LEXAN™ Homopolymer 940 - Americas

Polycarbonate

SABIC

PROSPECTOR®
www.ulprospector.com

Technical Data

Product Description			
Opaque colors, medium viscosity, superior flame retardance.			
General			
Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet		
UL Yellow Card [2]	• E121562-220904		
Search for UL Yellow Card	• SABIC		
Availability	• Latin America	• North America	
Features	• Flame Retardant	• Medium Viscosity	
Uses	• Aerospace Applications • Appliances • Automotive Exterior Parts • Construction Applications • Electrical/Electronic Applications	• Electronic Displays • Household Goods • Lawn and Garden Equipment • Lenses • Lighting Applications	• Non-specific Food Applications • Outdoor Applications • Rail Applications • Sporting Goods
Appearance	• Colors Available	• Opaque	
Processing Method	• Injection Molding		
Multi-Point Data	• Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763)	• Pressure-Volume-Temperature (PVT - Zoller Method) • Shear DMA (ASTM D4065) • Tensile Creep (ASTM D2990) • Tensile Fatigue	• Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530)
Also Available In	• Asia Pacific	• Europe	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	• 1.21 • 1.22	• 1.21 • 1.22 g/cm³	ASTM D792
Specific Volume	23.0 in³/lb	0.830 cm³/g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10 g/10 min	10 g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in (3.20 mm))	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	Internal Method
Water Absorption			ASTM D570
24 hr	0.15 %	0.15 %	
Equilibrium, 73°F (23°C)	0.35 %	0.35 %	
Equilibrium, 212°F (100°C)	0.58 %	0.58 %	
Outdoor Suitability	f1	f1	UL 746C

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength [4]			ASTM D638
Yield	8990 psi	62.0 MPa	
Break	7980 psi	55.0 MPa	
Tensile Elongation [4]			ASTM D638
Yield	7.0 %	7.0 %	
Break	90 %	90 %	
Flexural Modulus [5] (1.97 in (50.0 mm) Span)	325000 psi	2240 MPa	ASTM D790
Flexural Strength [5]			ASTM D790
Yield, 1.97 in (50.0 mm) Span	13200 psi	91.0 MPa	
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0 mg	10.0 mg	

Form No. TDS-4582-en

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	12 ft·lb/in	640 J/m	ASTM D256
Unnotched Izod Impact (73°F (23°C))	60 ft·lb/in	3200 J/m	ASTM D4812
Gardner Impact (73°F (23°C))	1500 in·lb	169 J	ASTM D3029
Tensile Impact Strength [6]	250 ft·lb/in²	525 kJ/m²	ASTM D1822
Hardness	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	70	70	
R-Scale	118	118	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.252 in (6.40 mm)	279 °F	137 °C	
264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)	270 °F	132 °C	
Vicat Softening Temperature	304 °F	151 °C	ASTM D1525 [7]
CLTE - Flow (-40 to 203°F (-40 to 95°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM E831
Thermal Conductivity	1.3 Btu·in/hr/ft²/°F	0.19 W/m/K	ASTM C177
RTI Elec	266 °F	130 °C	UL 746
RTI Imp	248 °F	120 °C	UL 746
RTI Str	266 °F	130 °C	UL 746
Electrical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Volume Resistivity	> 1.0E+17 ohms·cm	> 1.0E+17 ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.126 in (3.20 mm), in Air	420 V/mil	17 kV/mm	
Dielectric Constant			ASTM D150
60 Hz	3.01	3.01	
50 kHz	3.01	3.01	
1 MHz	2.96	2.96	
Dissipation Factor			ASTM D150
50 Hz	9.0E-4	9.0E-4	
60 Hz	9.0E-4	9.0E-4	
1 MHz	0.010	0.010	
Arc Resistance [8]	PLC 7	PLC 7	ASTM D495
Comparative Tracking Index (CTI)	PLC 2	PLC 2	UL 746
High Amp Arc Ignition (HAI) [9]	PLC 3	PLC 3	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3	PLC 3	UL 746
Hot-wire Ignition (HWI)	PLC 2	PLC 2	UL 746
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Flame Rating (0.04 in (1.1 mm))	V-0	V-0	UL 94
Oxygen Index	35 %	35 %	ASTM D2863
Radiant Panel Listing	TRUE	TRUE	UL Unspecified

