

Luran® HD-20

SAN

INEOS Styrolution

Luran® HD 20 is an easy-flow grade of SAN especially designed for the medical market. It is suitable for moldings with very thin walls and / or adverse flow length to wall ratio. It features very good transparency and a light intrinsic color. Food contact statements are available on request.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	22	cm ³ /10min	ISO 1133
Temperature	220	°C	-
Load	10	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3700	MPa	ISO 527
Stress at Break	72	MPa	ISO 527
Strain at Break	3	%	ISO 527
Impact Strength (Charpy), +23°C	16	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	16	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	2	kJ/m ²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	86	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	99	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	106	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	70	E-6/K	ISO 11359-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3	-	IEC 62631-2-1
Dissipation Factor, 100Hz	40	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	70	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2

Other Properties	Value	Unit	Test Standard
ISO Data			
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1080	kg/m ³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Thermal Conductivity of Melt	0.17	W/(m K)	-

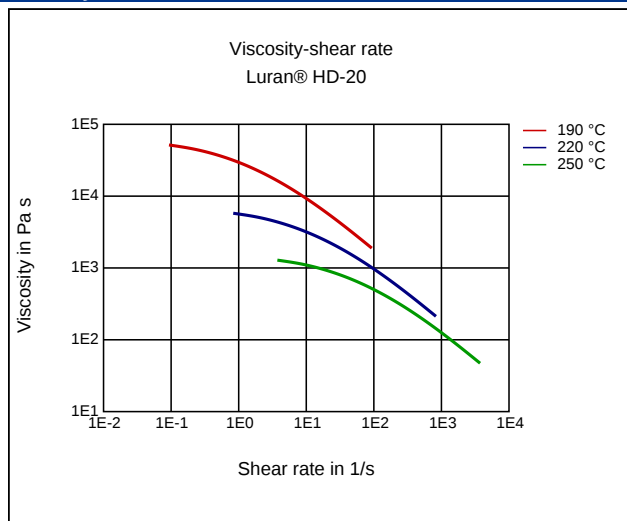
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 4	h	-
Melt temperature	220 - 260	°C	-
Mold temperature	40 - 80	°C	-

