

Terluran® HI-10

ABS

INEOS Styrolution

Terluran® HI-10 is an medium flow, injection molding grade with very high resistance to impact with excellent heat distortion and suitable for injection molding and extrusion.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	5.5	cm³/10min	ISO 1133
Temperature	220	°C	-
Load	10	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	1900	MPa	ISO 527
Yield stress	38	MPa	ISO 527
Yield strain	2.8	%	ISO 527
Nominal strain at break	9	%	ISO 527
Impact Strength (Charpy), -30°C	140	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	35	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	13	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	93	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	97	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	90	°C	ISO 306
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
UL recognition	yes	-	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	3.0	mm	-
UL recognition	yes	-	-

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	2.9	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	54	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	82	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	1.03	%	Sim. to ISO 62
Humidity absorption	0.21	%	Sim. to ISO 62
Density	1030	kg/m³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	896	kg/m³	-
Thermal Conductivity of Melt	0.16	W/(m K)	-
Spec. heat capacity of melt	2400	J/(kg K)	-
Ejection temperature	102	°C	-

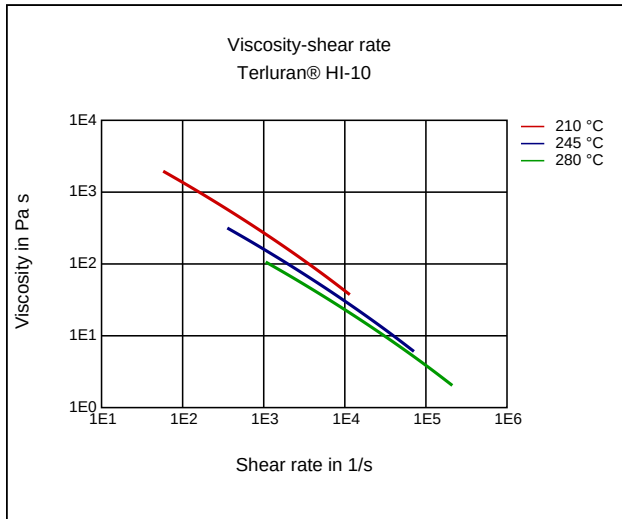
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 4	h	-
Melt temperature	230 - 260	°C	-
Mold temperature	30 - 60	°C	-

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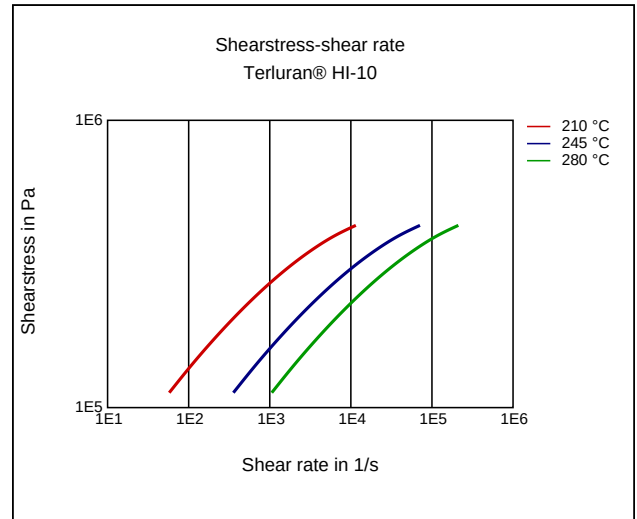
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Diagrams

