

**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 |
|----------------------------|-------|------------------------|---------------|
| <b>ISO Data</b>            |       |                        |               |
| Melt volume-flow rate, MVR | 5.5   | cm <sup>3</sup> /10min | ISO 1133      |
| Temperature                | 220   | °C                     | -             |
| Load                       | 10    | kg                     | -             |

| Mechanical Properties                   | Value | Unit              | Test Standard |
|-----------------------------------------|-------|-------------------|---------------|
| <b>ISO Data</b>                         |       |                   |               |
| 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/m <sup>2</sup> | ISO 179/1eU   |
| Notched Impact Strength (Charpy), +23°C | 35    | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Notched Impact Strength (Charpy), -30°C | 13    | kJ/m <sup>2</sup> | ISO 179/1eA   |

| Thermal Properties                        | Value | Unit  | Test Standard |
|-------------------------------------------|-------|-------|---------------|
| <b>ISO Data</b>                           |       |       |               |
| 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 |
|------------------------------|-------|-------|---------------|
| <b>ISO Data</b>              |       |       |               |
| 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 |

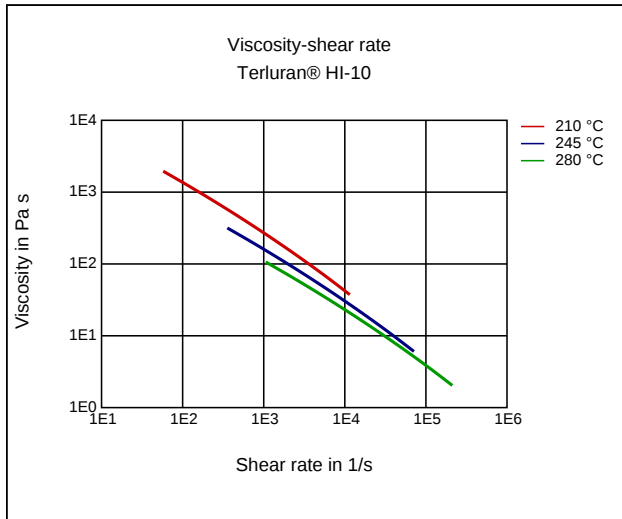
| Other Properties    | Value | Unit              | Test Standard  |
|---------------------|-------|-------------------|----------------|
| <b>ISO Data</b>     |       |                   |                |
| Water Absorption    | 1.03  | %                 | Sim. to ISO 62 |
| Humidity absorption | 0.21  | %                 | Sim. to ISO 62 |
| Density             | 1030  | kg/m <sup>3</sup> | ISO 1183       |

| Rheological calculation properties | Value | Unit              | Test Standard |
|------------------------------------|-------|-------------------|---------------|
| <b>ISO Data</b>                    |       |                   |               |
| Density of melt                    | 896   | kg/m <sup>3</sup> | -             |
| Thermal Conductivity of Melt       | 0.16  | W/(m K)           | -             |
| Spec. heat capacity of melt        | 2400  | J/(kg K)          | -             |
| Ejection temperature               | 102   | °C                | -             |

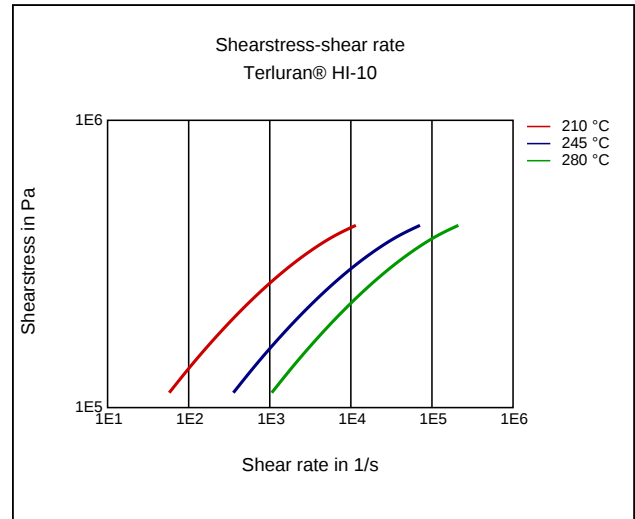
| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 80        | °C   | -             |
| Pre-drying - Time                           | 2 -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

