

Processing guide for Multiflex™ TPO BR

Please find below some indications to follow for processing Multiflex™ TPO BR. Of course, this not replaces molder know-how, every mold having own specificity, but this document is useful for initial parameter choice.

Multiflex™ TPO BR can be transformed between their melting temperature (170°C) to 250°C. In this temperature range, and for controlled exposure time (< 15 min.), materials are stable, above, thermal degradation occurs, resulting in yellowing and significant odor emanation.

Pre-drying

As Multiflex™ TPO BR are not humidity sensitive, Pre-drying is not Needed. In case of “incident”, pre-drying at 80-90°C during 1 to 2 hours is sufficient.

Machinery cleaning

High flow thermoplastic must be used, PEHD, LDPE or PP.

Recycling

Multiflex™ TPO BR are 100% recyclable without properties loss. We recommend a maximum level of 10% of recycling material in virgin material.

INJECTION

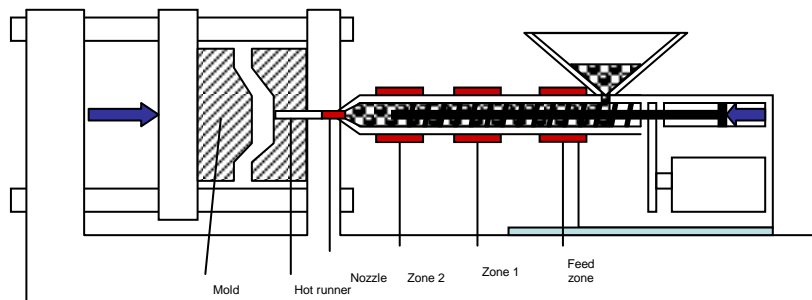
Screw:

Geometry: Standard injection machine, L/D > 20, Compression rate 2:1 to 3:1. Screw volume must be limited to 7 shot volumes: if higher, melt material stagnation and so degradation phenomena can occurs. Screw speed between 20 to 70% of max screw speed ensures thorough melting of the material without excessive temperature generation.

Back pressure

Must be between 5 and 15 bars: This will ensure a uniform melt without severe shear heating

<u>Temperatures</u> (°C) :	Feed Zone	Zone 1	Zone 2	Nozzle
	200 +/- 10	210 +/-10	220 +/-10	230+/-10



Injection speed:

Injection speed and fill time are highly dependent on part geometry, complexity and gate design. Faster speeds typically result in easier mold filling while lower speeds result in better surface appearance.

Injection speed between 50 to 90% of maximum injection speed should be used initially.

Holding pressure

Start with a pressure equivalent to 30% of maximum injection pressure. Excessive holding pressure can result in distortion in the area of the gate due to elastomeric characteristics of the material

Holding time

3 seconds can be used to start to ensure sufficient time for gate freeze off.

Holding time can be slowly reduced until changes in part appearance or weight occur.

Mold

Temperature: from 10 to 60°C, but typically chosen in the range 10-20°C gives good results.

Use conventional mold design (venting, finish, draft)

For injection using direct sprue, Se/Ss = 0.5 to 0.75

Submarine injection is possible.

Total feeding system volume must be lower than part volume.

Hot Runners

Apply a temperature of 240°C +/- 10

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