

## Acetal (POM)

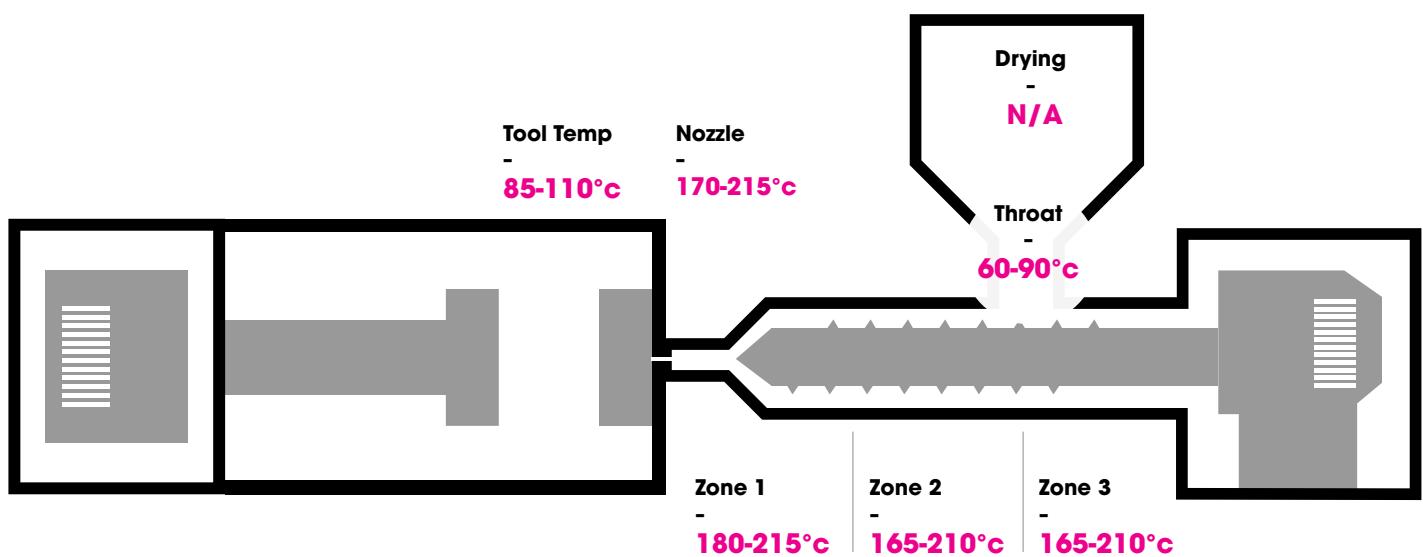
### General Description

POM has high crystallinity at around 80%. POM has a good finish and is naturally very white, which is both aesthetically pleasing for the natural and also allows for a large range of colours to be produced.

POM is highly resistant to water and this allows it to be used extensively in plumbing and piping. POM also has a good level of stiffness and mechanical properties as well as low surface friction which means that it is well suited for use in cogs and gears, and with its resistance to water acetal is used extensively in pumps.

### Pre-Production

POM is much less moisture sensitive than nylon and shouldn't need drying unless the bag has been left open. If drying is required then 2 to 3 hours in a hot air oven at 85°C or 1 to 2 hours in a desiccant dryer at 110°C.



### Processing notes

- DO NOT process POM directly after PVC or any material that contains halogens or other acid generating polymers. Purge with low MFI HDPE or a suitable purging agent.
- Medium to fast fill is often used. Slow filling can cause orange peeling and filling too fast can cause gate blemishes
- Residence time of 7 minutes at 240°C and 20 minutes at 210°C
- Back pressure can range from 10bar to 200bar try to keep as low as possible
- Screw speed should not exceed 0.1-0.3ms<sup>-1</sup>

### Tool requirements

- POM mould shrinkage is around 2.0-3.5%. With around 0.1% post mould shrinkage.
- High mould temps increase the mould shrinkage but can lower the post mould shrinkage allowing for tighter dimensional control.
- Cylinder and screw cleanliness are very important as contaminants will have a diverse effect on thermal stability.

### Post Production

- Make sure that the material is purged out completely with LDPE or HDPE.

### POM Portfolio

Supplier	Material	Brand Name
<b>Engineering polymers</b>		
 Mitsubishi Engineering Plastics	POM (Acetal Copolymer)	Iupital

### Disclaimer

In producing this know-how document and with regards to the information set out herein, Plastrribution Limited has used reasonable endeavours to provide information that is accurate and reliable and the document details the reasonable conclusions that can be reached on the basis of the information available to Plastrribution Limited.

Please note that the information included in this document is for information purposes only and is provided on "as is" basis without any warranty. Plastrribution Limited has not prepared, would not expect and does not intend any information in this document to be used in isolation. Accordingly, the use of the information or in part, by you or by any third party working with or for you for any reason will be entirely at your risk.

All implied warranties and conditions are excluded, to the maximum extent permitted by law. For the avoidance of doubt, Plastrribution Limited cannot be held responsible for any action resulting from the use of the information and, to the fullest extent permitted by law, Plastrribution Limited excludes all liability or whatever nature (whether direct, indirect, consequential, special or otherwise) with regards to or arising from such use.