

## Polycarbonate (PC)

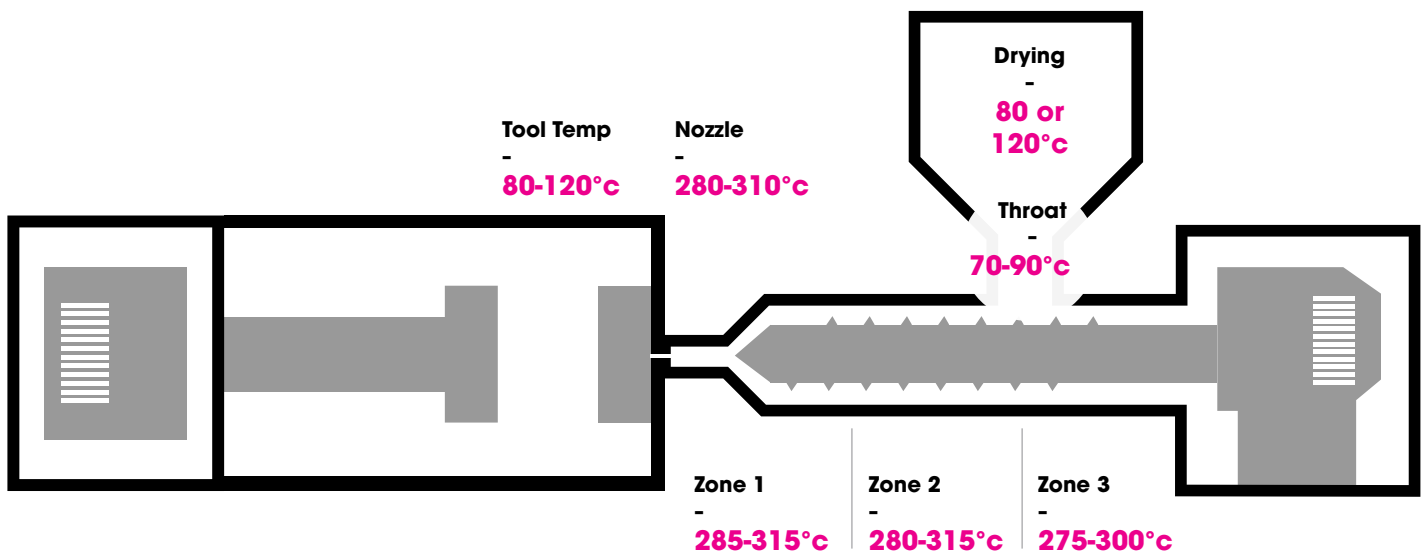
### General Description

Polycarbonate is an amorphous engineering material. Polycarbonate is usually transparent however translucent and opaque grades are available. Due to its natural clarity PC can come in a wide range of colours.

Polycarbonate is often used in applications where its clarity or toughness (or both) are required. This means that polycarbonate is used in a wide variety of applications, from motorbike helmets and riot shields to optical lenses.

### Pre-Production

Polycarbonate is hygroscopic and therefore readily absorbs moisture. Material should be dried at 120°C in a dehumidifying dryer for 3 hours.



### Processing notes

- PC's flow properties vary with molecular weight.
- A range of different flows are available.
- Excess heat or residence time will cause PC to yellow.
- Good surface finish throughout the machine is beneficial to help stop sticking and therefore help prevent degradation.
- Do not exceed 85% shot weight or go below 30% shot weight.
- Mould temperature should be kept high to help achieve a good surface finish.





### Tool requirements

- Unfilled shrinkage is in the order of 0.6-0.8%.
- 30% glass fill brings the shrinkage down to around 0.3-0.5%.
- All runners should be streamlined to help prevent material hang up which can cause degradation.
- Good control of the mould temperature is preferred to provide a good and consistent surface finish.

### Post Production

- Run the machine completely dry.
- Purge machine with PS at around 150 °C.
- Do not allow PC to dry in the machine as it can form a very strong bond to the steel. Possibly stripping parts of the metal off.

### Polycarbonate (PC) Portfolio

Supplier	Material	Brand Name
	Polycarbonate	Wonderlite
	PC/ABS	Wonderloy
	Polycarbonate	Iupilon
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	PC, PA, PBT	Romiloy
	PPE Blends	Luranyl
	Polycarbonate	Tarflon

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