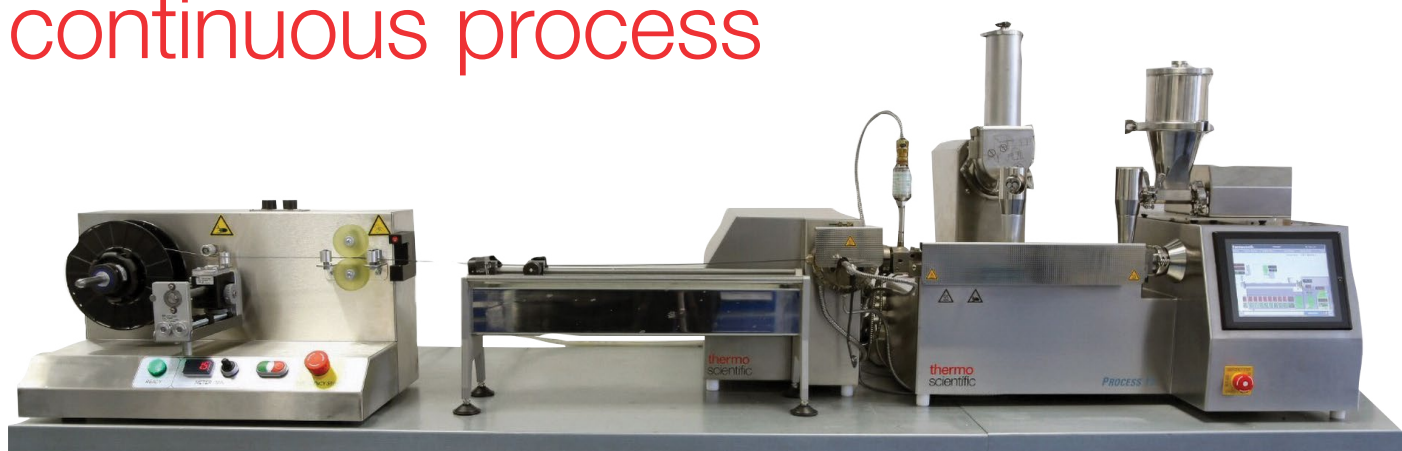


Formulate, compound, and spool your filament in one continuous process



Produce 3D filament with novel polymer formulations in one continuous process with the Thermo Scientific™ Process 11 Lab-scale 3D Filament Production System

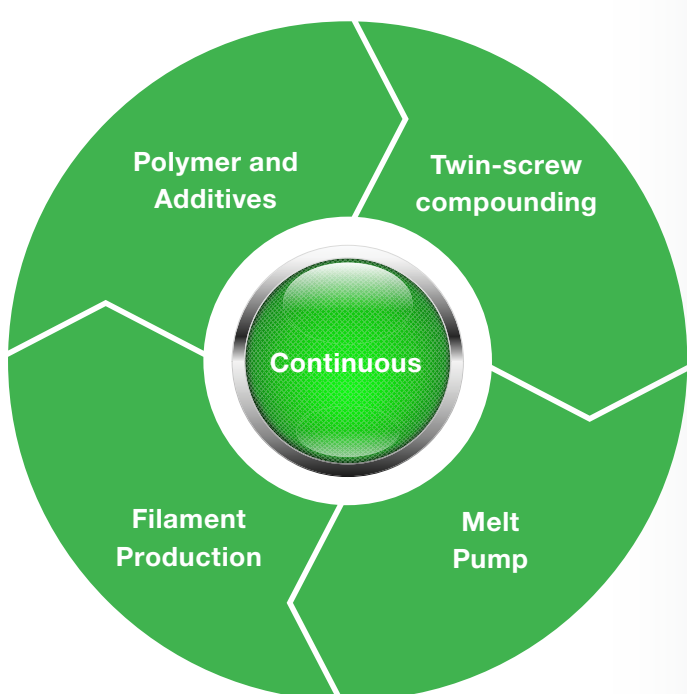
Realizing product ideas with 3D printing creates a demand for novel polymer formulations that meet application requirements. Producing 3D filament directly from a compounding process enables researcher to create spooled 3D filaments in fewer steps than traditional workflows.



