

Technical Data

Product Description

Injection Molding, Film Extrusion, Food Contact Quality

General

Material Status	• Commercial: Active
Literature ¹	• Processing (English) • Technical Datasheet (English)
UL Yellow Card ²	• E47960-240195
Search for UL Yellow Card	• DSM Engineering Materials • Arnitel®
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Food Contact Acceptable
Processing Method	• Extrusion • Film Extrusion • Injection Molding
Multi-Point Data	• Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (TPE) (ISO 11403-1) • Shear Modulus vs. Temperature, Dynamic (ISO 11403-1) • Shear Stress vs. Shear Rate (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2)
Resin ID	• TPC-ET

Physical	Nominal Value Unit	Test Method
Density	1.15 g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	46 cm ³ /10min	ISO 1133
Molding Shrinkage		ISO 294-4
Across Flow	1.5 %	
Flow	1.3 %	
Water Absorption		ISO 62
Saturation, 23°C	0.70 %	
Equilibrium, 23°C, 50% RH	0.30 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	90.0 MPa	ISO 527-1
Tensile Stress		ISO 527-2
Break	23.0 MPa	
Across Flow : Break	20.0 MPa	
5.0% Strain	4.50 MPa	
10% Strain	7.00 MPa	
50% Strain	9.70 MPa	
100% Strain	9.20 MPa	
300% Strain	11.8 MPa	
Tensile Strain		ISO 527-2
Break	> 300 %	
Across Flow : Break	860 %	
Nominal Tensile Strain at Break	900 %	ISO 527-2
Flexural Modulus	98.0 MPa	ISO 178

Elastomers	Nominal Value Unit	Test Method
Tear Strength ⁴		ISO 34-1
Across Flow	122 kN/m	
Flow	119 kN/m	
Compression Set (70°C)	50 %	ISO 815



Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-30°C	No Break	
23°C	No Break	
Charpy Unnotched Impact Strength		ISO 179/1eU
-30°C	No Break	
23°C	No Break	
Notched Izod Impact Strength		ISO 180/1A
-20°C	No Break	
23°C	No Break	
Tensile Impact Strength ⁵ (23°C)	187 kJ/m ²	ISO 8256/1
Hardness	Nominal Value Unit	Test Method
Shore Hardness (Shore D, 3 sec)	40	ISO 868
Thermal	Nominal Value Unit	Test Method
Vicat Softening Temperature	50.0 °C	ISO 306/B50
Melting Temperature ⁶	189 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	1.6E-4 cm/cm/°C	
Transverse	1.6E-4 cm/cm/°C	
RTI Elec (1.5 mm)	50.0 °C	UL 746B
RTI Imp (1.5 mm)	50.0 °C	UL 746B
RTI Str (1.5 mm)	50.0 °C	UL 746B
Effective Thermal Diffusivity	5.99E-8 m ² /s	
Electrical	Nominal Value Unit	Test Method
Volume Resistivity	1.0E+11 ohms·m	IEC 62631-3-1
Electric Strength	20 kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.40	IEC 62631-2-1
Dissipation Factor (1 MHz)	0.035	IEC 62631-2-1
Comparative Tracking Index	600 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating (1.5 mm)	HB	UL 94 IEC 60695-11-10, -20
Fill Analysis	Nominal Value Unit	Test Method
Melt Density	0.928 g/cm ³	
Melt Specific Heat	1800 J/kg/°C	
Melt Thermal Conductivity	0.10 W/m/K	ASTM E1461

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² 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.

³ Typical properties: these are not to be construed as specifications.

⁴ Method B, Angle

⁵ notched

⁶ 10°C/min

Where to Buy

Supplier

DSM Engineering Materials

Web: <http://www.dsm.com/contactdep>

Distributor

3Polymer (Guangzhou) Chemical Technology Co., Ltd.

Telephone: +86-20-3466-7988

Web: <http://3polymer.com>

Availability: China

Channel Prime Alliance

Telephone: 800-247-8038

Web: <http://www.channelpa.com/>

Availability: North America

Nexeo Plastics

Nexeo Plastics is leading global resin distributor with the technical resources you need to overcome material challenges. Visit us on the web at www.nexeoplastics.com.

Telephone: 833-446-3936

Web: <https://www.nexeoplastics.com/>

Availability: North America

Nexeo Plastics - Europe

Nexeo Plastics is a Pan European distribution company. Contact Nexeo for availability of individual products by country.

Telephone: +34-93-480-9125

Web: <https://www.nexeoplastics.com/>

Availability: Belgium, Denmark, Finland, France, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom

PolySource

PolySource is a North American resin and plastics distributor. Please feel to reach out to your Technical Sales Account Manager. <https://polysource.net/our-team/>

Telephone: 816-540-5300

Web: <http://www.polysource.net/>

Availability: Canada, Mexico, United States

RESINEX Group

RESINEX is a Pan European distribution company. Contact RESINEX for availability of individual products by country.

Telephone: +32-14-672511

Web: <http://www.resinex.com/>

Availability: Europe

TER HELL Plastic GmbH

TER HELL Plastic is a Pan European distribution company. Contact TER HELL Plastic for availability of individual products by country.

Telephone: +49-2366-5661-0

Web: <https://www.terplastics.com/>

Availability: Austria, Bulgaria, Czech Republic, France, Germany, Hungary, Poland, Romania, Slovakia, Slovenia, Switzerland

