	°C
Middle Temperature	--	156 to 213	°C
Front Temperature	--	169 to 213	°C
Nozzle Temperature	--	185 to 226	°C
Processing (Melt) Temp	--	116 to 230	°C
Mold Temperature	--	22 to 47	°C
Injection Pressure	--	0.686 to 9.94	MPa
Holding Pressure	--	2.94 to 56.4	MPa
Back Pressure	--	0.170 to 1.07	MPa
Screw Speed	--	69 to 75	rpm
Clamp Tonnage	--	3.8	kN/cm²
Cushion	--	14.4 to 14.6	mm
Vent Depth	--	0.019 to 0.026	mm

Injection Notes	
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Extrusion	MULTIFLEX™ G60 A 11 BT 13893	Generic TPE	Unit
Drying Temperature	--	67 to 82	°C
Drying Time	--	1.9 to 3.0	hr
Hopper Temperature	--	168 to 169	°C
Cylinder Zone 1 Temp.	--	78 to 208	°C
Cylinder Zone 2 Temp.	--	178 to 214	°C
Cylinder Zone 3 Temp.	--	79 to 3581	°C
Cylinder Zone 4 Temp.	--	171 to 232	°C
Cylinder Zone 5 Temp.	--	177 to 224	°C
Adapter Temperature	--	193 to 205	°C
Melt Temperature	180 to 200	189 to 217	°C
Die Temperature	--	191 to 226	°C
Extrusion Melt Temperature, Optimum	190	--	°C

Extrusion Notes	
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Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 8 MPa

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