Luran® HD-20 SAN

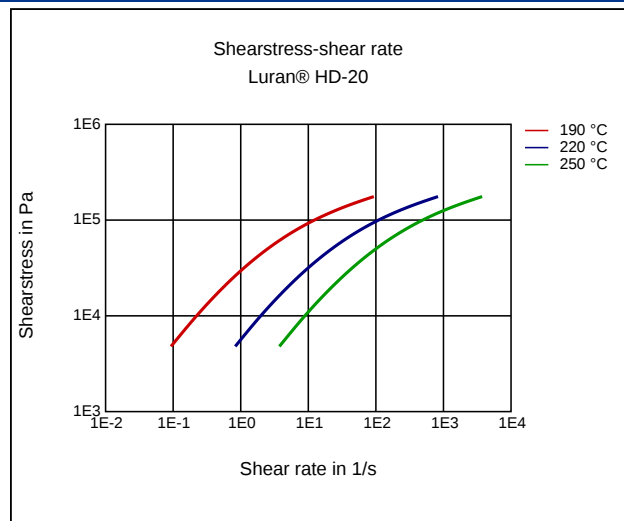
INEOS Styrolution

Diagrams

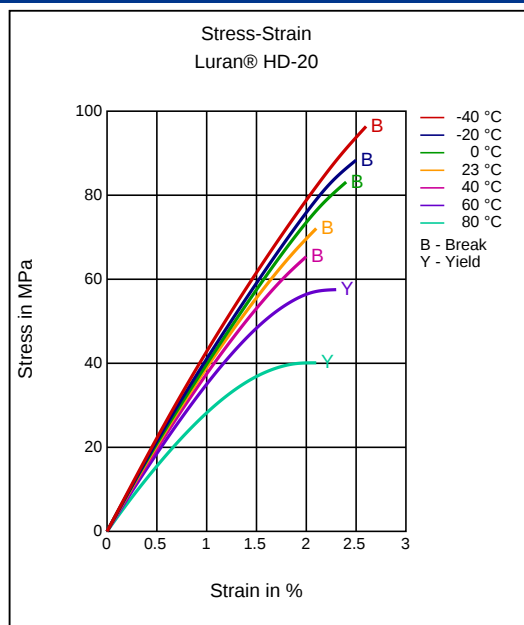
Viscosity-shear rate



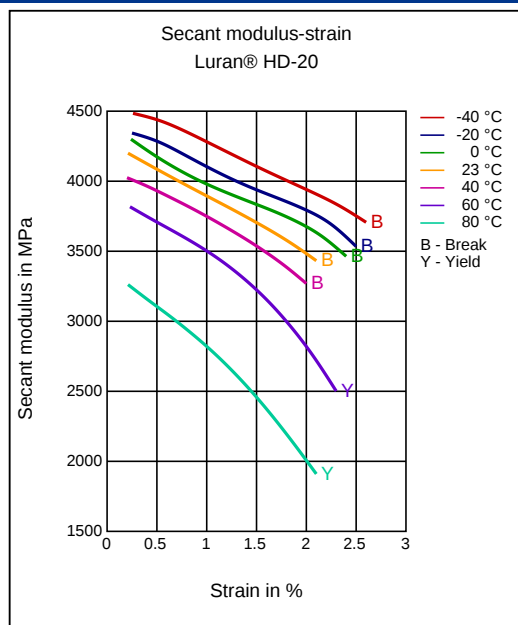
Shearstress-shear rate



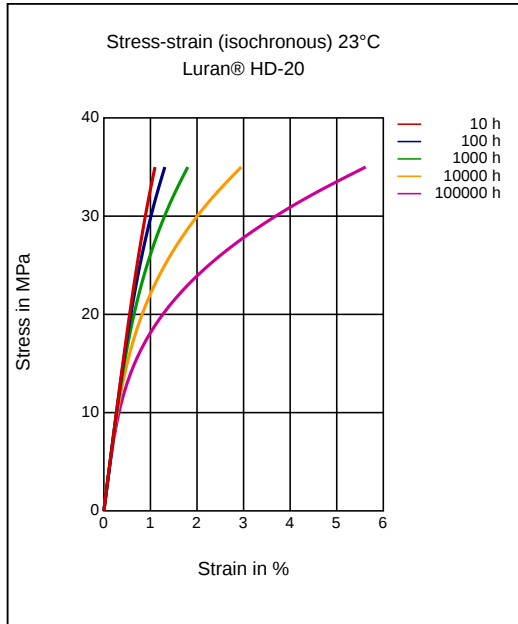
Stress-strain



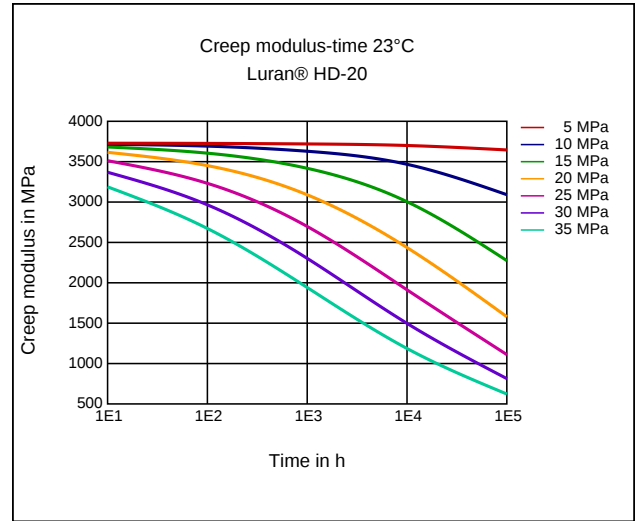
Secant modulus-strain



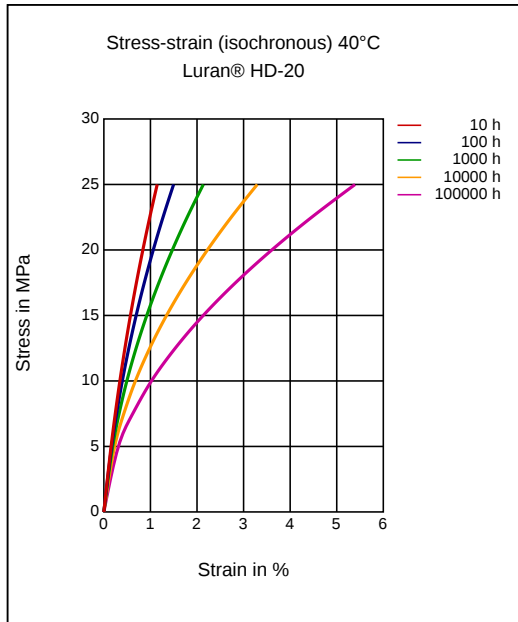
Stress-strain (isochronous) 23°C



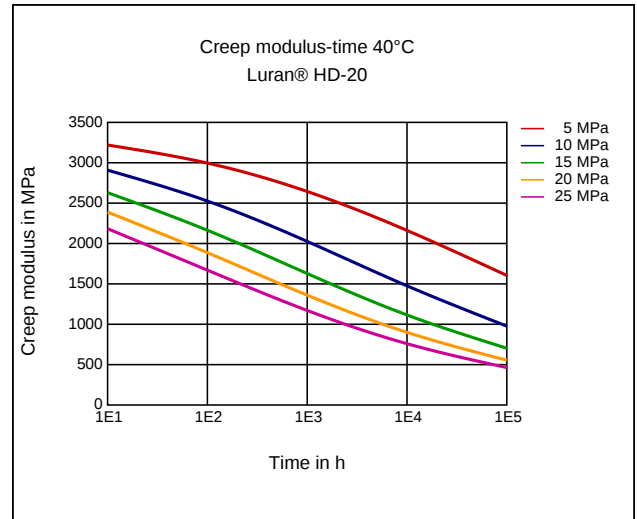
Creep modulus-time 23°C



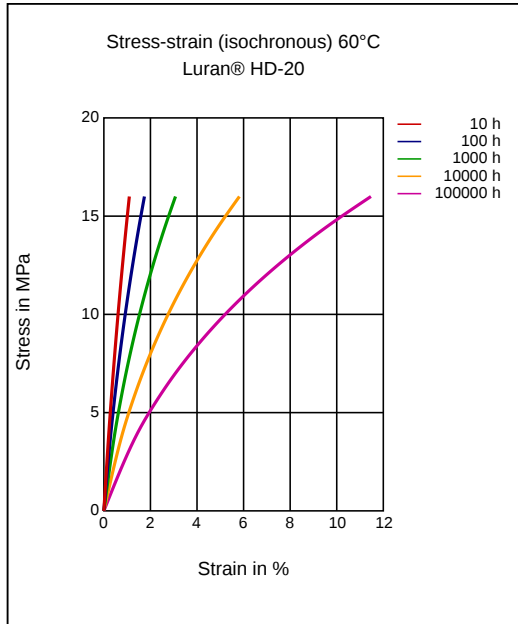
Stress-strain (isochronous) 40°C



