

Luran® S 778T acrylonitrile styrene acrylate (ASA) polymer features high surface quality and good impact strength including enhanced colour fastness. The product delivers superior long-term performance when exposed to UV irradiation and additionally provide excellent chemical resistance. Luran® S 778T is an injection molding grade with enhanced heat resistance and best chemical resistance among the Luran® S grades.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	5	cm³/10min	ISO 1133
Temperature	220	°C	-
Load	10	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2500	MPa	ISO 527
Yield stress	54	MPa	ISO 527
Yield strain	3.4	%	ISO 527
Nominal strain at break	8	%	ISO 527
Notched Impact Strength (Charpy), +23°C	15	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	4	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	103	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	106	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	104	°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	-	-

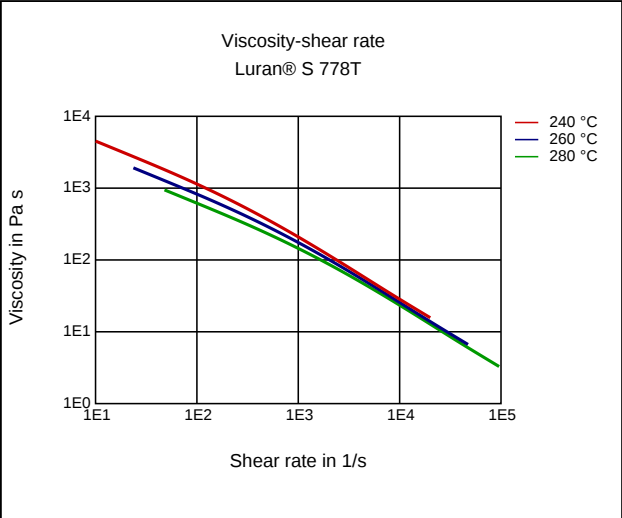
Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	1.65	%	Sim. to ISO 62
Humidity absorption	0.35	%	Sim. to ISO 62
Density	1070	kg/m³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	960	kg/m³	-
Thermal Conductivity of Melt	0.185	W/(m K)	-
Spec. heat capacity of melt	2160	J/(kg K)	-
Ejection temperature	98	°C	-

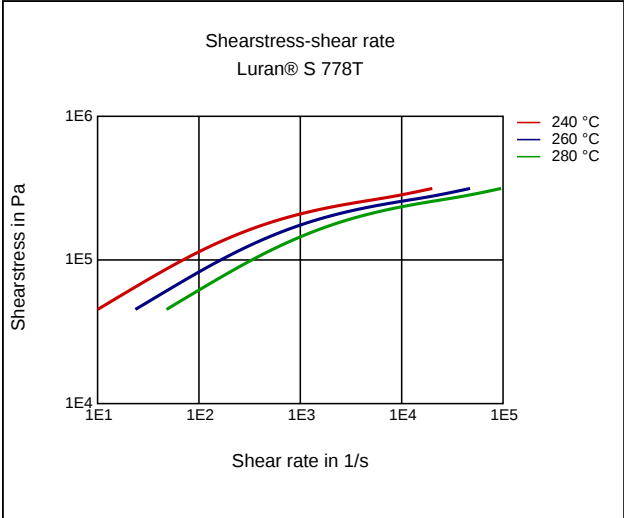
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 4	h	-
Melt temperature	240 - 280	°C	-
Mold temperature	40 - 80	°C	-

