



Acetal Polyoxymethylene (POM)

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| Description | |
| Material is hard, tough and resilient with good creep resistance and dimensional stability. Good temperature properties. | |
| Typical Applications | |
| Gears, bearings, conveyor components, valve & pump housings | |
| Types of grade available | |
| Glass fibre filled Glass bead filled UV Stabilised Extrusion Grade | |
| General Processing | |
| Drying Time | 2 to 3 hours |
| Drying Temperature | 85 C |
| Type of Drier | Hot Air |
| Purging | GPPS or PMMA |
| Moisture Absorption | 0.22% |
| Other Considerations | Copolymers have better processing characteristics than homo-polymers. DO NOT PUT IN CONTACT WITH PVC |
| Processing Injection Moulding | |
| Barrel Settings | 180 C to 220 C |
| Injection speed | Moderate to Fast |
| Injection Pressure | |
| Back Pressure | 5 to 10 Bar |
| Screw Speed | |
| Tool Temperature | 90 C |
| Melt Temperature | 200C to 220C |
| Processing Stability | Good |
| Gate Considerations | Round gates should have diameter of at least 50 – 60% of the wall thickness |
| Sprue & Runner Considerations | Land line to be kept to a minimum |
| Processing Extrusion | |
| Barrel Settings | 180-205c |

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| Screw Speed | LD ratio 20-1 – 35 rpm |
| Screen Packs | 20 40 80 40 20 mesh |
| Haul-off / Cooling | Air cooling recommended |
| Calibration | Vacuum sizing for high speed. Sizing plates |
| Mechanical Properties | |
| Shrinkages | 2% to 3% |
| Flexural Strength | 90 MPA |
| Tensile strength at Yield | 37 -69 MPa |
| Physical Properties | |
| Density | 1.41 |
| Cold Bend | N/A |
| Cold Flex | N/A |
| Elongation at Break | 110% |
| Tensile Modulus | 1400 – 3200 MPa |
| General Impact Strength | Good |
| Material Finish | Mat |
| Thermal Properties | |
| Vicat Softening Temperature | 150C |
| Heat Deflection Temperature | 118C |
| Flammability | |
| Flammability Rating | Horizontal Burn |
| Weatherability | |
| Suitability for outdoor use | A UV stabilised grade must be used for outdoor use |
| Fillers & Additives | |
| | Glass bead & fibre, UV stabilisers, silicone oil |
| Chemical Resistance | |
| Resistant to | Stress cracking, biological attack and solvents |
| Not resistant to | Dilute mineral acids, fairly strong organic acids |
| Food Contact Status | |
| | Not Suitable |
| Colouring | |
| | As the natural colour of the material is translucent white then a wide colour range is available. Dry colouring and masterbatching are readily performed but care must be taken as some colourants may cause degradation. |

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| WEEE & ROHS Compliance | Yes |
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| Bonding | Material is difficult to join using adhesives |
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| Welding | Commonly welded using techniques such as ultrasonic, hot plate, induction, friction and solvents. Hot plate welding using temperatures of between 230C and 290C to obtain effective joints although the actual temperature is dependant upon the thickness and area of components to be welded |

This information has been provided as a general guide and we suggest that you carry out your own specific tests to be sure that this material is suitable for your application.