

## HOSTAFORM® WR140LG | POM | UV Resistant

### Description

Hostaform® acetal copolymer grade WR140LG Black is a specialty weatherable grade of acetal copolymer formulated to provide good flow with a low gloss finish and a UV stability necessary for exterior automotive applications.

Physical properties	Value	Unit	Test Standard
Density	<b>1330</b>	kg/m <sup>3</sup>	ISO 1183
Melt volume rate (MVR)	<b>13</b>	cm <sup>3</sup> /10min	ISO 1133
MVR test temperature	<b>190</b>	°C	ISO 1133
MVR test load	<b>2.16</b>	kg	ISO 1133
Mold shrinkage - parallel	<b>1.6</b>	%	ISO 294-4
Mold shrinkage - normal	<b>1.5</b>	%	ISO 294-4

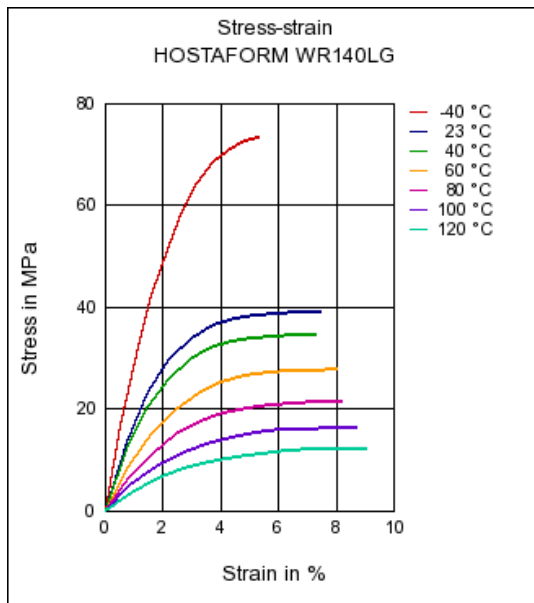
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	<b>1800</b>	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	<b>41</b>	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	<b>10</b>	%	ISO 527-2/1A
Flexural modulus (23°C)	<b>1850</b>	MPa	ISO 178
Charpy notched impact strength @ 23°C	<b>3.6</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength @ -30°C	<b>3.6</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	<b>165</b>	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	<b>80</b>	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	<b>1.3</b>	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	<b>1.3</b>	E-4/°C	ISO 11359-2

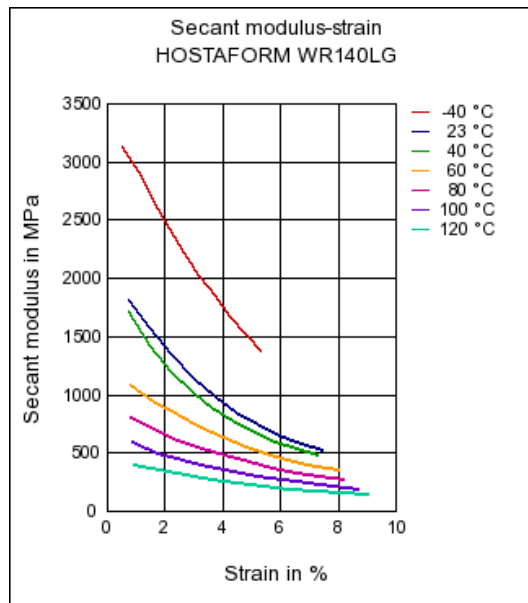
Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	<b>9988-2</b>	-	Internal

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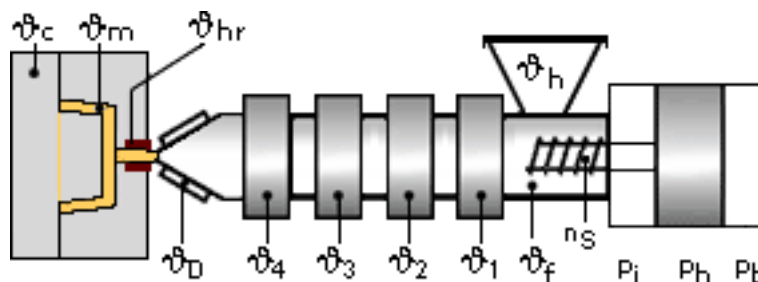
**Stress-strain**



**Secant modulus-strain**



**Typical injection moulding processing conditions**



**Pre Drying:**

Predrying is required before processing to ensure a low gloss finish. Use slow injection speed until material passes through gate, then increase.

**Drying time: 3 h**

**Drying temperature: 105 - 110 °C**

**Temperature:**

	ϕ Manifold	ϕ Mold	ϕ Melt	ϕ Nozzle	ϕ Zone4	ϕ Zone3	ϕ Zone2	ϕ Zone1
min (°C)	180	80	180	185	180	175	170	170
max (°C)	200	105	195	195	190	185	180	175

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### Pressure:

	Inj press	Hold press	Back pressure
min (bar)	600	600	0
max (bar)	1200	1200	5

### Speed:

**Injection speed: slow**

### Injection Molding

Standard reciprocating screw injection molding machines with a high compression screw (minimum 3:1 and preferably 4:1) and low back pressure (0.35 Mpa/50 PSI) are favored. Using a low compression screw (I.E. general purpose 2:1 compression ratio) can result in unmelted particles and poor melt homogeneity. Using a high back pressure to make up for a low compression ratio may lead to excessive shear heating and deterioration of the material.

Melt Temperature: Preferred range 182-199 C (360-390 F). Melt temperature should never exceed 230 C (450 F).  
Mold Surface Temperature: Preferred range 82-93 C (180-200 F) especially with wall thickness less than 1.5 mm (0.060 in.). May require mold temperature as high as 120 C (250 F) to reproduce mold surface or to assure minimal molded in stress. Wall thickness greater than 3mm (1/8 in.) may use a cooler (65 C/150 F) mold surface temperature and wall thickness over 6mm (1/4 in.) may use a cold mold surface down to 25 C (80 F). In general, mold surface temperatures lower than 82 C (180 F) may hinder weld line formation and produce a hazy surface or a surface with flow lines, pits and other included defects that can hinder part performance.

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### General Disclaimer

**NOTICE TO USERS:** Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.

Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.

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