

Polypropylene (PP), PPHP (Homo-Polymer), PPCP (Co-Polymer), PPRCP (Random Co- Polymer)

General Description

A light weight semi crystalline material. In its 3 forms and when modified with additives and fillers polypropylene has a broad range of properties.

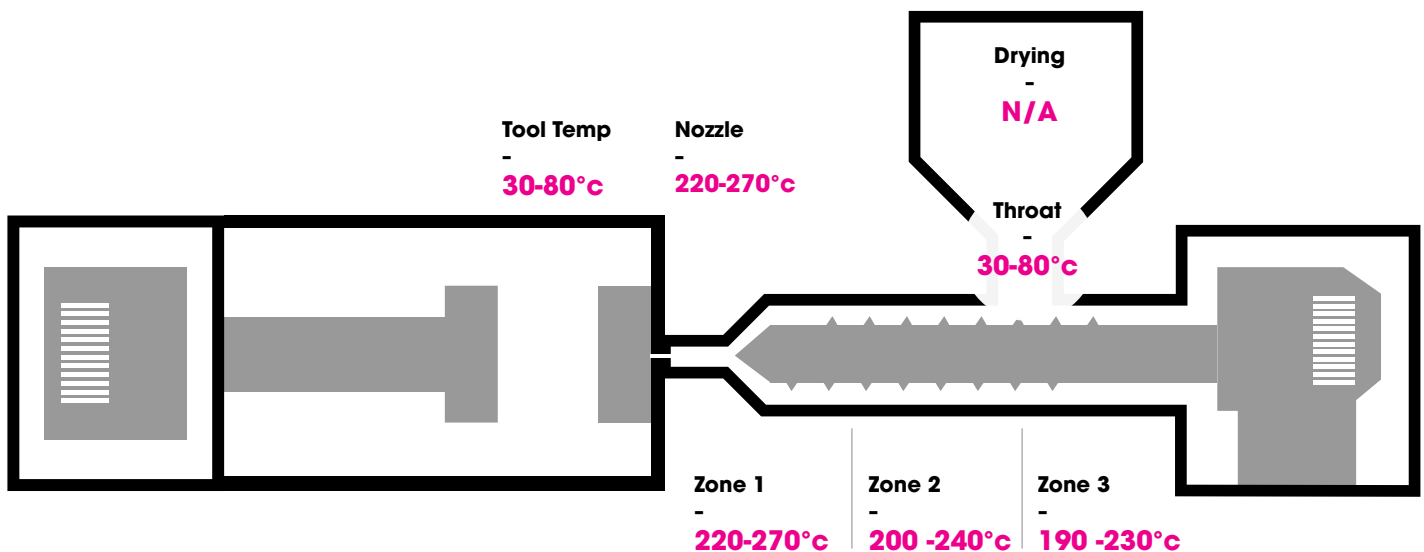
In Summary

- PPHP is stiff and relatively brittle.
- PPCP flexible and tough even at low temperature
- PPRCP physical properties fall between PPHP & PPCP but the material is clear,
- A very wide range of applications, thin wall packaging, cap & closures, disposable medical equipment. Will need to be UV stabilized if used outside

Pre-Production

PP is not hygroscopic, so drying should not be necessary. Material should be stored dry environment away from strong sunlight, stock rotation should be enforced.

Colouring is relatively easy, however some pigments can create warping and distortion by promoting crystallinity.



Processing notes

- Injection Speeds. As high as possible to ensure good surface finish, and strong weld lines.
- Variation in surface finish can be caused by excessive injection speeds, this can be alleviated by profiling the injection cycle
- High holding pressure may be required to avoid voiding.
- Avoid high screw speeds higher than 0.8m/s
- Back pressure to be set as low as possible to achieve consistent shot size and colour dispersion.
- PP is susceptible to oxidation, residence time should not exceed 6 minutes, or 3 min when melt temperature exceeds 270.





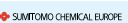


Tool requirements

- Shrinkage 1.8% - 2.5%. Shrinkage is more uniform than that of HDPE, orientation has less influence on the shrinkage value.
- Large amounts of post moulded shrinkage would indicate an excessive amount of moulded in stress caused by the incorrect moulding conditions.
- PP very suitable for hot runner systems.
- All gates can be used for PP
- Tools should be vented to accommodate fast filling.

Post Production

- No specific requirement for emptying barrel.
- Post production shrinkage is common, so accurate measurement of dimensions should only take place after 48hrs at RT.

PP, PPHP, PPCP, PPRCP Portfolio

Supplier	Material	Brand Name
 CARMEL OLEFINS LTD.	PPHP	Capilene
	PPCP	Capilene
	PPRCP	Capilene
 DUCOR Petrochemicals	PPRCP	Duclear
	PPHP (Phthalate free)	Dupure
	PPCP (Phthalate free)	Dupure
 ExxonMobil Chemical	PPHP	ExxonMobil PP
	PPCP	ExxonMobil PP
 MOLGROUP	PPHP	Tippelen
	PPCP	Tippelen
	PPRCP	Tippelen
 SUMITOMO CHEMICAL EUROPE	PPCP	Sumitomo
 TOTAL	PPHP	Total PP
	PPCP	Total PP
	PPRCP	Total PP
	mPPRCP	Lumicene
 Unipetrol	PPHP	Mosten
	PPCP	Mosten
	PPRCP	Mosten

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