A

Continuous Process

Produce 3D filament directly from compounding

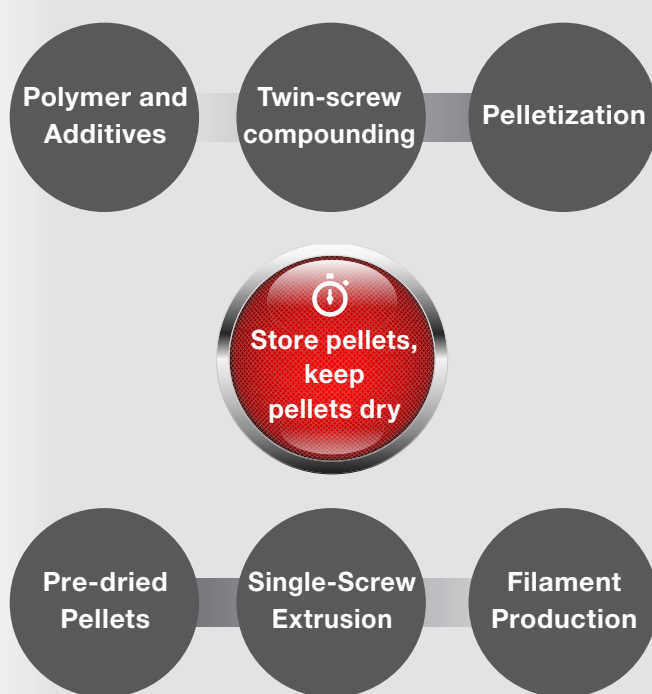


Compounding is a continuous process. When producing formulations with variable additives (e.g. 10%, 15%, 20%, 25%) there is no need to stop the process. Only adjust the additive feeding into the process and allow 2 min for compounding process to stabilize.

B

Typical Process

Producing 3D filament from pellets

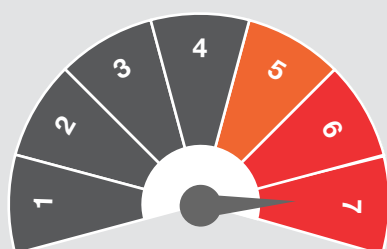


Producing pellets requires the cleaning/flushing of the compounder in between the production of different additive concentrations. It also needs to load and operate single-screw extruder in order to produce filament from pellets obtained before.

Continuous process requires 75% less time then the typical process



Consists of 4 steps
Running continuously during filament production



Consists of 7 steps (+75%)
Single-screw extrusion waiting for pellets from compounding

Continuous process results in 15% less equipment cost



A continuous step-up requires 46% less bench space

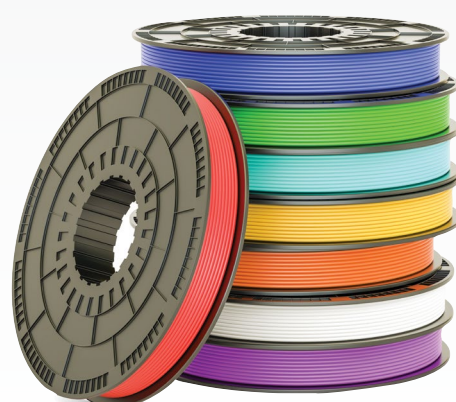


Important quality fact!

Several heating cycles cause polymer degradation and can destroy / change the polymer structure

Process A – No pellets, filaments produced in continuous process, no reheating of polymer

Process B – Pellets produced, cooled, polymer is melted a 2nd time to extrude filament



Find out more at thermofisher.com/3Dfilament