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	248 °F	120 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Suggested Max Moisture	0.020 %	0.020 %
Suggested Shot Size	40 to 60 %	40 to 60 %
Rear Temperature	518 to 563 °F	270 to 295 °C
Middle Temperature	536 to 581 °F	280 to 305 °C
Front Temperature	563 to 599 °F	295 to 315 °C
Nozzle Temperature	554 to 590 °F	290 to 310 °C
Processing (Melt) Temp	563 to 599 °F	295 to 315 °C

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Injection	Nominal Value (English)	Nominal Value (SI)
Mold Temperature	158 to 203 °F	70 to 95 °C
Back Pressure	43.5 to 102 psi	0.300 to 0.700 MPa
Screw Speed	40 to 70 rpm	40 to 70 rpm
Vent Depth	9.8E-4 to 3.0E-3 in	0.025 to 0.076 mm

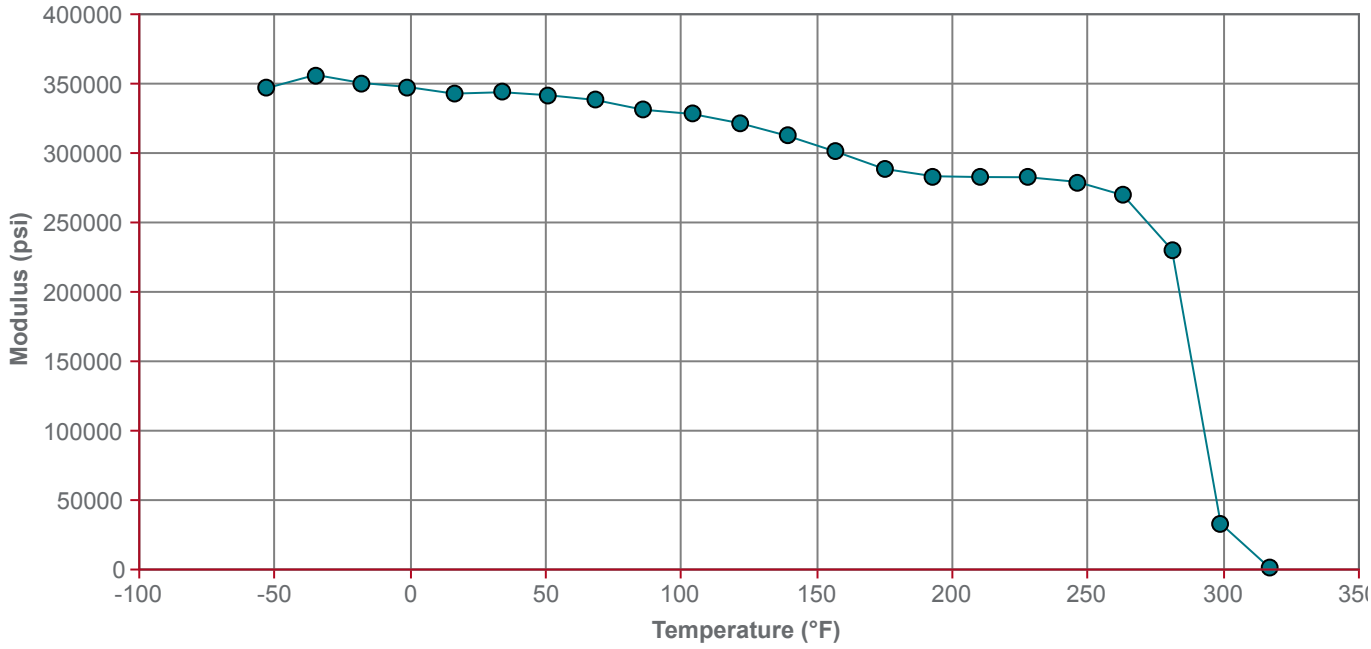
Injection Notes

Injection Molding Parameters

- Drying Time (Cumulative): 48 hrs

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

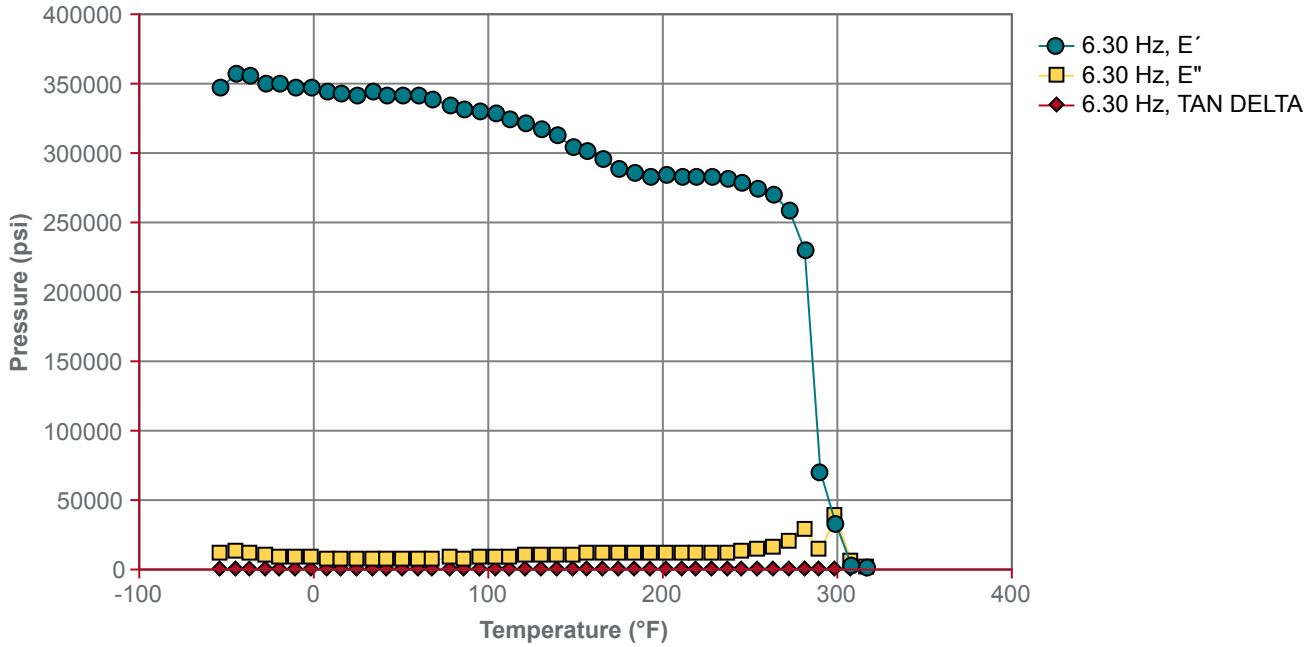
Elastic Modulus vs Temperature (ASTM D4065)



Form No. TDS-4582-en

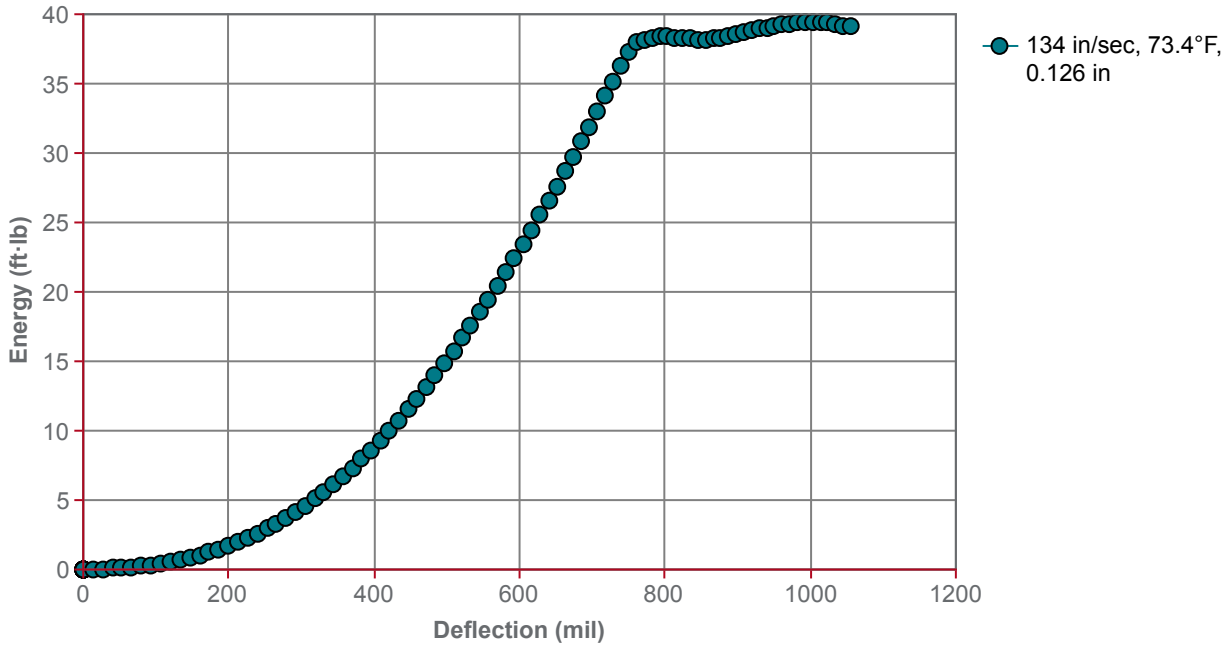
Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Flexural DMA (ASTM D4065)



Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

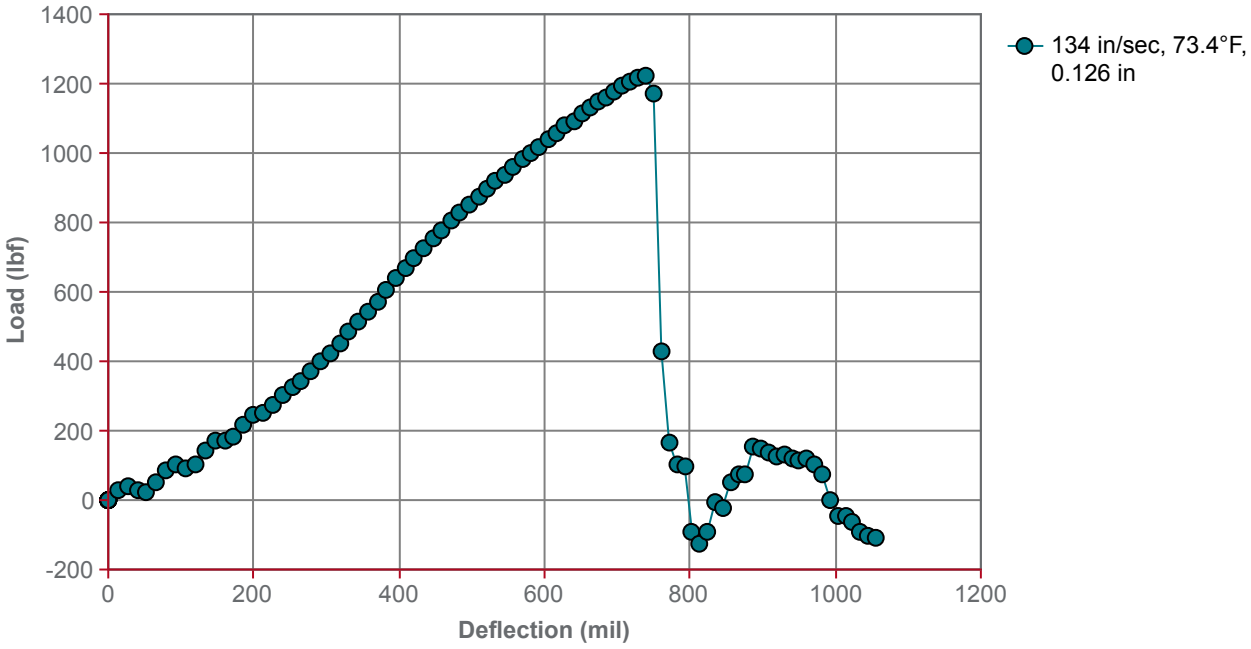
Instrumented Impact (Energy) (ASTM D3763)



