Celanese
The chemistry inside innovation™

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.

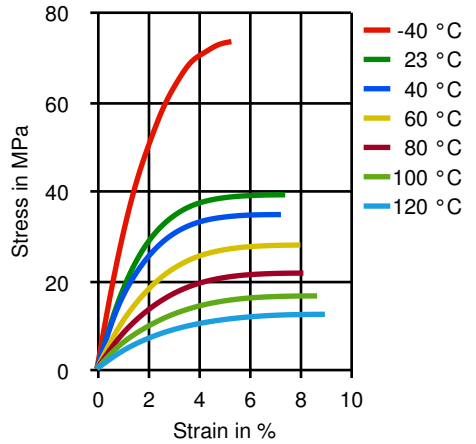
Physical properties	Value	Unit	Test Standard
Density	**1330**	kg/m³	ISO 1183
Melt volume rate, MVR	**13**	cm³/10min	ISO 1133
MVR temperature	**190**	°C	ISO 1133
MVR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**1.6**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.5**	%	ISO 294-4, 2577

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/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**3.6**	kJ/m²	ISO 179/1eA

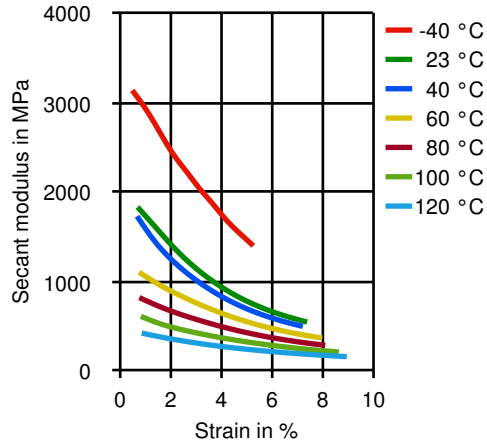
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**165**	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	**80**	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	**1.3**	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	**1.3**	E-4/°C	ISO 11359-2

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	-
Pressure	**Value**	**Unit**	**Test Standard**
Back pressure max.	**40**	bar	-
Speed	**Value**	**Unit**	**Test Standard**
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

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