

# HOSTAFORM® EC270TX

## HOSTAFORM®

Hostaform® acetal copolymer EC270TX is a conductive ESD grade for applications requiring 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 <sup>3</sup> /10min | ISO 1133        |
| Temperature                  | 190 °C                     |                 |
| Load                         | 2.16 kg                    |                 |
| Moulding shrinkage, parallel | 1.9 %                      | ISO 294-4, 2577 |
| Moulding shrinkage, normal   | 1.7 %                      | ISO 294-4, 2577 |

### Typical mechanical properties

|                                       |                       |              |
|---------------------------------------|-----------------------|--------------|
| Tensile modulus                       | 1950 MPa              | ISO 527-1/-2 |
| Tensile stress at yield, 50mm/min     | 44 MPa                | 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 | 6.5 kJ/m <sup>2</sup> | ISO 179/1eA  |
| Poisson's ratio                       | 0.4 <sup>[C]</sup>    |              |

[C]: Calculated

### Thermal properties

|   |        |                |
|---|--------|----------------|
| Melting temperature, 10 °C/min                | 166 °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 70 °C  | 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 | 1380 kg/m <sup>3</sup> | 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   |

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Hold pressure range  
Ejection temperature

60 - 120 MPa  
120 °C

### Characteristics

|                         |   |
|-------------------------|---|
| Processing              | Injection Moulding  |
| Delivery form           | Pellets   |
| 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.

