Celanese
The chemistry inside innovation™

HOSTAFORM® LG450UV-D - POM

Description

Hostaform® acetal copolymer grade LG450UV-D is a specialty grade of acetal copolymer formulated to provide high flow with a reduced gloss finish and a UV stability necessary for interior automotive applications. Hostaform® LG450UV-D is specially suited for intricate applications such as speaker grills.

Physical properties	Value	Unit	Test Standard
Density	1380	kg/m³	ISO 1183
Melt flow rate, MFR	38	g/10min	ISO 1133
MFR temperature	190	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Melt volume rate, MVR	32	cm³/10min	ISO 1133
MVR temperature	190	°C	ISO 1133
MVR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Molding shrinkage, normal	1.9	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	2300	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	53	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	8	%	ISO 527-2/1A
Flexural modulus, 23°C	2300	MPa	ISO 178
Flexural stress at 3.5% strain	61	MPa	ISO 178
Charpy notched impact strength, 23°C	4	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	3.5	kJ/m²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	167	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	90	°C	ISO 75-1, -2
DTUL at 0.45 MPa	152	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	1.1	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	1.2	E-4/°C	ISO 11359-2

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

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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