**Diagrams**

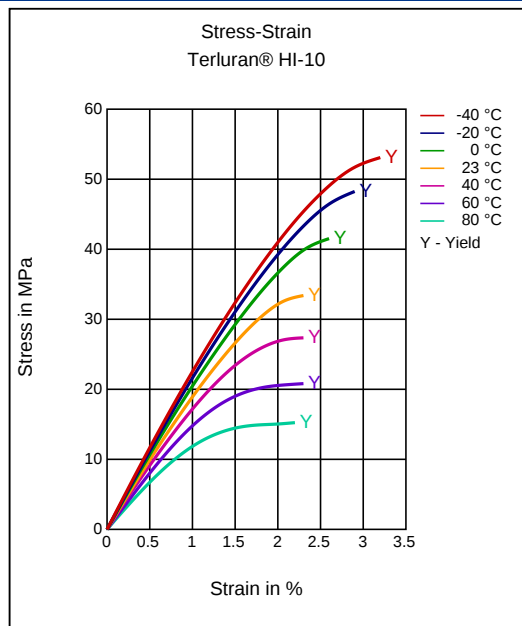
**Viscosity-shear rate**



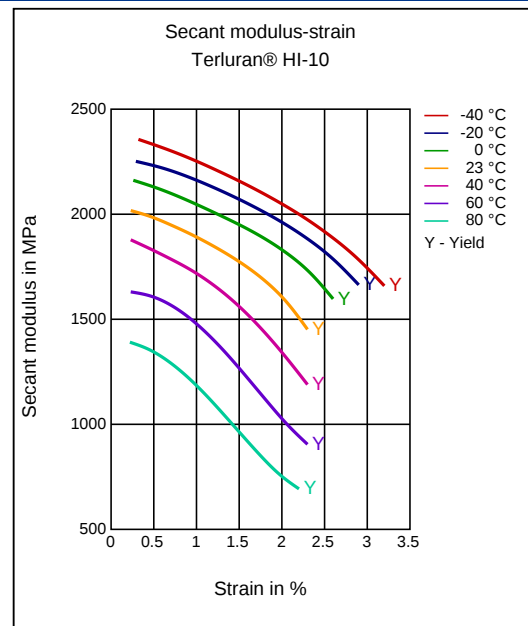
**Shearstress-shear rate**



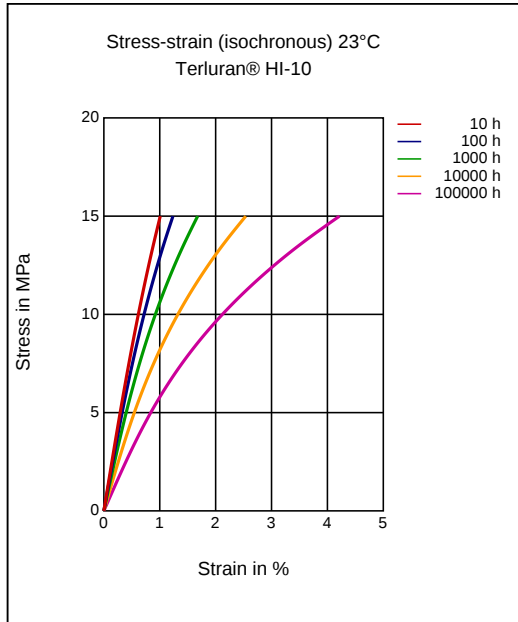
**Stress-strain**



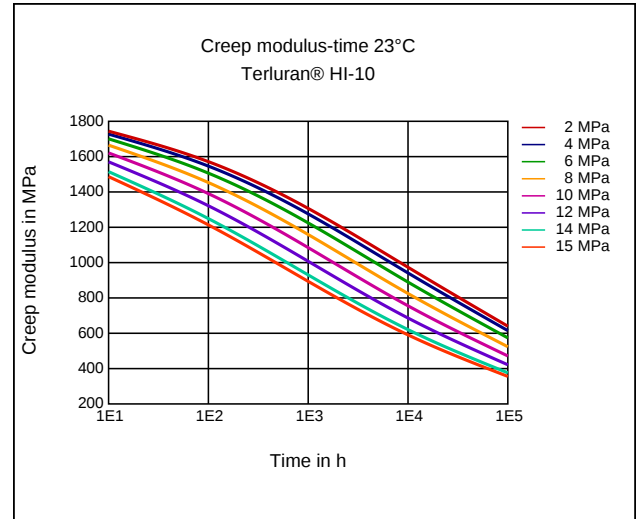
**Secant modulus-strain**



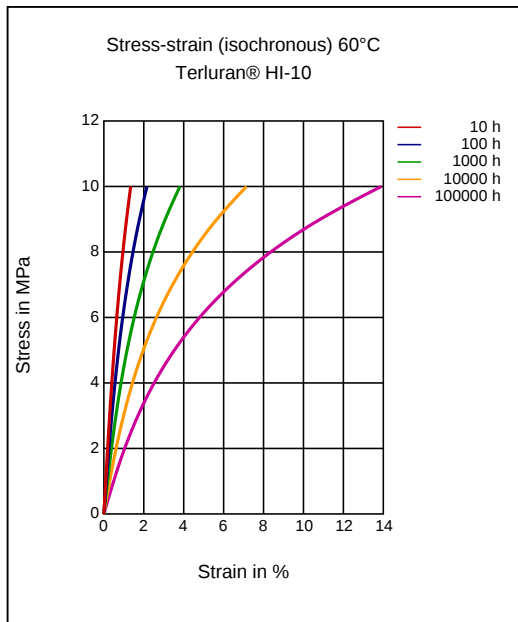
**Stress-strain (isochronous) 23°C**



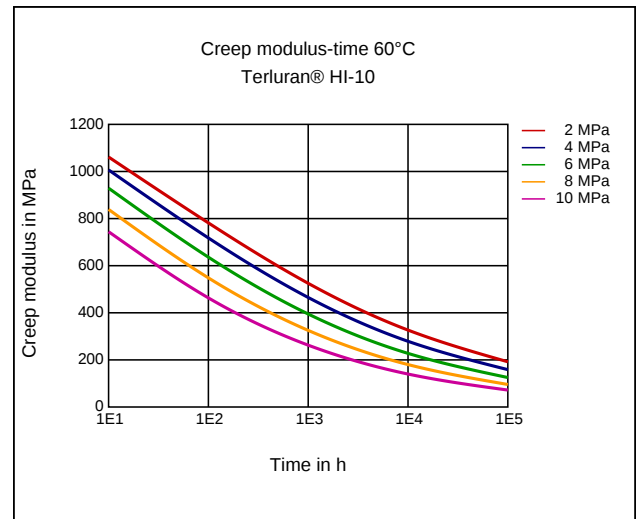
**Creep modulus-time 23°C**



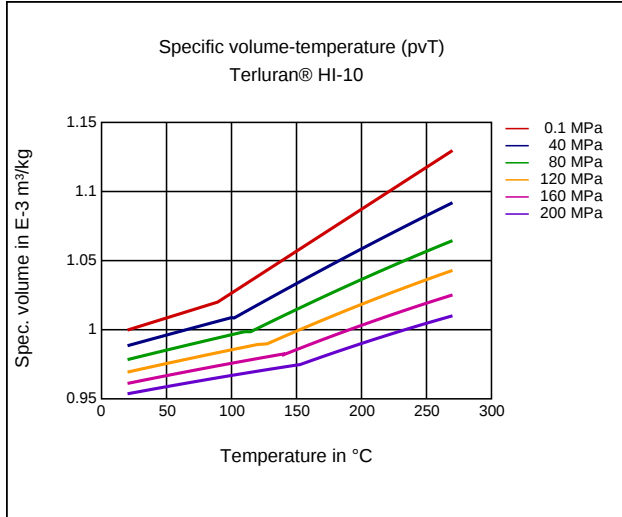
**Stress-strain (isochronous) 60°C**



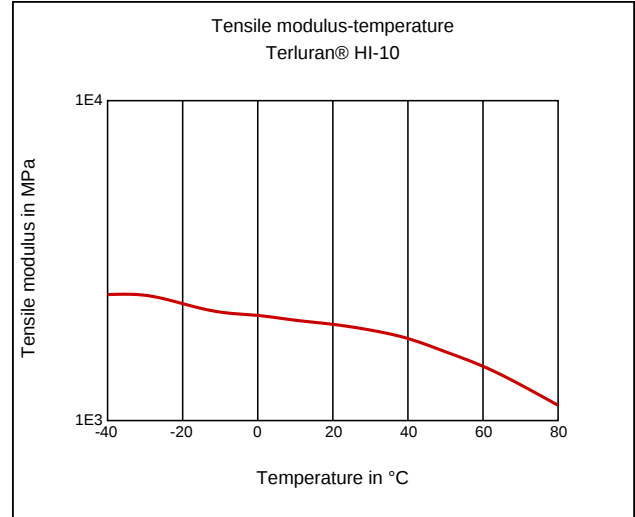
**Creep modulus-time 60°C**



#### 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

- ✓ 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)

#### Disclaimer

##### Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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

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