

Material Data Sheet

# TECAFORM AH SD

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Chemical Designation:	Polyoxymethylene (Copolymer)
DIN Abbreviation:	POM
Colour, Filler:	opaque Permanently antistatic, free of carbon black, with no migration or sensitivity to moisture
Stock Availability:	Standard length 3 metres, also cut to size <ul style="list-style-type: none"><li>■ Rod 4 - 200 mm dia</li><li>■ Plate 5 - 100 mm thick</li><li>■ Tube 50 - 250 mm OD</li><li>■ Profile</li><li>■ Finished parts, machined or injection moulded</li></ul>

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TECAFORM AH SD is a semicrystalline engineering plastic, permanently antistatic for varied applications in electronics, clean rooms and safety areas.

Main characteristics:	<ul style="list-style-type: none"><li>■ permanently antistatic</li><li>■ carbon black free</li><li>■ good sliding properties</li><li>■ wear resistant</li><li>■ moisture resistant</li><li>■ easily machined</li></ul>	<ul style="list-style-type: none"><li>■ stiff, strong and tough</li><li>■ resistant to hot water, dilute acids, cleaner, numerous solvents</li><li>■ electrically insulating</li><li>■ difficult to bond</li></ul>
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Preferred Fields: Electronic protection (ESD) and production, explosive protection, clean room technology, chemical plants, mining, textile machinery, computer technology, business machines, packaging machines

Applications:	<ul style="list-style-type: none"><li>■ tool carriers</li><li>■ housing parts</li><li>■ tooth gears</li><li>■ rollers</li><li>■ seals</li></ul>	<ul style="list-style-type: none"><li>■ friction strips</li><li>■ friction bearings</li><li>■ slide plates</li><li>■ chip containers</li><li>■ chip magazines</li></ul>
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The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

Properties	Unit	Test method DIN ASTM	
<b>Mechanical</b>			
Density	g/cm <sup>3</sup>	53 479	1,33
Tensile strength at yield	MPa	D 638	45
Tensile strength at break	MPa	D 638	
Elongation at break	%	D 638	40...50
Flexure strength	MPa	D 790	48
Modulus of elasticity in flexure	MPa	D 790	1450
Ball indentation hardness	MPa	53 456	
Impact strength (Izod)	J/m	D 256	96
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		
Coefficient of friction against hardened and ground steel $p = 0,05 \text{ N/mm}^2, v = 0,6 \text{ m/s}$	-		0,18
Wear conditions as above	$\mu\text{m/km}$		
<b>Thermal</b>			
Crystalline melting point	°C	53 736	165
Glass transition temperature	°C	53 36	- 60
Heat distortion temperature Method A Method B	°C °C	ISO 75 ISO 75	88

Properties	Unit	Test method DIN ASTM	
<b>Thermal</b>			
Max. service temperature short term long term	°C °C		140 100
Coefficient of thermal conductivity	W/(m · K)		0,3
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10 <sup>-5</sup> /K		10 - 13
<b>Electrical</b>			
Dielectric constant at 10 <sup>5</sup> Hz		53 483	
Dielectric loss factor at 10 <sup>5</sup> Hz		53 483	
Specific volume resistance	$\Omega \cdot \text{cm}$	D 257	10 <sup>10</sup> - 10 <sup>12</sup>
Surface resistance	$\Omega$	D 257	10 <sup>10</sup> - 10 <sup>12</sup>
Dielectric strength at 1 mm	kV/mm	53 481	
Tracking resistance		53 480	
<b>Miscellaneous</b>			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % rel. humidity)	%	53 714	0,25
Water absorption at saturation at 23 °C	%	53 495	~ 0,8
Resistance to hot water, washing soda			limited resistance
Flammability		UL 94	HB
Resistance to weathering			not resistant

\* after storage in a standard 23/50 atmosphere (DIN 50 014) to equilibrium

ENSINGER: Production and stock programme

- Semi-finished product, finished parts, injection moulded parts and profiles in more than 500 materials and modifications.
  - Engineering plastics: PA extruded or cast, POM, PC, PET, PBT, PPE, PP, PE
  - High temperature plastics: PI, TPI, PEEK, PPS, PES, PPSU, PEI, PSU, PVDF, PCTFE, PTFE
  - Stock length: Standard 3 metres
  - Pressed/sintered semi-finished product: PI, PEEK, PPS, PTFE/PI and modifications, as well as PCTFE in special sizes ie, large discs, tube and rings with diameters up to about 1500 mm
  - Material modifications: eg glass, carbon and aramid fibre, talc, MoS<sub>2</sub>, graphite, PTFE, PE, silicone oil, internal lubrication
- Pultruded stock shapes: matrix polyester, vinylster and epoxy resin with glass or carbon continuous fibre