

**Technical Data Sheet**
**TYPE:** Polyether Thermoplastic Polyurethane (TPU)

**SPECIAL FEATURE:** High Moisture Vapor Transmission, Oeko-Tex® Standard 100 Compliant

**PROCESSES:** Extrusion: Film, Sheet, Fabric Coating

**Estane MVT 80 NT1 Film Properties**

Permeability Moisture Vapor Transmission*	Test Method		Results	
	1 mil (25 microns) film g/m <sup>2</sup> /day	ASTM D-6701	(Mocon)	6000
ASTM E-96 BW		(Inverted Cup)	12000	
ASTM E-96 B		(Upright Cup)	1000	
JIS L1099		(A1)	4500	
Physical Properties*	Tensile Stress ASTM D-882 (psi)	@ 100% Strain	1100	
		@300% Strain	2350	
		@Break	3500	
		Elongation at break	420	
	Tear Strength ASTM D-1938 (lbs./in)	Max. Tear Resistance	130	
		Ave. Tear Resistance	90	

**Estane MVT 80 NT1 Resin Properties**

Physical Properties*	Test Method		Results		
	30 mil films	Hardness (ASTM D2240)	Shore	80A (31D)	
Specific Gravity (ASTM D-792)		g/cm <sup>3</sup>	1.21		
Tensile Strength (ASTM D-412)		psi/MPa	4000	27.6	
		@100 %Elongation	600	4.1	
Modulus (ASTM D412/D638)		@300% Elongation	1200	6.9	
		Ultimate Elongation (ASTM D-412)		800%	
Tear (ASTM D-624 Die C)		lb./in / kN/m	390	68.3	
Split Tear Resistance (ASTM D-470)		lb./in / kN/m	95	16.6	
Volume Swell (LZAM)		(23°C/ 24hours)	60%		
Thermal Properties*	Melting Temperature (LZAM DSC)	° F/°C	275	135	
	Glass Transition (LZAM DSC)	° F/°C	(35)	(37)	

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**Recommended Starting Extrusion Temperature Profile:**

	°F / °C
<b>Zone 1</b>	330-350° F (166-177° C)
<b>Zone 2</b>	340-360° F (170-182° C)
<b>Zone 3</b>	350-370° F (177-188° C)
<b>Zone 4</b>	360-380° F (182-193° C)
<b>Adapter</b>	360-380° F (182-193° C)
<b>Die Zone 1</b>	360-380° F (182-193° C)
<b>Die Zone 2</b>	350-370° F (177-188° C)

**Screens:** 20-40-80-20 (mesh sizes)

**Feed Throat Cooling:** Yes

**Screw Cooling:** No

**Screw RPM:** 15-40

**Pre-Drying:** 2-4 hrs. @ 180°F by Hopper Dryer (Target Moisture Level = Below 0.03%)

**RECOMMENDED LUBRICANT PACKAGE:** Estane MBA200T for use with MVT 80 NT1 for Oeko-Tex® Compliance.

*\*All values are typical values and should not be used for specification purposes.*

**For further information refer to Lubrizol Advanced Materials processing guides.**

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