HOSTAFORM® EC140XF

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Hostaform® EC140XF is a conductive ESD grade of acetal copolymer for applications requiring dissipation of static build-up. Hostaform® EC140XF has an improved resistance to aggressive fuel blends.

Product information

Resin Identification	POM-CD	ISO 1043
Part Marking Code	>POM-CD<	ISO 11469

Rheological properties

Melt volume-flow rate	4	cm^3/10min	ISO 1133
Temperature	190	°C	
Load	2.16	kg	
Melt mass-flow rate	4.5	g/10min	ISO 1133
Melt mass-flow rate, Temperature	190	°C	
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.9	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2700	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	53	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4.7	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	12	%	ISO 527-1/-2
Flexural modulus	2650	MPa	ISO 178
Flexural stress at 3.5%	70	MPa	ISO 178
Charpy impact strength, 23°C	70	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	4.5	kJ/m^2	ISO 180/1A
Hardness, Rockwell, M-scale	75		ISO 2039-2
Poisson's ratio	0.445		

Thermal properties

Melting temperature, 10°C/min	166	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	91	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	152	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	100	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	110	E-6/K	ISO 11359-1/-2

Electrical properties

Surface resistivity	1000	Ohm	IEC 62631-3-2
Resistivity, conductive plastics	1	Ohm.m	ISO 3915

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Physical/Other properties

Density	1420	kg/m^3	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	200	°C
Min. melt temperature	190	°C
Max. melt temperature	210	°C
Screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	80	°C
Max. mould temperature	120	°C
Hold pressure range	60 - 120	MPa
Back pressure	2	MPa
Ejection temperature	131	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Increased electrical conductivity, Static dissipative

Additional information

Injection molding

Preprocessing

Drying is highly recommended for conductive carbon based ESD grades of Hostaform®. Excessive moisture can lead to splay (silver streaking) in molded parts. For better uniformity in molding especially when using regrind or material that has been stored in containers open to the atmosphere, recommended drying conditions are 80 C (180 F) for 3 hours. Desiccant hopper dryers are not required. Maximum water content = 0.35%

Processing

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 Hostaform® 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 produce a hazy surface or a surface with flow lines, pits and other included defects.

Postprocessing

Postprocessing conditioning and moisturizing are not required. It may be necessary to fixture large or complicated parts with varying wall thickness to prevent warpage while cooling to ambient temperature.

Processing Notes

Storage

Predrying for conductive carbon based ESD grades is required.

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN22-X005	Black
Continental	TST N 055 54.35	
General Motors	GMW16278P-POM-Type C2	Black
Honda	Fuel spec	
Mercedes-Benz		Fuel (CD3068 BLK)
Mercedes-Benz	DBL5405-07-POM-C	Electroconductive: Polyoxymethylene Copolymer with Electroconductive Properties
Renault	No spec listed	
Stellantis	MS.50210 / POM-C.2000F.3C.EC	Technical Black;CPN5291 BLACK;61/208E-206M/H507G/C1/12, 01378_20_03973
Stellantis - Chrysler	MS.50095 / CPN-5291	Black
VW Group	TL 526 36B	

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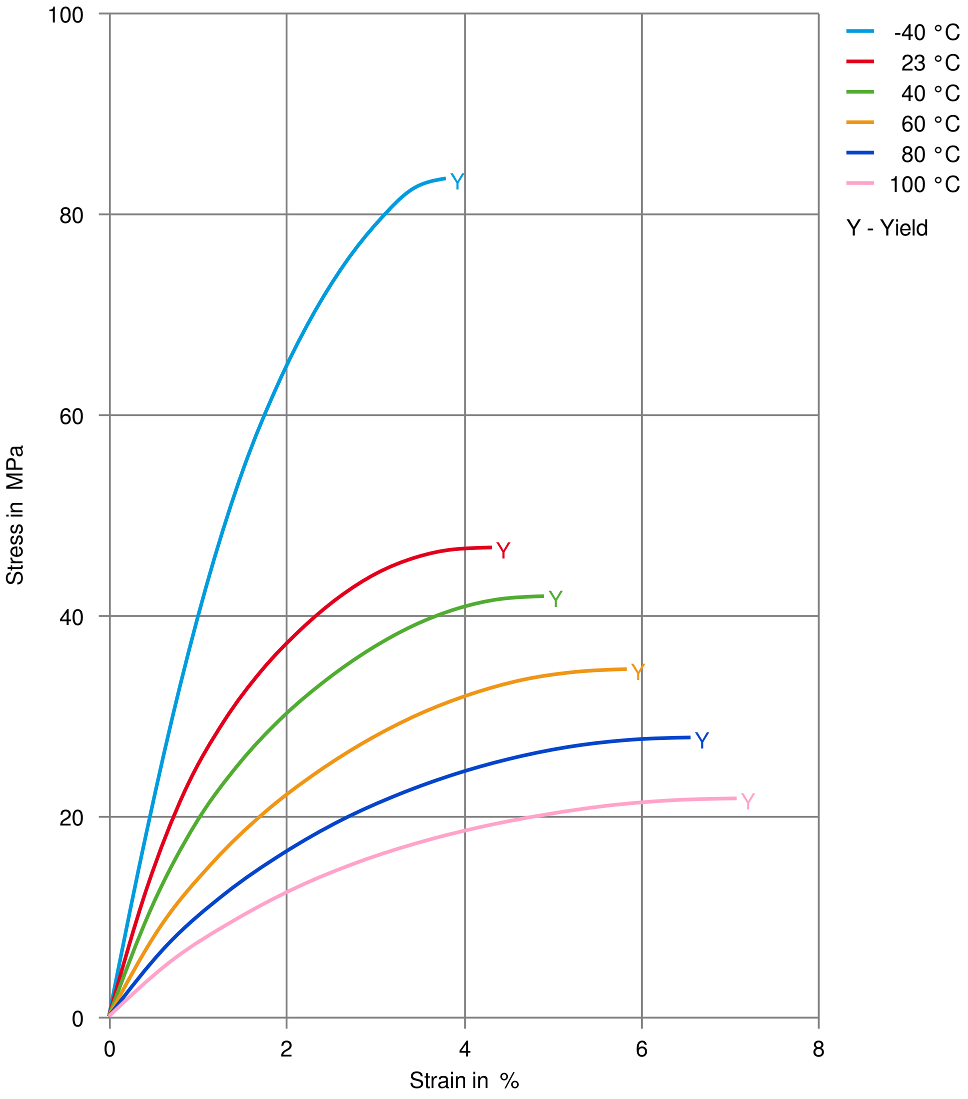
Stress-strain