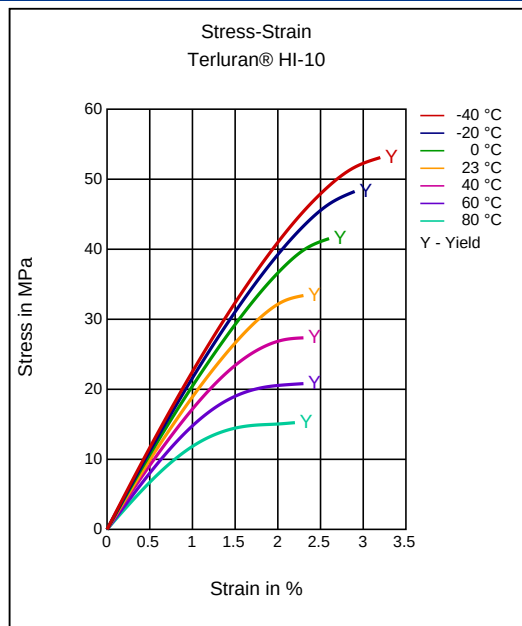
Viscosity-shear rate



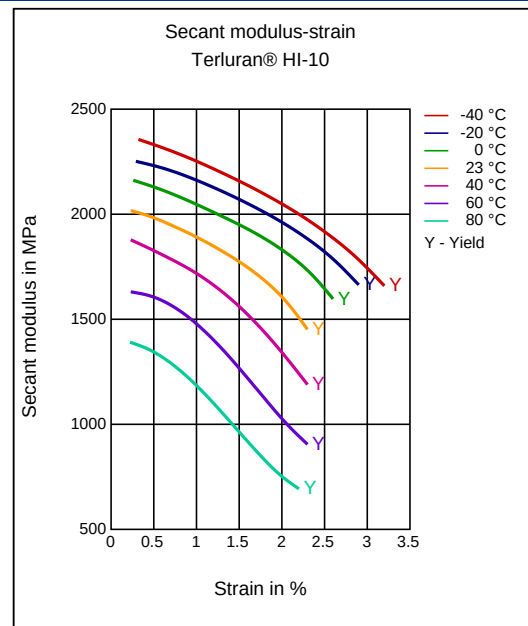
Shearstress-shear rate



Stress-strain



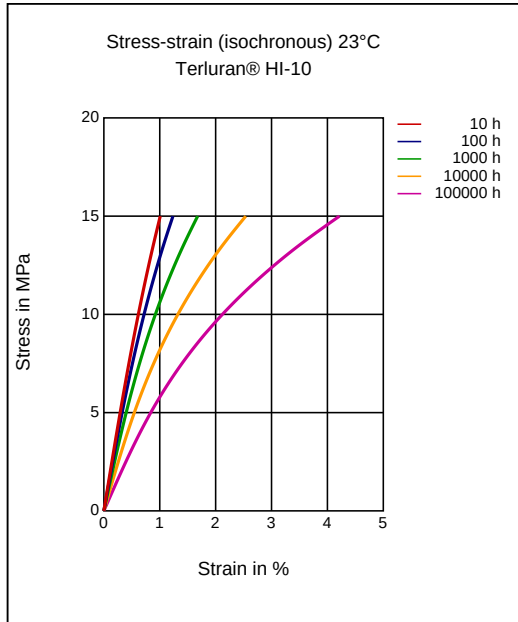
Secant modulus-strain



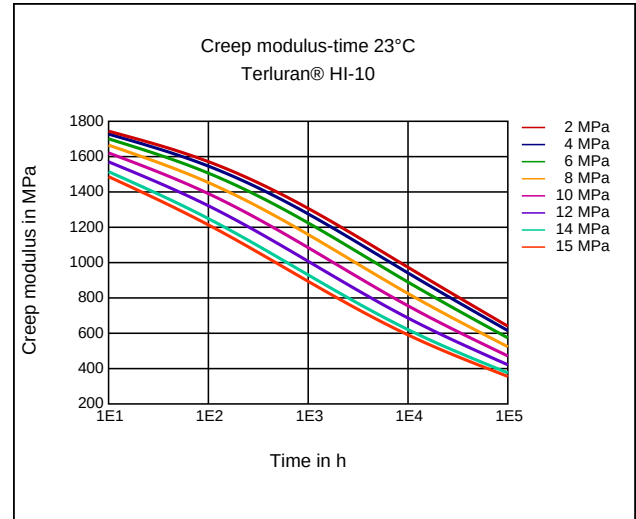
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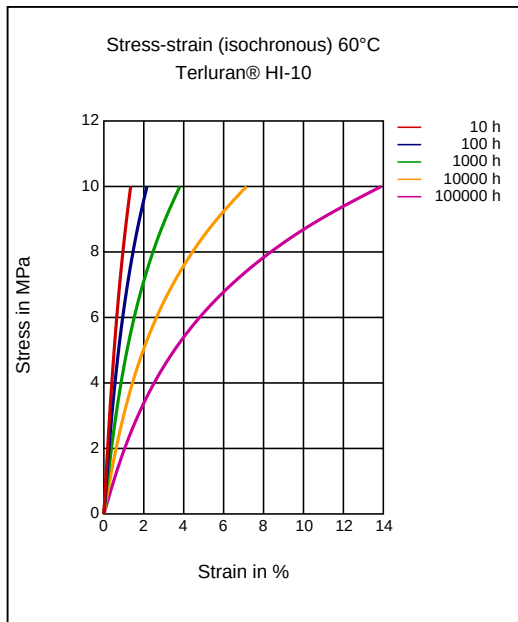
Stress-strain (isochronous) 23°C



