

## Polymers

# SABIC™ POM 90S

## Polyoxymethylene

### PRODUCT DESCRIPTION:

SABIC™ POM 90S is a medium molecular weight grade suitable for Injection molding applications for parts requiring high rigidity and strength for many applications.

### CHARACTERISTICS:

SABIC™ POM 90S has the following:

- High toughness and strength.
- Good chemical resistance to solvent.
- High resistance to thermal and oxidative degradation.
- Fuel, strong alkalis as well as good hydrolysis resistance.

### TYPICAL DATA:

PHYSICAL PROPERTIES	Unit	Typical Value <sup>(1)</sup>	Test Method
Density	kg/m <sup>3</sup>	1410	ISO 1183
Melt volume rate (MVR)	cm <sup>3</sup> /10min	8	ISO 1133
MVR test temperature	°C	190	ISO 1133
MVR test load	kg	2.16	ISO 1133
Mold shrinkage - parallel	%	2	ISO 294-4
Mold shrinkage - normal	%	1.8	ISO 294-4
Water absorption (23°C-sat)	%	0.65	ISO 62
THERMAL PROPERTIES	Unit	Typical Value <sup>(1)</sup>	Test Method
Melting temperature (10°C/min)	°C	166	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	°C	104	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	E-4/°C	1.1	ISO 11359-2
MECHANICAL PROPERTIES	Unit	Typical Value <sup>(1)</sup>	Test Method
Tensile modulus (1mm/min)	MPa	2850	ISO 527-2/1A
Tensile stress at yield (50mm/min)	MPa	64	ISO 527-2/1A
Tensile strain at yield (50mm/min)	%	9	ISO 527-2/1A
Nominal strain at break (50mm/min)	%	30	ISO 527-2/1A
Tensile creep modulus (1h)	MPa	2500	ISO 899-1
Tensile creep modulus (1000h)	MPa	1300	ISO 899-1
Flexural modulus (23°C)	MPa	2700	ISO 178
Charpy impact strength @ 23°C	kJ/m <sup>2</sup>	180	ISO 179/1eU
Charpy impact strength @ -30°C	kJ/m <sup>2</sup>	160	ISO 179/1eU
Charpy notched impact strength @ 23°C	kJ/m <sup>2</sup>	6.5	ISO 179/1eA
Charpy notched impact strength @ -30°C	kJ/m <sup>2</sup>	6	ISO 179/1eA
ELECTRICAL PROPERTIES	Unit	Typical Value <sup>(1)</sup>	Test Method
Relative permittivity - 100 Hz	-	4	IEC 60250
Relative permittivity - 1 MHz	-	4	IEC 60250
Dissipation factor - 100 Hz	E-4	15	IEC 60250
Dissipation factor - 1 MHz	E-4	50	IEC 60250
Volume resistivity	Ohm*m	1E12	IEC 60093
Surface resistivity	Ohm	1E14	IEC 60093
Electric strength	kV/mm	35	IEC 60243-1
Comparative tracking index CTI	-	600	IEC 60112

(1) Typical values; not to be construed as specification limits.

## PROCESS GUIDELINES:

### Injection Molding

Standard injection molding machines with three phase (15 to 25D) plasticizing screws will fit.

Melt Temperature 190 – 230 °C

Mould Temperature 80 – 120 °C

### Film Extrusion

Standard Extruder with grooved feed zone and short compression screw (minimum 25 D) will fit.

Melt Temperature 180 – 190 °C

### Other Extrusion

Standard Extruder with grooved feed zone and short compression screw (minimum 25 D) will fit.

Melt Temperature 180 – 190 °C

### Sheet Extrusion

Standard Extruder with grooved feed zone and short compression screw (minimum 25 D) will fit.

Melt Temperature 180 – 190 °C

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