

## TECAFORM AH MT

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Chemical Designation:	Polyoxymethylene (Copolymer) (Acetal)
DIN Abbreviation:	POM
Colour, Filler:	Red, blue, green, yellow, brown, rust, grey or black
Stock Availability:	Standard length 3 metres, also cut to size <ul style="list-style-type: none"><li>▪ Rod 4 - 150 mm dia</li><li>▪ Plate 5 - 100 mm thick</li><li>▪ Tube 40 - 200mm OD</li><li>▪ Profile</li><li>▪ Finished parts, machined or injection moulded</li></ul>

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TECAFORM AH MT is a semi-crystalline thermoplastic engineering material with high strength and rigidity, easily machined, suitable for medical and food technology. The material is physiologically harmless and FDA compliant.

Main characteristics:	<ul style="list-style-type: none"><li>▪ Strong and rigid</li><li>▪ Tough</li><li>▪ Good sliding properties</li><li>▪ Resistant to hot water, dilute acids, cleaning agent, numerous solvents</li></ul>	<ul style="list-style-type: none"><li>▪ Good electrical insulation (other than black)</li><li>▪ Easily welded</li><li>▪ Difficult to bond</li><li>▪ Sensitive to superheated steam</li><li>▪ Easily machined and polished</li></ul>
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Preferred fields: Special colours, specifically employed in medical and food technology

Applications:	<ul style="list-style-type: none"><li>▪ Instrument handles</li><li>▪ Prosthesis part testing</li><li>▪ Friction bearings</li><li>▪ Gears</li><li>▪ Housing parts</li></ul>	<ul style="list-style-type: none"><li>▪ Friction strips</li><li>▪ Plugs</li><li>▪ Insulators</li><li>▪ Agitators and kneading elements</li><li>▪ Seals</li></ul>
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# TECAFORM AH MT

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	1.41
Tensile strength at yield	MPa	53 455	65
Tensile strength at break	MPa	53 455	
Elongation at break	%	53 455	40
Modulus of elasticity in tension	MPa	53 457	3100
Modulus of elasticity in flexure	MPa	53 457	
Ball indentation hardness	MPa	53 456	155
Impact strength (Charpy)	kJ/m <sup>2</sup>	53 453	no br.
Creep rupture strength after 1000 hrs with static load	MPa		40
Time yield limit for 1% elongation after 1000 hrs.	MPa		13
Coefficient of friction against hardened and ground steel p = 0,05 N/mm <sup>2</sup> , v = 0,6 m/s	–		0.32
Wear conditions as above	µm/km		8.9
<b>Thermal</b>			
Crystalline melting point	°C	53 736	165
Glass transition temperature	°C	53 736	– 60
Heat distortion temperature Method A                      Method B	°C °C	ISO 75 ISO 75	110 160

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)		0.31
Specific heat	J/(g · K)		1.5
Coefficient of thermal expansion	10 <sup>-5</sup> /K		10
<b>Electrical**</b>			
Dielectric constant at 10 <sup>5</sup> Hz		53 483	3,5
Dielectric loss factor at 10 <sup>5</sup> Hz		53 483	0.003
Specific volume resistance	Ω · cm	53 482	10 <sup>15</sup>
Surface resistance	Ω	53 482	10 <sup>13</sup>
Dielectric strength 1 mm	kV/mm	53 481	>50
Tracking resistance		53 480	KA 3c
<b>Miscellaneous</b>			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	53 714	0.3
Water absorption at saturation at 23 °C	%	53 495	0.5
Resistance to hot water, washing soda			limited resistant
Flammability		UL 94	HB
Resistance to weathering			not resistant (black resistant)
Compliance			FDA compliant

\*\* electrical properties not valid for black

\* 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, tubes and rings with diameters up to about 1400 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, vinylester and epoxy resin with glass or carbon continuous fibre