HOSTAFORM® EC270TX

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Hostaform® acetal copolymer EC270TX is a conductive ESD grade for applications requirung dissipation of static build-up. Hostaform® EC270TX shows improved toughness through impact modification.

Product information

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

Rheological properties

Melt volume-flow rate	1.5	cm^3/10min	ISO 1133
Temperature	374	°F	
Load	4.76	lb	
Molding shrinkage, parallel	1.9	%	ISO 294-4, 2577
Molding shrinkage, normal	1.7	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	283000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	6400	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	11	%	ISO 527-1/-2
Nominal strain at break	15	%	ISO 527-1/-2
Charpy notched impact strength, 23°C	3.09	$ftlb/in^2$	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	331	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	158	°F	ISO 75-1/-2

Electrical properties

Volume resistivity	10	Ohm.m	IEC 62631-3-1
Surface resistivity	1000	Ohm	IEC 62631-3-2

Physical/Other properties

Density	0.0498	lb/in^3	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	392	°F
Min. melt temperature	374	°F
Max. melt temperature	410	°F
Max. screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold pressure range	8700 - 17400	psi

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Hold Pressure Time (h is the max. wall thickness of the part in mm)	$2h^2$-3	s
Ejection temperature	248	°F

Characteristics

Processing	Injection Molding
Special characteristics	Increased electrical conductivity, Static dissipative, High impact or impact modified

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.

