

## HOSTAFORM® WR140LG - POM

### 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.

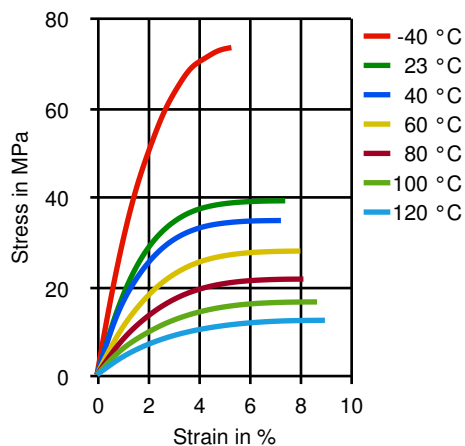
Physical properties	Value	Unit	Test Standard
Density	1330	kg/m <sup>3</sup>	ISO 1183
Melt volume rate, MVR	13	cm <sup>3</sup> /10min	ISO 1133
MVR temperature	190	°C	ISO 1133
MVR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	1800	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	41	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	10	%	ISO 527-2/1A
Flexural modulus, 23°C	1850	MPa	ISO 178
Flexural stress at 3.5% strain	50	MPa	ISO 178
Charpy notched impact strength, 23°C	3.6	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	3.6	kJ/m <sup>2</sup>	ISO 179/1eA

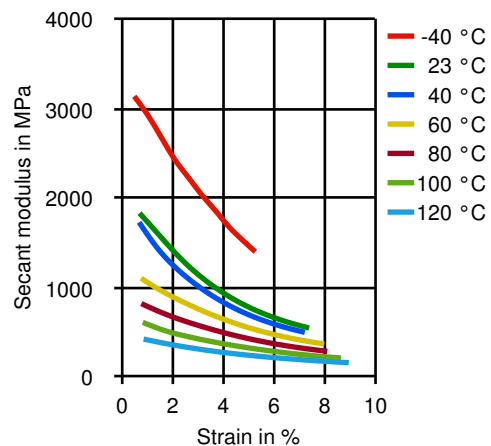
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	165	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	80	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	1.3	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	1.3	E-4/°C	ISO 11359-2

### Diagrams

#### Stress-strain



#### Secant modulus-strain



### Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Drying time	3 - 4	h	-
Drying temperature	100 - 120	°C	-
Temperature	Value	Unit	Test Standard
Zone1 temperature	170 - 175	°C	-

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Zone2 temperature	170 - 180	°C	-
Zone3 temperature	175 - 185	°C	-
Zone4 temperature	180 - 190	°C	-
Nozzle temperature	185 - 195	°C	-
Melt temperature	180 - 195	°C	-
Mold temperature	80 - 105	°C	-
Hot runner temperature	180 - 200	°C	-
<b>Pressure</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Back pressure max.	40	bar	-
<b>Speed</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Injection speed	slow	-	-

### Other text information

#### Pre-drying

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

#### 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.

### Characteristics

#### Special Characteristics

UV resistant

#### Delivery Form

Pellets

#### Processing

Injection molding

### Contact Information

### 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

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