Form No. TDS-4582-en

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

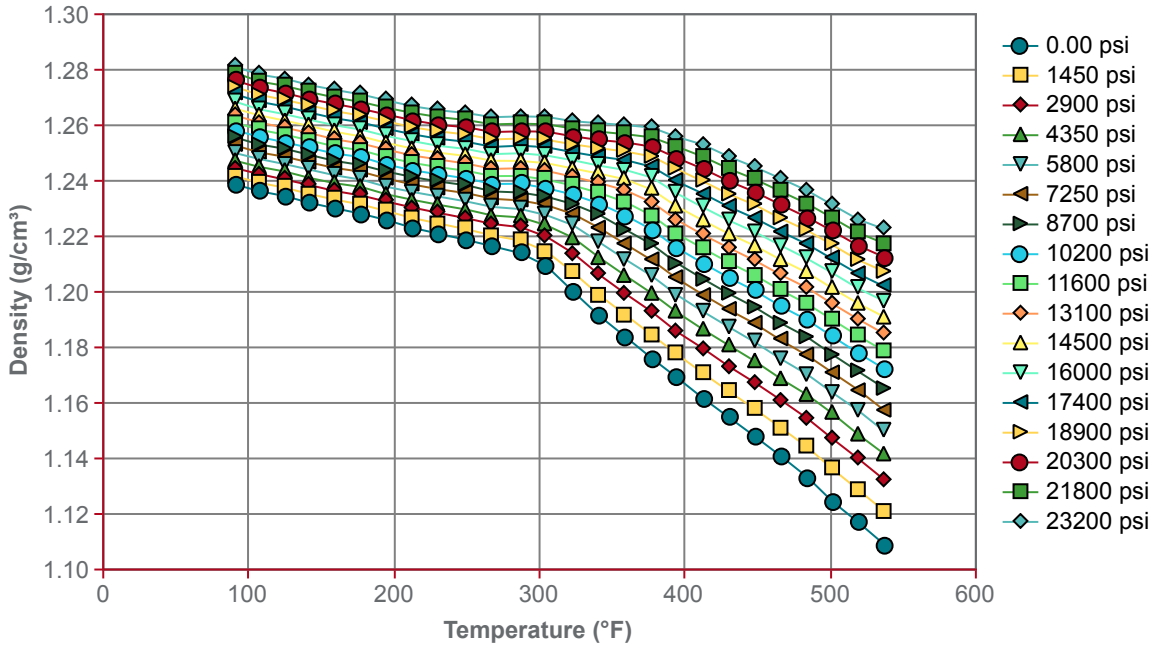
Instrumented Impact (Load) (ASTM D3763)



Form No. TDS-4582-en

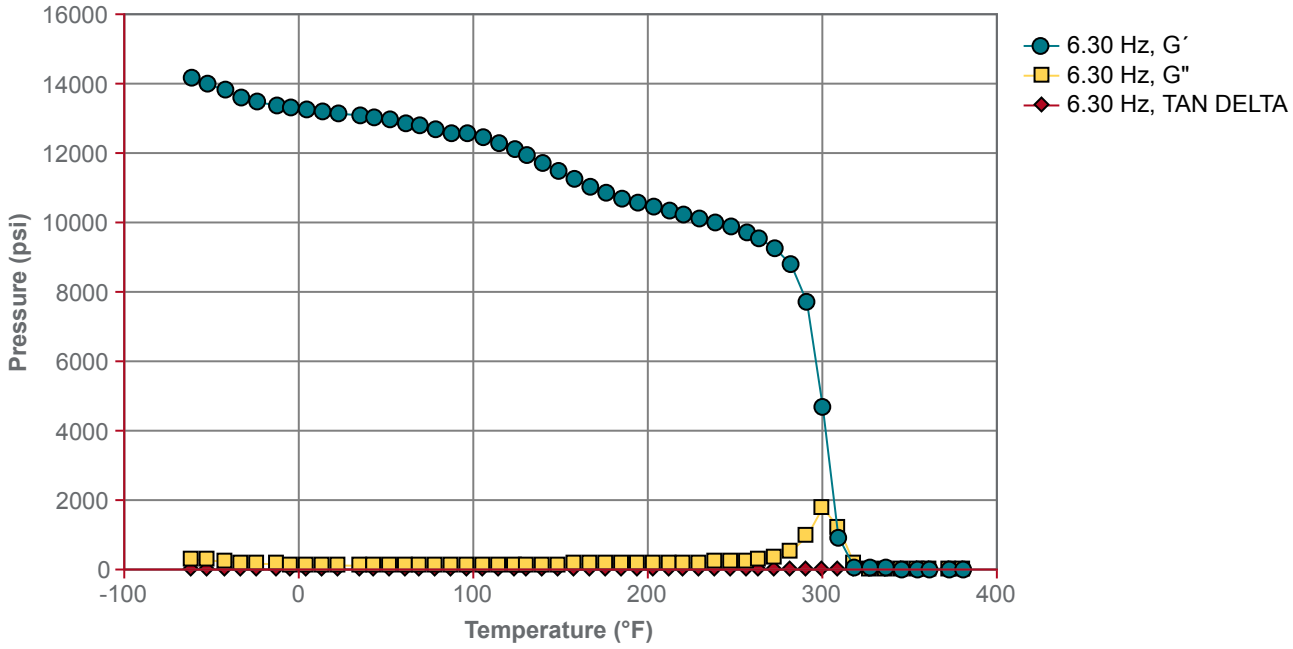
Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Pressure-Volume-Temperature (PVT - Zoller Method)



