

## Technical Data Sheet

### TecoMax™ PGA M-1000

TecoMax™ PGA is a polyglycolic acid homopolymer resin, which dissolves readily in natural environments regardless of salinity level with carbon dioxide and water as the final degradation products. Typical applications include frac plug components, frac balls in oil & gas industry processed by injection molding, extrusion and machining.

#### General Properties

Material Availability	Commercial
Appearance	Light Beige
Forms	Granules
Processing Method	Injection molding, Extrusion

Physical	Typical Value	Unit	Test Method
Density	1.58	g/cm <sup>3</sup>	ISO 1183/A
Melt Flow Index (250°C, 2.16Kg)	3~6	g/10min	ISO1133-1

Mechanical	Typical Value	Unit	Test Method
Tensile Strength	119	MPa	ISO 527
Tensile Modulus	7.40	GPa	ISO 527
Tensile Elongation at Break	12	%	ISO 527
Flexural Strength	220	MPa	ISO 178
Flexural Modulus	6.67	GPa	ISO 178
Rockwell Hardness	112	-	ISO 2039-2 M Scale

Thermal	Typical Value	Unit	Test Method
Melting Point	220	°C	ISO 11357
Glass Transition Temperature	41	°C	ISO 11357
Heat Deflection Temperature	170	°C	ISO 75

\*Typical properties are not specifications.

## Processing Guideline

TecoMax™ PGA is extremely moisture sensitive and degrades with exposure to humidity. The resin is pre-dried and packaged in moisture barrier packaging and ready to use when delivered. However, it is recommended to pre-dry before use to insure low moisture content. The recommended max moisture content before extrusion and injection molding is 100ppm. Avoid exposure to atmosphere during processing for more than 1 hour. If not possible, blanket the raw material with dry air or nitrogen.

Recommended drying condition is 120°C with dry air with dew point of -40°C for 12 hours.

### Extrusion

- ❖ Feeding zone: 220~240°C
- ❖ Compression zone: 230~260°C
- ❖ Metering zone: 250~270°C
- ❖ Die: 240~270°C

### Injection molding

- ❖ Melting temperature: 230~270°C
- ❖ Mold temperature: 100~120°C
- ❖ Injection pressure: 50~100MPa
- ❖ Injection speed: 2~3m/min
- ❖ Back pressure: 0~1.0Mpa