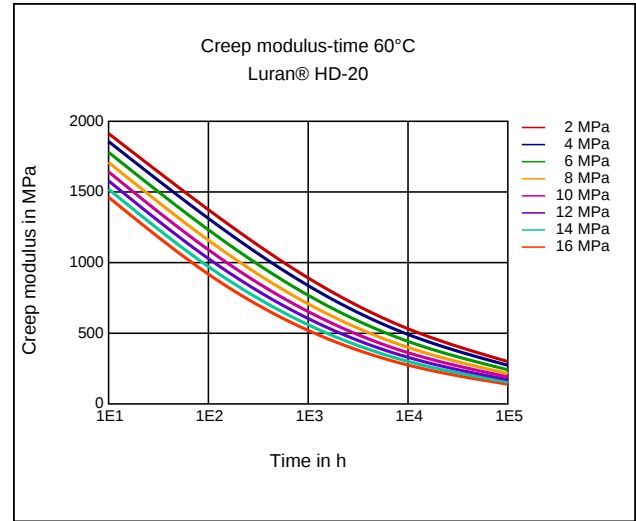
Creep modulus-time 40°C



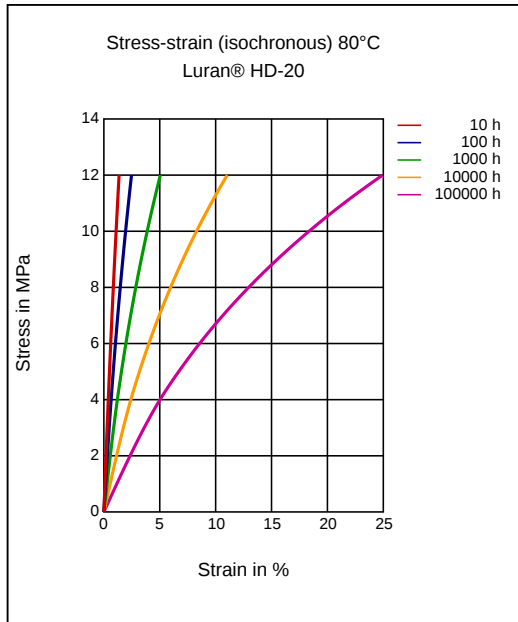
Stress-strain (isochronous) 60 °C



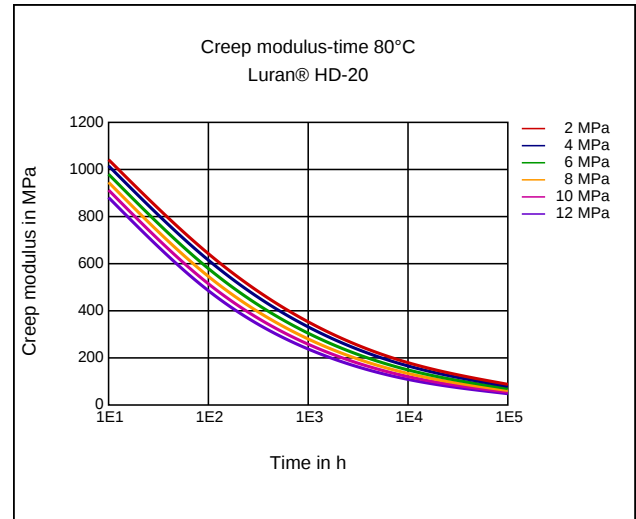
Creep modulus-time 60 °C



Stress-strain (isochronous) 80 °C



Creep modulus-time 80 °C

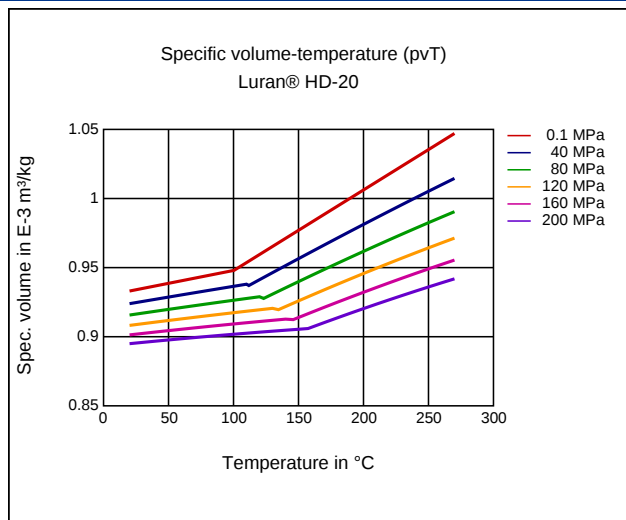


Luran® HD-20

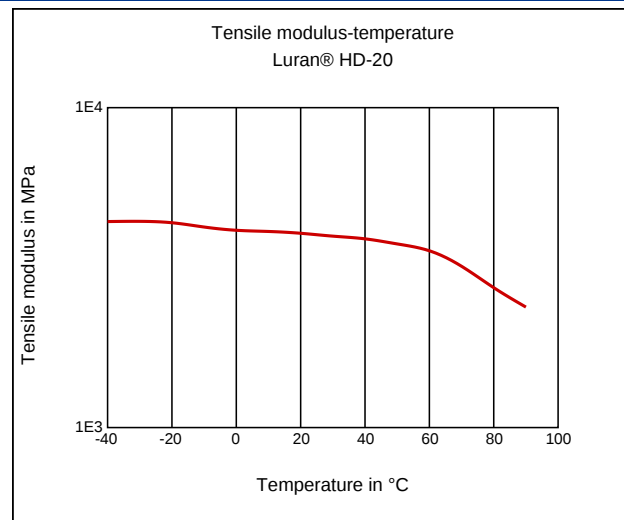
SAN

INEOS Styrolution

Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Special Characteristics

Transparent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Gamma irradiation sterilization

Chemical Resistance

Radiation Resistance

Certifications

Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, Drug Master File, Long term supply assurance, Food approval, Food approval 10/2011, Food Contact (FDA)

Applications

Medical

Injection Molding

PREPROCESSING

Pre-drying, Temperature: 80 °C

Pre-drying, Time: 2 - 4h

PROCESSING

Melt temperature, range: 220 - 260 °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)
- ✓ 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)

Luran® HD-20

SAN

INEOS Styrolution

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)
-