

## DuPont Teijin Films Teonex® Q51 Polyester Film, 48 Gauge

Category : Polymer , Film , Thermoplastic , Polyester, TP , Polyester Film

### Material Notes:

Teonex® Q51 is biaxially oriented polyethylene naphthalate (PEN) film. It is slightly hazy with excellent handling properties for general purpose. It is commercially available in nominal 48 - 1000 gauge. Approvals: UL 94 VTM-2 - 100 - 1000 gauge (0.025 - 0.25 mm) and UL Component Registration (RTI = 180/160°C) - Relative Thermal Index (RTI) = 180°C (Elect), 160°C (Mech) Also available in 1000 Gauge Information provided by DuPont.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Teijin-Films-Teonex-Q51-Polyester-Film-48-Gauge.php](http://www.lookpolymers.com/polymer_DuPont-Teijin-Films-Teonex-Q51-Polyester-Film-48-Gauge.php)

Physical Properties	Metric	English	Comments
Density	1.36 g/cc	0.0491 lb/in <sup>3</sup>	JIS C-2151
Moisture Absorption at Equilibrium	0.30 %	0.30 %	TDF Method
Water Vapor Transmission	104 g/m <sup>2</sup> /day	6.70 g/100 in <sup>2</sup> /day	JIS Z0208

Mechanical Properties	Metric	English	Comments
Film Elongation at Break, MD	90 %	90 %	JIS C-2318 (Modified to TDF)
Film Elongation at Break, TD	85 %	85 %	JIS C-2318 (Modified to TDF)
Coefficient of Friction, Dynamic	0.30	0.30	JIS C2151
Coefficient of Friction, Static	0.30	0.30	JIS C2151
Film Tensile Strength at Break, MD	276 MPa	40000 psi	JIS C-2318 (Modified to TDF)
Film Tensile Strength at Break, TD	262 MPa	38000 psi	JIS C-2318 (Modified to TDF)

Thermal Properties	Metric	English	Comments
Melting Point	269 °C	516 °F	DSC
Glass Transition Temp, Tg	121 °C	250 °F	DSC
UL RTI, Electrical	160 °C	320 °F	
UL RTI, Mechanical without Impact	180 °C	356 °F	
Shrinkage, MD	0.40 %	0.40 %	JIS C-2318 (Modified to TDF)
	@Temperature 150 °C	@Temperature 302 °F	
Shrinkage, TD	2.0 %	2.0 %	Unrestrained
	@Temperature 200 °C, Time 600 sec	@Temperature 392 °F, Time 0.167 hour	

Thermal Properties	Metric	English	Comments
Shrinkage, TD	@Temperature 150 °C	@Temperature 302 °F	JIS C-2318 (Modified to TDF)
	1.0 %	1.0 %	Unrestrained
	@Temperature 200 °C, Time 600 sec	@Temperature 392 °F, Time 0.167 hour	

Optical Properties	Metric	English	Comments
Haze	14 %	14 %	JIS K6714
Transmission, Visible	82 %	82 %	JIS K6714
UV Transmittance	8.0 %	8.0 %	TDF Method
	@Wavelength 360 nm	@Wavelength 360 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+18 ohm-cm	1.00e+18 ohm-cm	JIS C-2318
Surface Resistivity per Square	2.00e+17 ohm	2.00e+17 ohm	JIS C-2151
Dielectric Constant	2.9	2.9	JIS C-2318
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.9	2.9	JIS C-2318
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	JIS C-2318
Dielectric Strength	3.0	3.0	JIS C-2318
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dissipation Factor	0.0030	0.0030	JIS C-2318
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	
	0.0050	0.0050	JIS C-2318
	@Frequency 1.00e+6 Hz, Temperature 25.0 °C	@Frequency 1.00e+6 Hz, Temperature 77.0 °F	JIS C-2318
	0.0050	0.0050	JIS C-2318
	@Frequency 1.00e+9 Hz, Temperature 25.0 °C	@Frequency 1.00e+9 Hz, Temperature 77.0 °F	JIS C-2318

Descriptive Properties	Value	Comments
Coefficient of Hygroscopic Expansion	0.000011/%RH	TDF Method
F5	19 kpsi	TD, TDF Method
	19 kpsi	MD, TDF Method
Surface Roughness	13/11 nm	TDF Method (Inside/Outside)
Tear Propagation	1.3 lb	MD, TDF Method
	1.3 lb	TD, TDF Method
Wettability (water angle)	70°	TDF Method

## Contact Songhan Plastic Technology Co.,Ltd.

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