HOSTAFORM® EC140XF

electrostatic dissipative, fuel resistant including hot diesel
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.

Rheological properties

Melt volume-flow rate	4	cm^3/10min	ISO 1133
Melt mass-flow rate	4.5	g/10min	ISO 1133
Temperature	190	°C	
Load	2.16	kg	
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
Yield stress, 50mm/min	53	MPa	ISO 527-1/-2
Yield strain, 50mm/min	4.7	%	ISO 527-1/-2
Strain at break, 5mm/min	12	%	ISO 527-1/-2
Flexural Modulus	2650	MPa	ISO 178
Flexural Stress at 3.5%	70	MPa	ISO 178
Shear Modulus	1000	MPa	ISO 6721
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
Temp. of deflection under load, 1.8 MPa	91	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	152	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	148	°C	ISO 306
Coeff. of linear therm. expansion, parallel	100	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 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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Other properties

Density	1420	kg/m³	ISO 1183

Injection

Drying Temperature	80 - 100	°C	
Drying Time, Dehumidified Dryer	3 - 4	h	
Melt Temperature Optimum	200	°C	Internal
Max. mould temperature	80 - 120	°C	
Back pressure	2	MPa	

Additional information

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 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.

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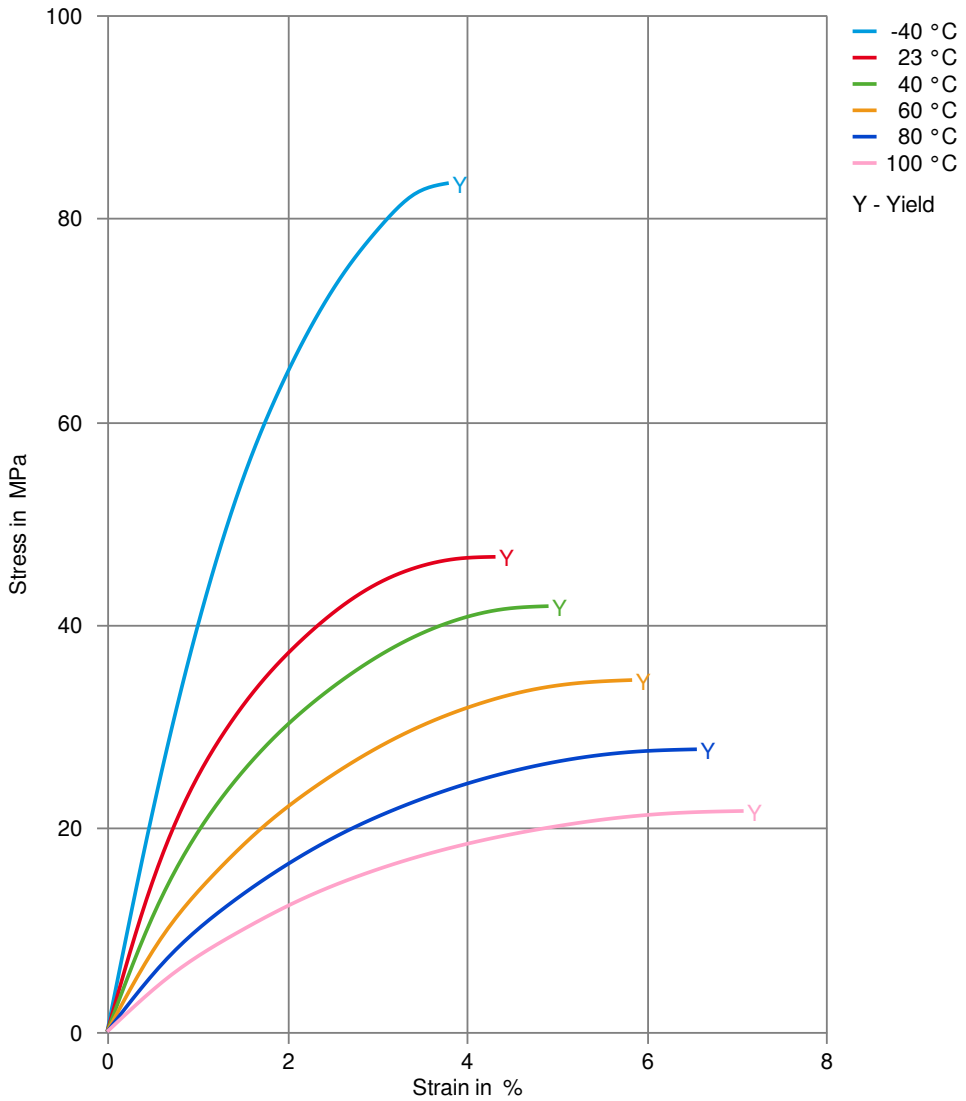
Stress-strain