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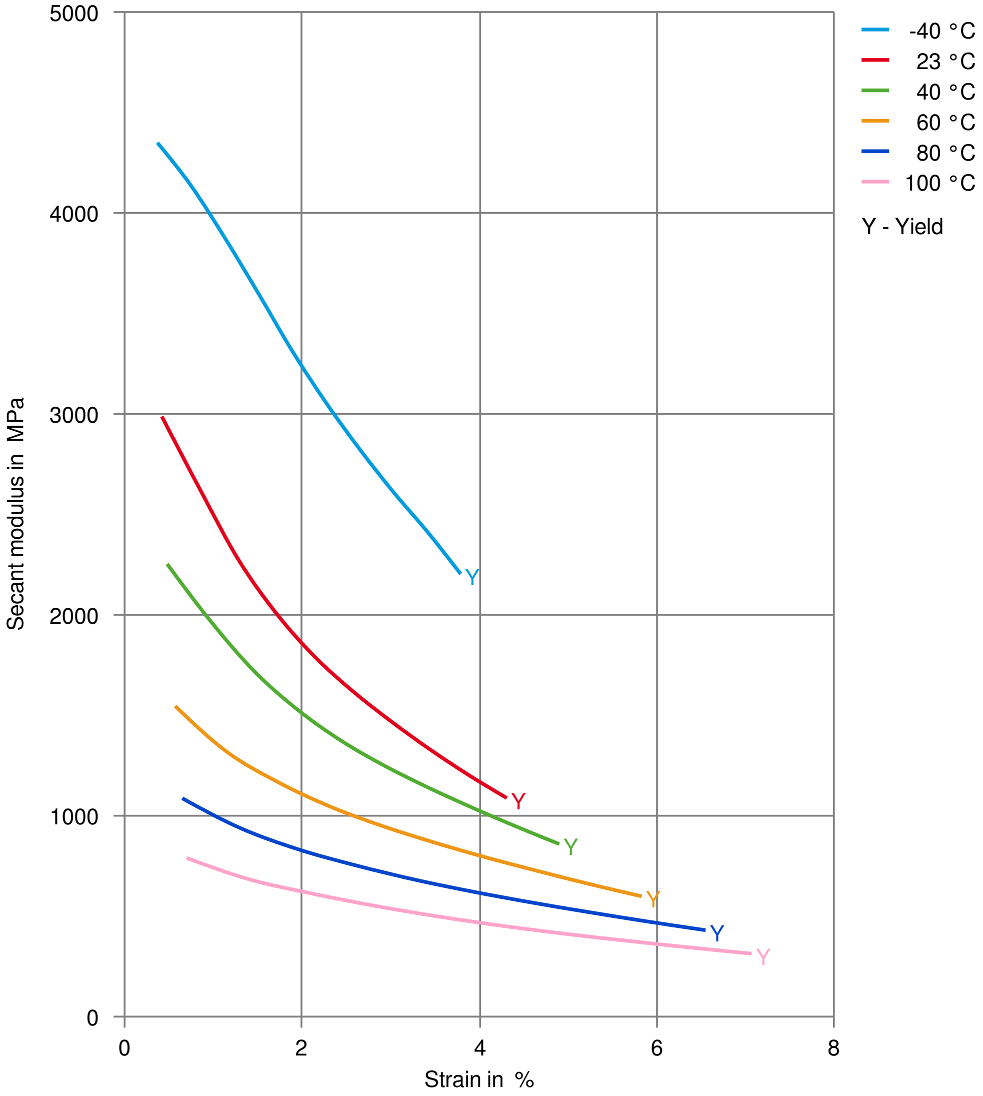
Secant modulus-strain



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Chemical Media Resistance

Standard Fuels

- ✓ ISO 1817 Liquid 1 - E5, 60 °C
- ✓ ISO 1817 Liquid 2 - M15E4, 60 °C
- ✓ ISO 1817 Liquid 3 - M3E7, 60 °C
- ✓ ISO 1817 Liquid 4 - M15, 60 °C
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23 °C
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23 °C

Symbols used:

✓ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✗ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

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