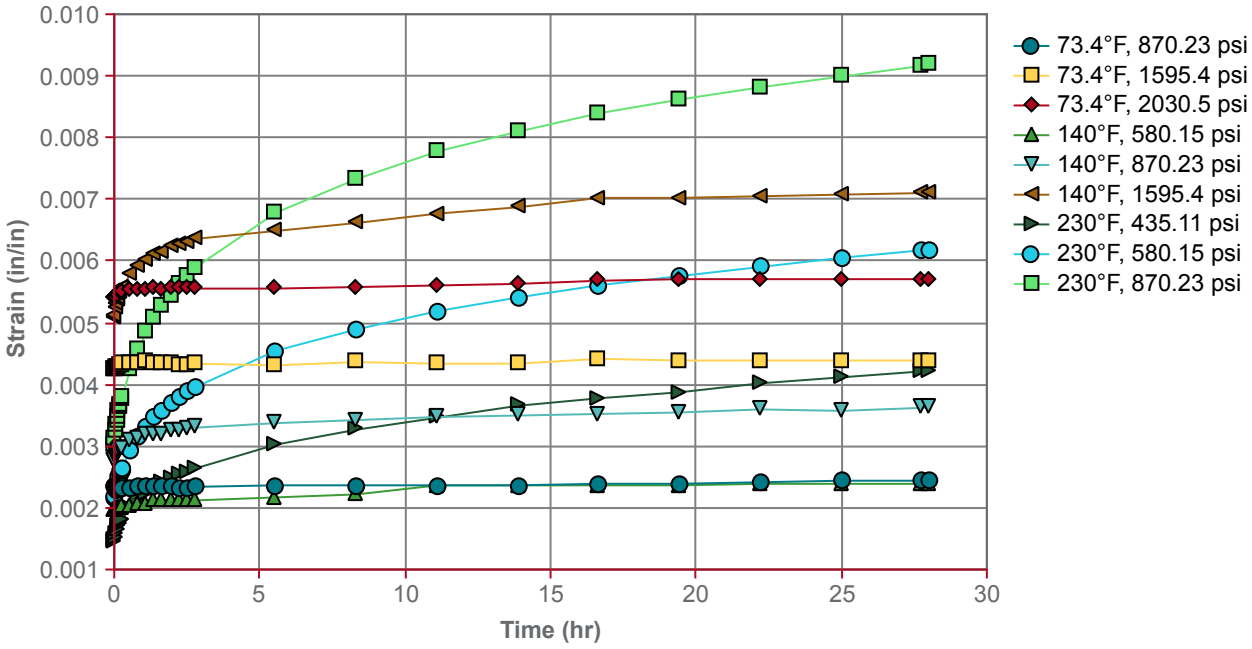
Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Shear DMA (ASTM D4065)