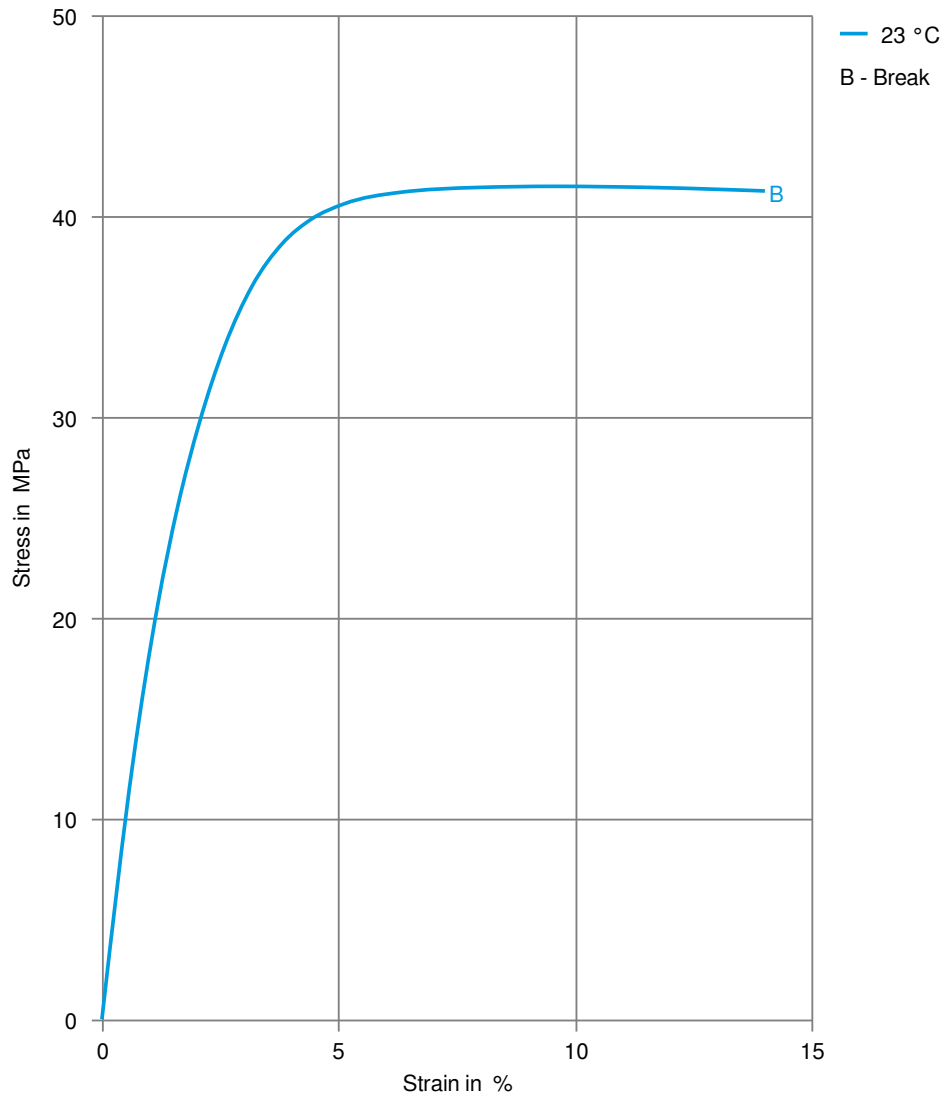
### Postprocessing

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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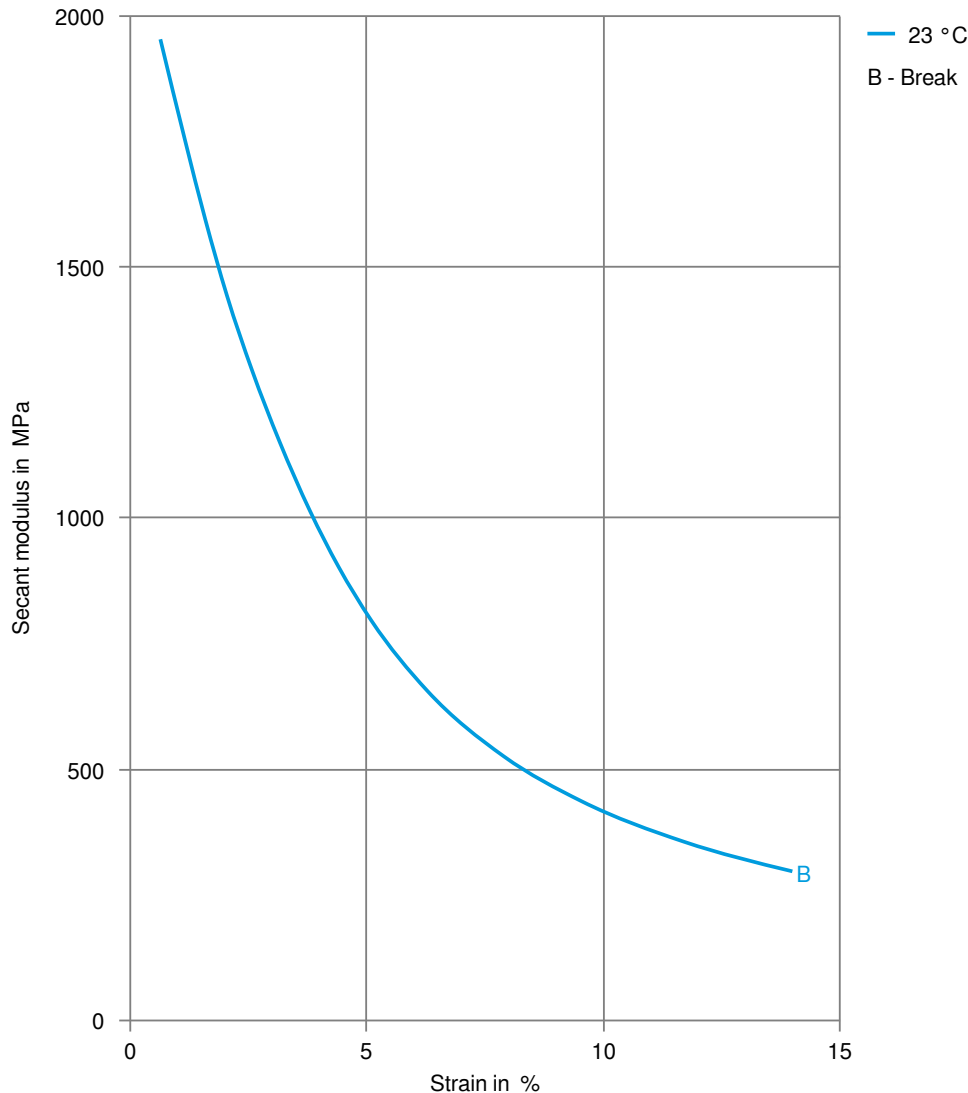
## Stress-strain



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## Secant modulus-strain



Printed: 2025-05-30

Page: 4 of 4

Revised: 2024-07-17 Source: Celanese Materials Database

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