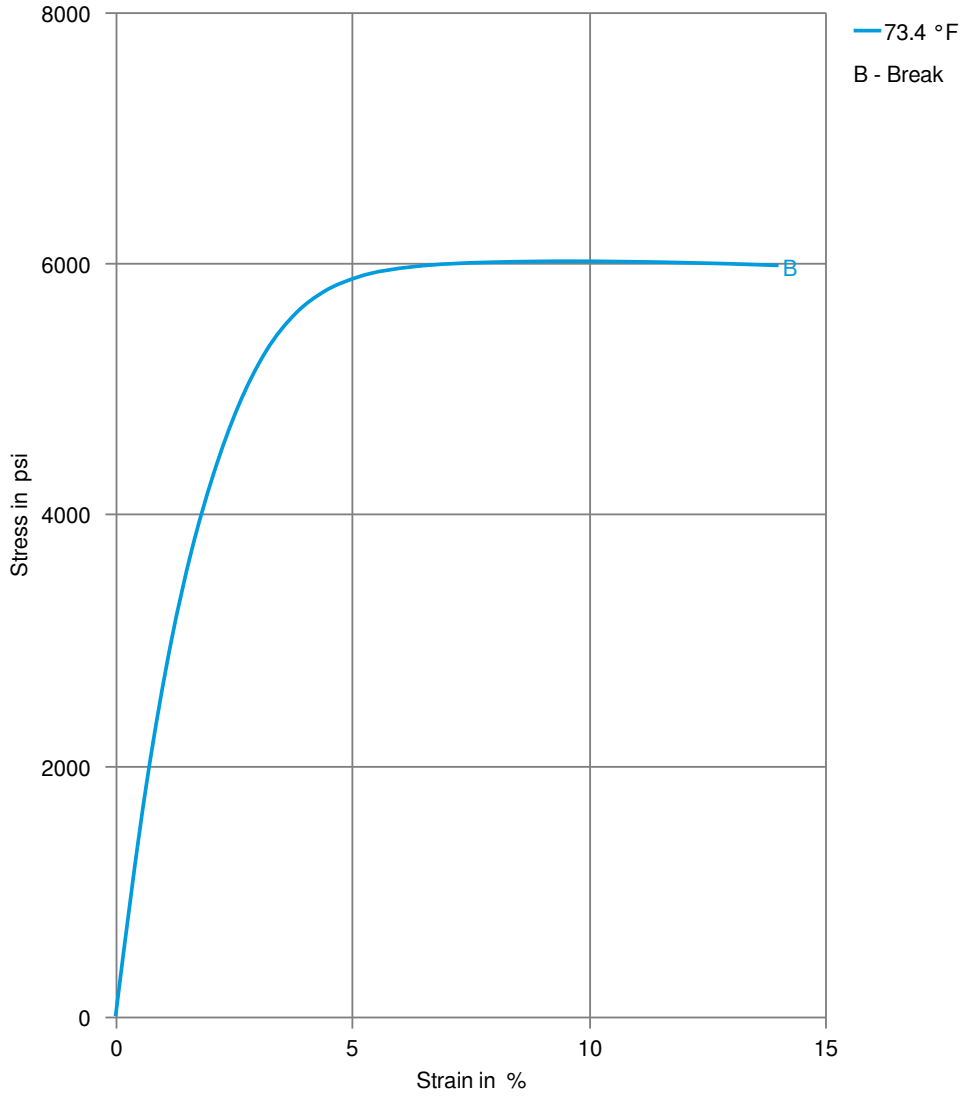
Postprocessing

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.

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Stress-strain

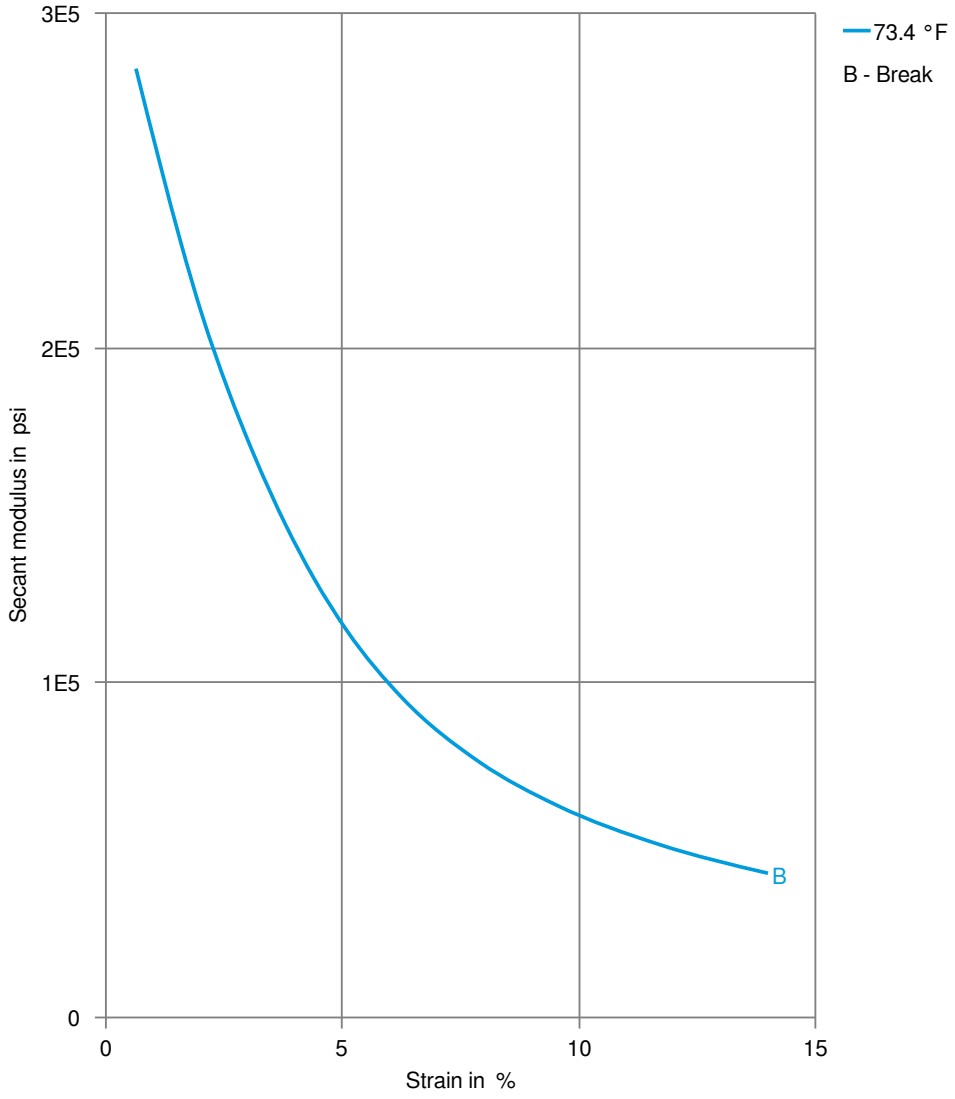


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Secant modulus-strain



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