PolyGlobal Material Comparison

POM Homopolymer vs Copolymer

Polyoxymethylene (POM), also known as acetal, is an engineering thermoplastic. It is available in two different categories; copolymers & homopolymers. It is regularly used in metal replacement applications.

POM is a material which is preferred for its mechanical properties, dimensional stability, wear resistance, low friction, high strength and rigidity. The material is also easy to colour and has a good surface finish.

	Homopolymer	Copolymer
Mechanical Properties	✓ Excellent mechanical properties ✓ Better short term performance	✓ Good mechanical properties ✓ Better long term performance
Surface Finish & Mouldability	✓ Adequate surface finish ✓ Can be more difficult to colour	✓ Good surface finish ✓ Easily coloured
Abrasion & Wear Resistance	✓ Excellent abrasion resistance ✓ Better short term resistance	✓ Good abrasion resistance ✓ Better long term resistance
Hydrolysis Resistance	✓ Good cold water hydrolytic resistance × Rapid deterioration in hot water	✓ Good hydrolytic resistance ✓ Resistant in both hot & cold water
Melt Flow Rate	✓ Available in a range of melt flow rates dependant on the finished application	✓ Available in a range of melt flow rates dependant on the finished application

Although availability and cost can fluctuate with both material options, currently Homopolymers are experiencing increased demand pressures and as such Copolymers currently offer the most economical option.

Application Examples

Homopolymer

- ✓ Conveyor plates
- ✓ Sprockets
- ✓ Gears

Copolymer

- ✓ Watch gears
- ✓ Conveyor links
- ✓ Automotive underhood components

Please use this information for general comparisons only. Final product testing is always recommended.

PolyGlobal Ltd, Church Street, Thornes Lane, Wakefield, West Yorkshire, WF1 5QY
T: +44(0) 1924 387 310
www.polyglobal.co.uk/materials