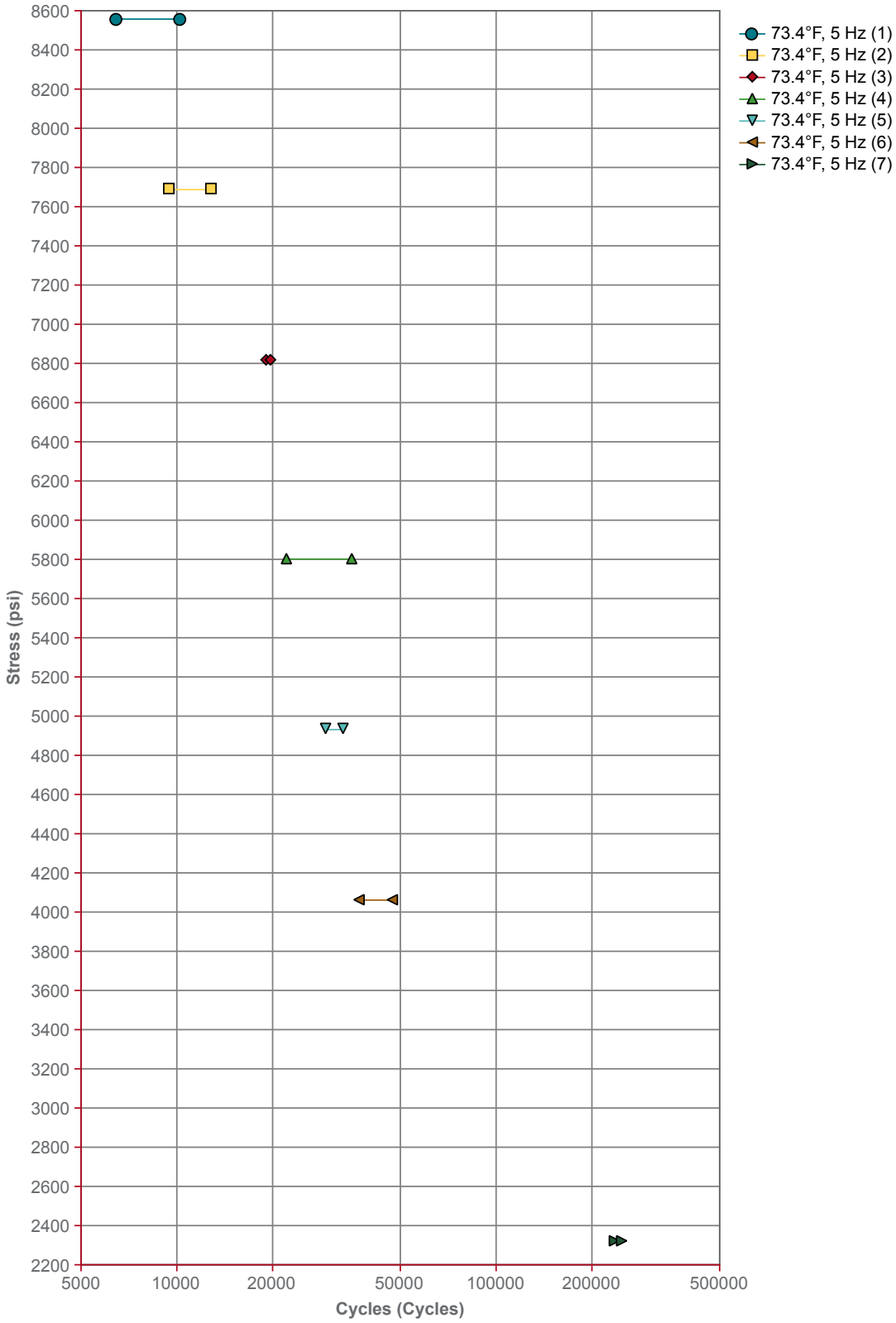
Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Tensile Creep (ASTM D2990)



Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

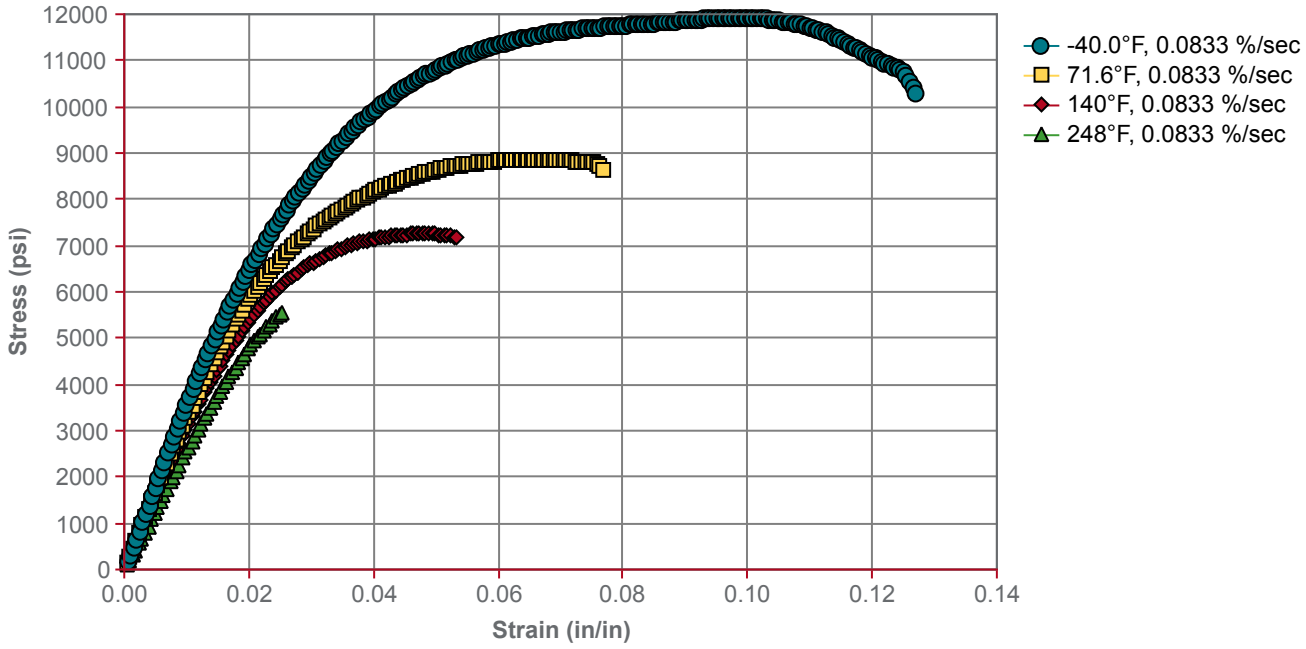
Tensile Fatigue



Form No. TDS-4582-en

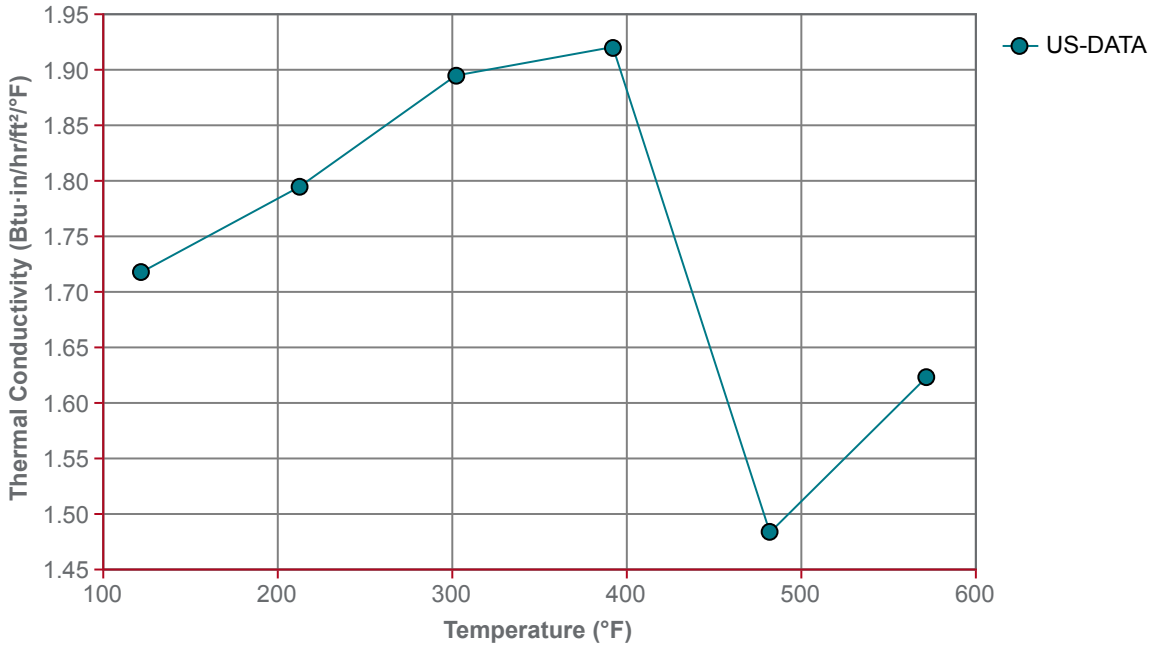
Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Tensile Stress vs. Strain (ASTM D638)



Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

Thermal Conductivity vs. Temperature (ASTM E1530)



Form No. TDS-4582-en

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018

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] Type I, 2.0 in/min (50 mm/min)

[5] 0.051 in/min (1.3 mm/min)

[6] Type S

[7] Rate A (50°C/h), Loading 2 (50 N)

[8] Tungsten Electrode

[9] Surface

Document Created: Tuesday, May 1, 2018
Added to Prospector: November 2000
Last Updated: 4/11/2018