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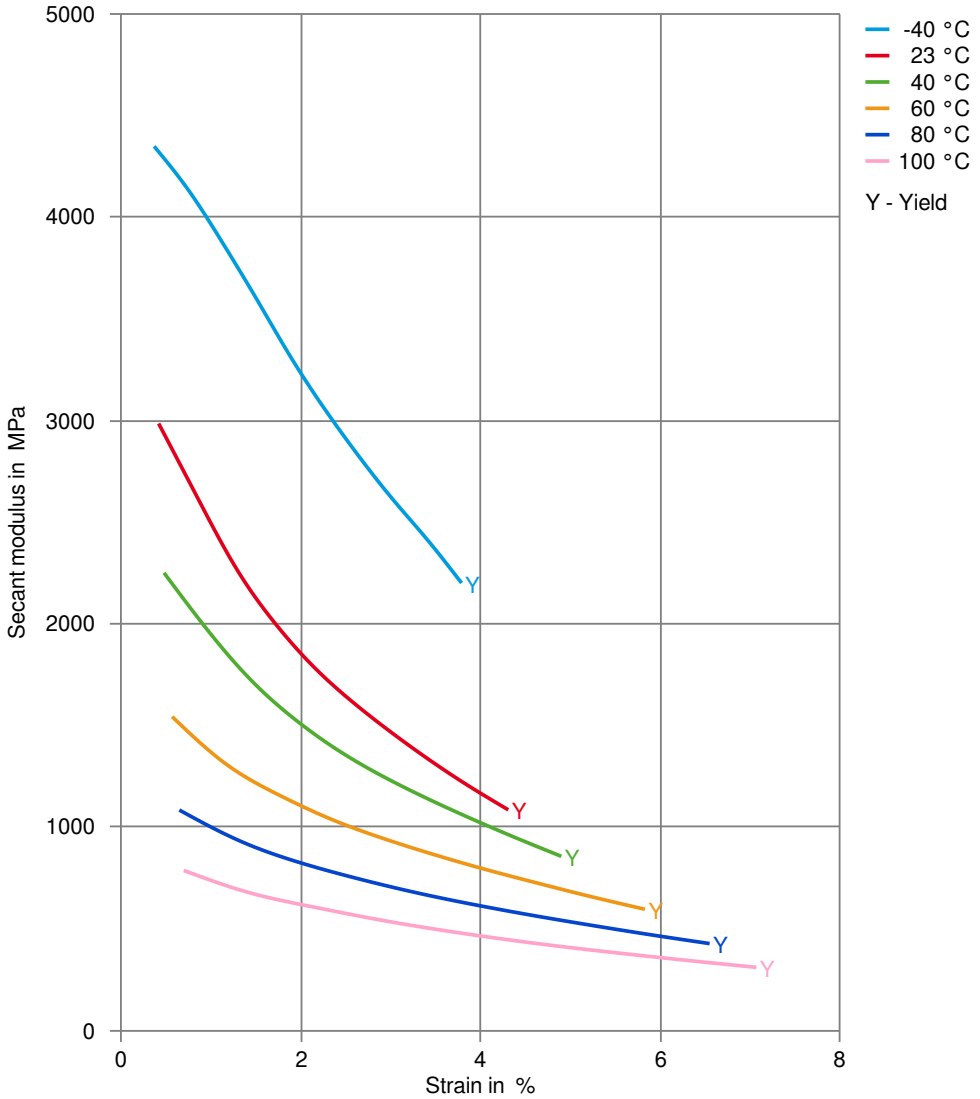
Secant modulus-strain



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Processing Texts

Longer pre-drying times/storage	Predrying for conductive carbon based ESD grades is required.
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 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.
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%
Injection molding 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.

Other Approvals

Other Approvals

OEM	Specification	Additional Information
Bosch	N28 BN22-X005	Black
Stellantis - Chrysler	CPN 5291	Black
Continental	TST N 055 54.35	
Mercedes-Benz Group (Daimler)		Fuel (CD3068 BLK)
Stellantis - FCA Group	POM 80.45 E	

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GM	GMW16278P-POM-Type C2	Black
Honda		Fuel spec
Renault		No spec listed
VW Group	TL 526 36B	
Geely	Q/JLY J7110235B	2018

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).

Revised: 2023-07-09 Source: Celanese Materials Database

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. Colourants or other additives may cause significant variations in data values. Properties of moulded 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. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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