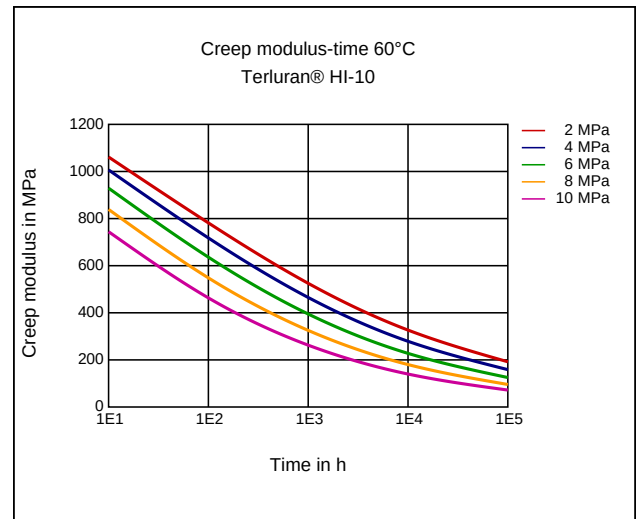
Creep modulus-time 23°C



Stress-strain (isochronous) 60°C



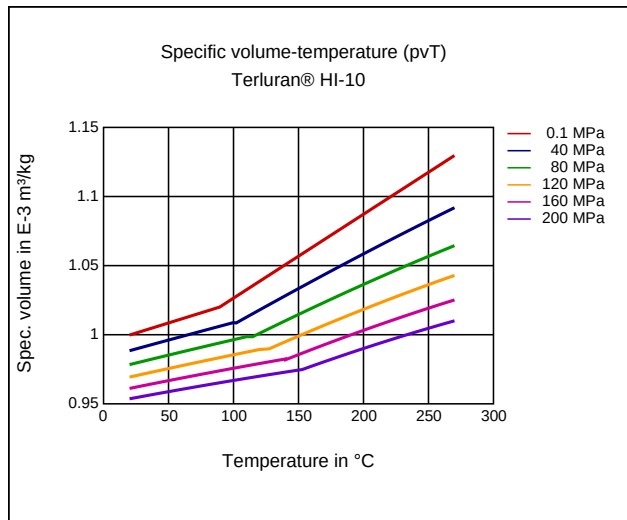
Creep modulus-time 60°C



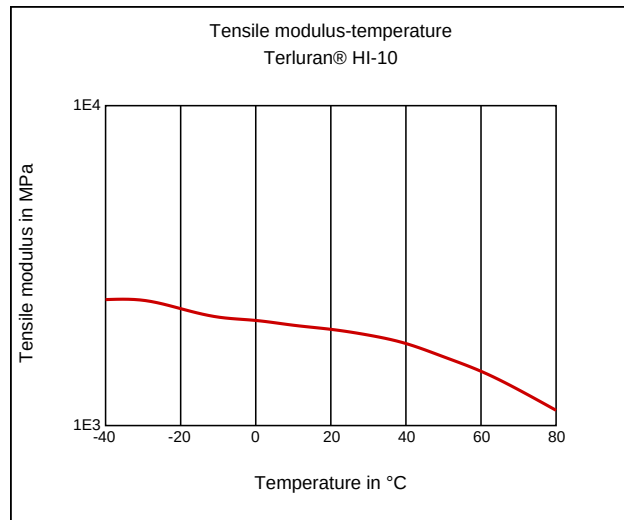
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Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding, Profile Extrusion, Sheet Extrusion, Other Extrusion

Delivery form

Pellets

Injection Molding

PREPROCESSING

Pre-drying, Temperature: 80°C

Pre-drying, Time: 2 - 4h

PROCESSING

Melt temperature, range: 220 - 260°C

Mold temperature, range: 30 - 80°C

Other Extrusion

PREPROCESSING

Pre-drying, Temperature: 80°C

Pre-drying, Time: 2 - 4h

PROCESSING

Pipes, Melt temperature: 200 - 230°C

Profile extrusion

PREPROCESSING

Pre-drying, Temperature: 80°C

Pre-drying, Time: 2 - 4h

PROCESSING

Profiles, Melt temperature: 230°C

Sheet Extrusion

PREPROCESSING

Pre-drying, Temperature: 80°C

Pre-drying, Time: 2 - 4h

PROCESSING

Plates, Melt temperature: 210 - 240°C

Chemical Media Resistance

Acids

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- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)
- ✓ Lactic Acid (10% by mass) (23°C)
- ✓ Hydrochloric Acid (36% by mass) (23°C)
- ✓ Sulfuric Acid (38% by mass) (23°C)
- ✓ Sulfuric Acid (5% by mass) (23°C)
- ✓ Chromic Acid solution (40% by mass) (23°C)

Bases

- ✓ Sodium Hydroxide solution (35% by mass) (23°C)
- ✓ Sodium Hydroxide solution (1% by mass) (23°C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

Hydrocarbons

- ✓ iso-Octane (23°C)

Standard Fuels

- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)

Salt solutions

- ✓ Sodium Chloride solution (10% by mass) (23°C)
- ✓ Sodium Hypochlorite solution (10% by mass) (23°C)
- ✓ Sodium Carbonate solution (20% by mass) (23°C)
- ✓ Sodium Carbonate solution (2% by mass) (23°C)
- ✓ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✓ Hydrogen peroxide (23°C)
 - ✓ 1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)
 - ✓ Water (23°C)
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