Processing guide for Multiflex™ CW / T

Multiflex™ TES CW/T are styrenics thermoplastic elastomers, designed for high compression set applications
Compatibility with polyolefins enables bi-material parts (continuous process or cold insert).
Please find bellow some indications to follow for processing Multiflex™ TES CW /T series. Of course, this not replaces molder know-how, every tools having own specificity, but this document is useful for initial parameter choice.

Background

Multiflex™ TES CW /T series can be transformed between 190°C to 230°C.
In this temperature range, materials are stable, above, thermal degradation occurs, resulting in yellowing and significant odor emanation.

Pre-drying

As Multiflex™ TES CW / T 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, PELD or PP.

Coloring

Multiflex™ TES CW / T are easy colorable by using color masterbatch based on PP, PE or ethylene copolymers (EVA).

Recycling

Multiflex™ TES CW / T are 100% recyclable without properties loss. We recommend a maximum level of 10% of recycling material in virgin material.

INJECTION

On a general point of view, viscosity of SEBS based material is principally dependant of applied shear, so Multiflex must be injected with high injection speed.
Due to their high fluidity, easy mold feeding for single or multiple cavities geometries are possible

Processing parameters

Screw:

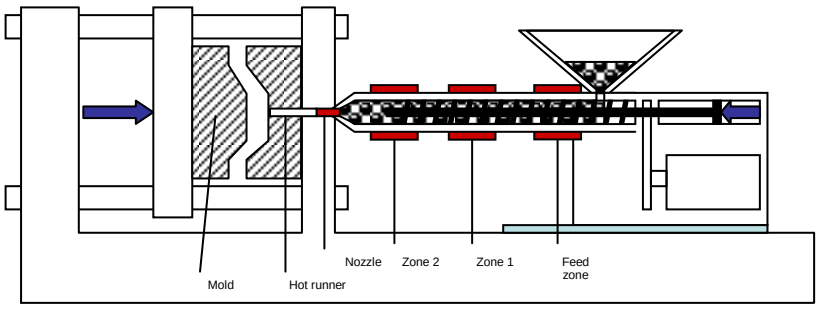
Geometry : Standard injection machine, L/D > 20, Compression rate 2:1 to 3:1 (if higher, risk of thermal degradation)
Screw speed between 100 to 150 rpm ensures thorough melting of the material without excessive temperature generation. Start with 120 rpm.

Back pressure

Must be between 7 and 15 bars: This will ensure a uniform melt without severe shear heating

Temperatures (°C) :

Feed Zone	Zone 1	Zone 2	Nozzle
160 +/- 10	190 +/-10	200+/-10	210+/-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 in better surface appearance.
High injection speed, around 70% 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 second can be used to start to ensure sufficient time for gate freeze off.
Holding time can be slowly reduced until changes in part appearance of weight occur.

Mold

Use conventional mold design (venting, finish, draft)
Temperature: from 10°C to 60°C, but typically chosen in the range of 40°C gives good results.

Hot Runners

Apply a temperature of 190°C +/- 10

EXTRUSION

Multiflex™ TES CW /T series can be processed on all extrusion machines for PVC, polyolefin.
A screw, with a compression ratio of 3 is recommended.

Temperature (°C) :	Feed Zone	Zone 1	Zone 2	Die
	160 +/- 10	180 +/-10	190+/-10	200+/-10