

Technical Data

Product Description

55 Shore D High Viscosity Polyester Elastomer with Good Heat Ageing Protection Developed for Blow Molding

General

Material Status	• Commercial: Active
UL Yellow Card <sup>1</sup>	• E41938-103432935
Search for UL Yellow Card	• DuPont Mobility & Materials • Hytrel®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
RoHS Compliance	• Contact Manufacturer
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (TPE) (ISO 11403-1) • Shear Stress vs. Shear Rate (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2) • Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1) • Viscosity vs. Shear Rate (ISO 11403-2)
Part Marking Code (ISO 11469)	• >TPC-ET<
Resin ID (ISO 1043)	• TPC-ET

Physical	Nominal Value Unit	Test Method
Density	1.17 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/10.0 kg)	6.0 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/10.0 kg)	6.0 cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow	1.9 %	
Flow	1.7 %	
Water Absorption		ISO 62
24 hr, 23°C	0.50 %	
Saturation, 23°C, 2.00 mm	0.50 %	
Equilibrium, 23°C, 2.00 mm, 50% RH	0.20 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	160 MPa	ISO 527-1
Tensile Stress		ISO 527-2
5.0% Strain	6.70 MPa	
10% Strain	10.4 MPa	
50% Strain	17.0 MPa	
100% Strain	21.0 MPa	
Tensile Creep Modulus		ISO 899-1
1 hr	140 MPa	
1000 hr	90.0 MPa	
Flexural Modulus	160 MPa	ISO 178
Poisson's Ratio	0.49	

Elastomers	Nominal Value Unit	Test Method
Tear Strength		ISO 34-1
Across Flow	127 kN/m	
Flow	140 kN/m	



Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-40°C	30 kJ/m <sup>2</sup>	
-30°C, Partial Break	160 kJ/m <sup>2</sup>	
23°C	No Break	
Charpy Unnotched Impact Strength (23°C)	No Break	ISO 179/1eU
Tensile Impact Strength (23°C)	410 kJ/m <sup>2</sup>	ISO 8256/1
Hardness	Nominal Value Unit	Test Method
Shore Hardness		ISO 48-4
Shore D <sup>3</sup>	55	
Shore D, 15 sec	52	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed	57.0 °C	ISO 75-2/B
1.8 MPa, Unannealed	41.0 °C	ISO 75-2/A
Brittleness Temperature	-100 °C	ISO 974
Glass Transition Temperature <sup>4</sup>	-30.0 °C	ISO 11357-2
Melting Temperature <sup>4</sup>	192 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	1.8E-4 cm/cm/°C	
Transverse	1.9E-4 cm/cm/°C	
Effective Thermal Diffusivity	5.44E-8 mm <sup>2</sup> /s	
Flammability	Nominal Value Unit	Test Method
Burning Rate <sup>5</sup> (1.00 mm)	38 mm/min	ISO 3795
Flammability Classification (1.5 mm)	HB	IEC 60695-11-10, -20
FMVSS Flammability	B	FMVSS 302
Fill Analysis	Nominal Value Unit	Test Method
Melt Density	1.00 g/cm <sup>3</sup>	
Specific Heat Capacity of Melt	2100 J/kg/°C	
Thermal Conductivity of Melt	0.15 W/m/K	ISO 22007-2
Additional Information	Nominal Value Unit	Test Method
Odor	3.50	VDA 270
Injection	Nominal Value Unit	
Drying Temperature	100 °C	
Drying Time - Desiccant Dryer	2.0 to 4.0 hr	
Suggested Max Moisture	< 0.080 %	
Processing (Melt) Temp	230 to 250 °C	
Melt Temperature, Optimum	240 °C	
Mold Temperature	40 to 50 °C	
Mold Temperature, Optimum	45 °C	
Drying Recommended	yes	
Extrusion	Nominal Value Unit	
Drying Temperature	100 °C	
Drying Time	2.0 to 3.0 hr	
Suggested Max Moisture	< 0.060 %	
Melt Temperature	205 to 220 °C	



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### Extrusion Notes

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#### Blow Molding Parameters

- Drying Recommended: yes
- Drying Time, Dehumidified Dryer: 4 to 6hr
- Drying Temperature: 100 to 110°C
- Processing Moisture Content: <0.03%
- Optimum Melt Temperature: 230°C
- Optimum Mold Temperature: 80°C
- Melt Temperature: 220 to 240°C
- Mold Temperature: 40 to 90°C

### Notes

<sup>1</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> max

<sup>4</sup> 10°C/min

<sup>5</sup> FMVSS 302

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Where to Buy

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Supplier

**DuPont Mobility & Materials**  
Wilmington, Wilmington USA  
**Telephone:** 302-999-4592  
**Web:** <http://plastics.dupont.com/>

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Distributor

**CCC Plastics**  
**Telephone:** 800-461-1638  
**Web:** <https://www.ccc-group.com/>  
**Availability:** Canada

**Distrupol Ltd**

*Distrupol Ltd is a Pan European distribution company. Contact Distrupol Ltd for availability of individual products by country.*  
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