Diagrams

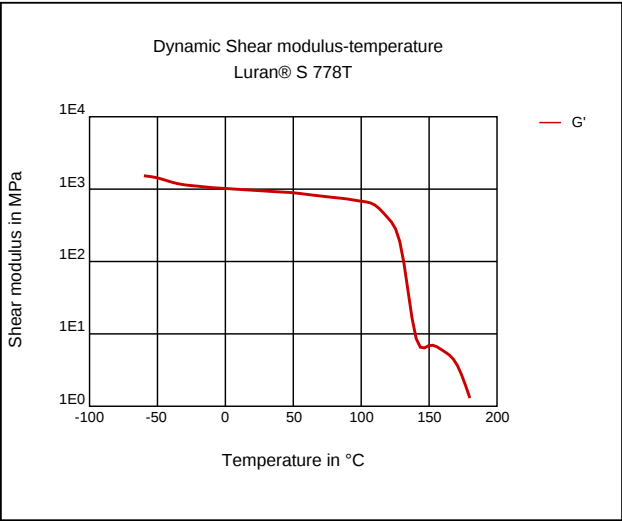
Viscosity-shear rate



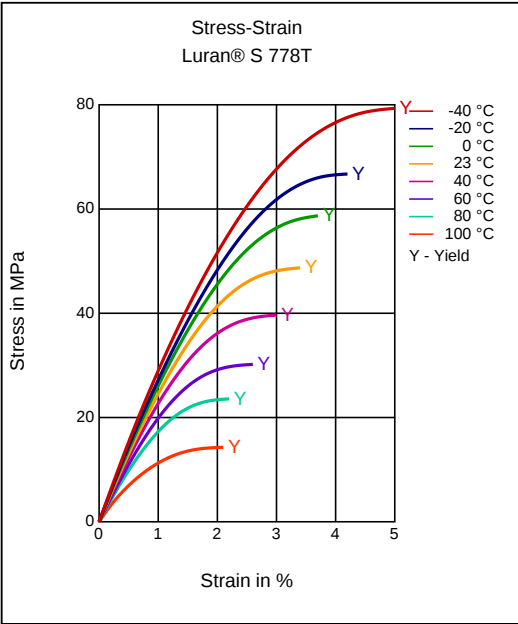
Shearstress-shear rate



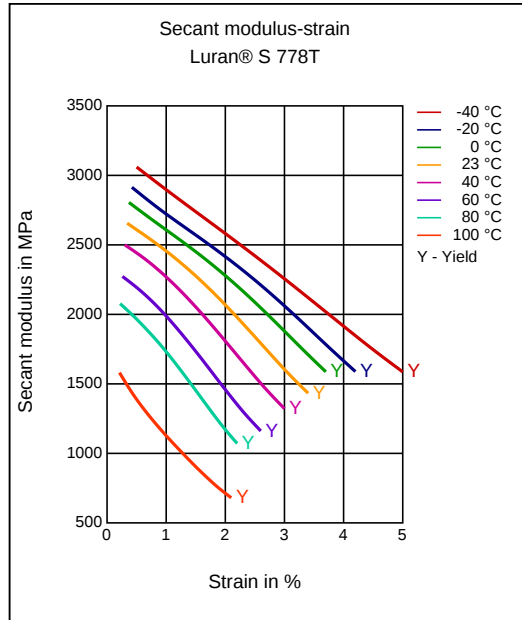
Dynamic Shear modulus-temperature



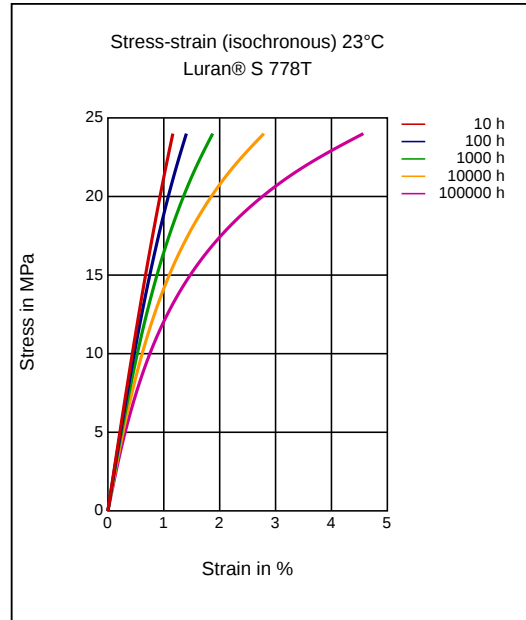
Stress-strain



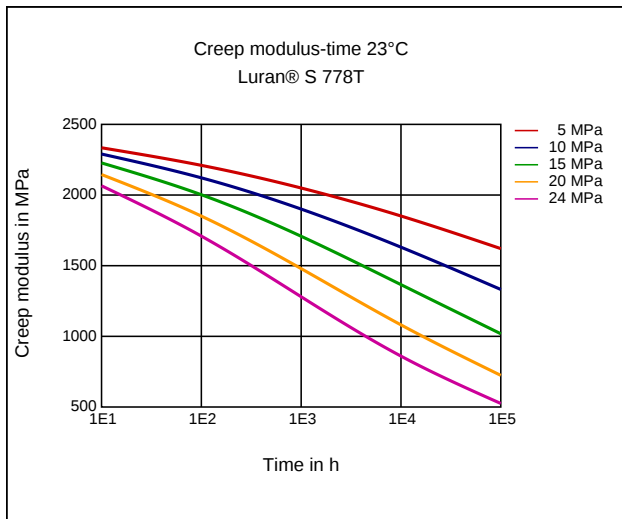
Secant modulus-strain



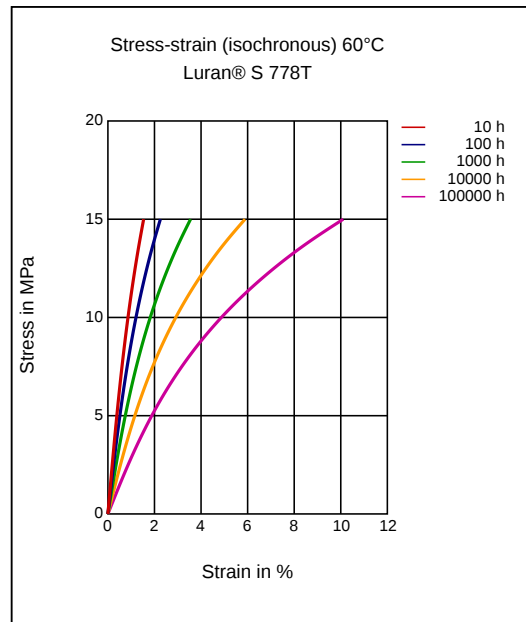
Stress-strain (isochronous) 23 °C



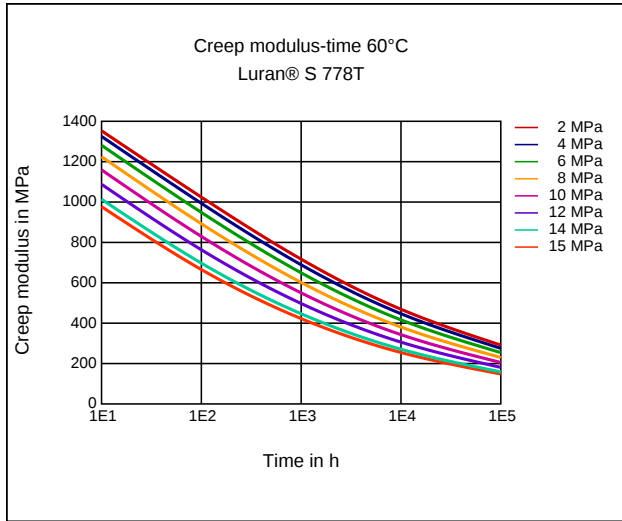
Creep modulus-time 23 °C



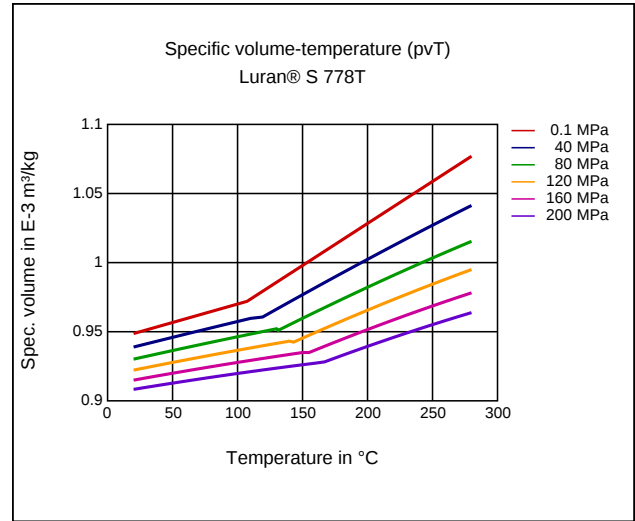
Stress-strain (isochronous) 60 °C



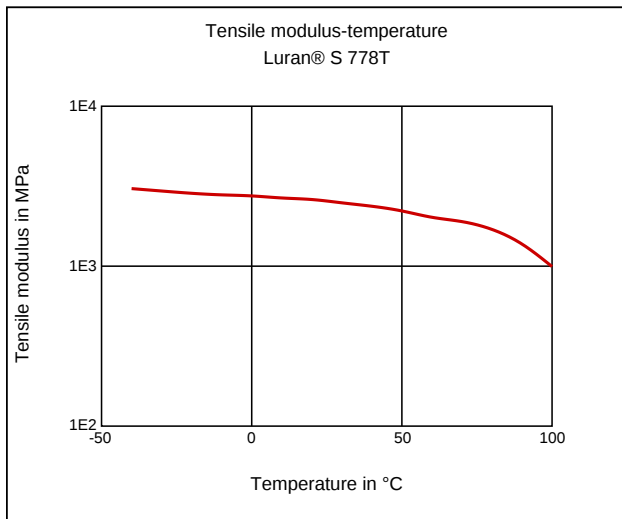
Creep modulus-time 60°C



Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Special Characteristics

Light stabilized or stable to light, UV stabilized, Heat aging stabilized

Injection Molding

PREPROCESSING

Pre-drying, Temperature: 80 °C

Pre-drying, Time: 2 - 4h

PROCESSING

Melt temperature, range: 240 - 280 °C

Mold temperature, range: 40 - 80 °C

Chemical Media Resistance

Acids

- ✓ 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)
- ✓ Nitric Acid (40% 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

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

Hydrocarbons

- ✓ n-Hexane (23°C)
- ✓ iso-Octane (23°C)

Mineral oils

- ✓ SAE 10W40 multigrade motor oil (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)
- ✓ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✓ Water (23°C)

Disclaimer

Liability Exclusion

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- any critical component in any medical device that supports or sustains human life.

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