

A close-up photograph of green pine needles, showing their fine texture and vibrant color. The needles are arranged in clusters along a dark brown branch, with some in sharp focus and others blurred in the background.

FibraQ[®]
by Biofiber Tech

Injection moulding recommendations

1. Drying the granulates:

To ensure optimal results, the compounded granulates should be dried prior to injection moulding. The recommended drying conditions are 4 h at 90°C. The recommended drying time may vary depending on storage conditions of the compounded granulate.

2. Temperature:

The injection should be done at temperatures lower than 200°C to avoid fibre burning.

Matrix	Mould Temperature	Rear Barrel Temperature	Middle Barrel Temperature	Front Barrel Temperature	Nozzle Temperature
PP	20-50°C	160-175°C	175-185°C	180-185°C	180-190°C
PLA	25-55°C	160-175°C	170-185°C	175-190°C	180°C
ABS	40-80°C	180-200°C	190-205°C	200-210°C	205°C
PA11	20-70°C	180-200°C	190-200°C	200°C	200-205°C
rPE	50-60°C	165-175°C	170-180°C	175-185°C	175°C

3. Continuous processing:

To avoid risk of material degradation, the dwell time of the material inside the injection moulding machine should be minimized. So continuous operation is highly recommended.

4. Purge:

After production, it is very important to purge/rinse the injection moulding machine and tooling with neat PP (or whatever polymer matrix is being used) or a purging compound. In case there is still remaining material on the metal mould after purging, citric acid solution (10% in water) can be used to clean the surface.

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Further remarks:

Regarding the other processing parameters, we advise to use, as a start, similar processing parameters to the neat polymer (PP, HDPE or other chosen matrix), as they are dependent on the injection moulding machine and dimensions of the injected parts. Changes in pressure, temperature or time can be then carried out, to find the optimum injection parameters with the composites.

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