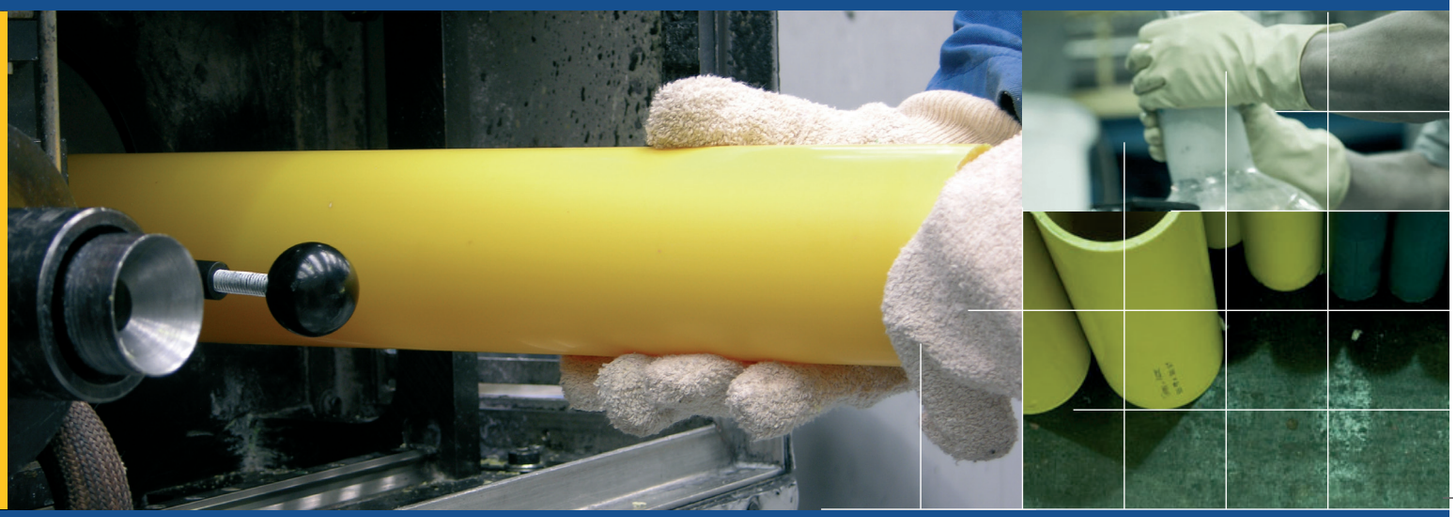
PROCESSING TECHNOLOGIES



INJECTION MOULDING

Injection moulding is geared for medium to high volume production. Devol offers a rapid prototyping service, along with FEA, mould flow dynamics and solid simulation – all of which validate material and product suitability before any investment is made in tooling. As we have an in-house tool room, Devol has complete control of production.

We can also offer secondary operations including screen-printing, sub-assembly and ultra-sonic welding.

EXTRUSION

The process of extrusion provides standard bearing grades of material and is generally used for specialised profiles to suit individual customer requirements in a particularly high viscosity Nylon 66. However, there are processing restrictions on size.

CASTING

Extrusion and injection moulding processes simply re-shape a pre-polymerised resin.

The casting process differs from injection moulding and extrusion in that it produces a product by polymerisation directly in the mould.

Polymerising in the mould produces a material with higher molecular weight and crystallinity. This in turn leads to improved dimensional stability, easier machinability and higher compressive and tensile strengths than those achieved by extruding or moulding.

The process of polymerisation produces a chemical chain reaction to form Devlon. Devlon consists of three main components:- caprolactam, activator and catalyst. Caprolactam is the raw material, the activator and catalyst are intended to control polymerisation. Additives, such as plasticisers, lubricants and heat stabilisers, can be used to modify or improve the materials' performance. The technology behind these additives is what differentiates us from the competition. The dosage of additives influences the reaction. By varying the volume of the component mix, the material will be produced with different properties to suit the requirements of the application.

CENTRIFUGAL/SPIN CASTING

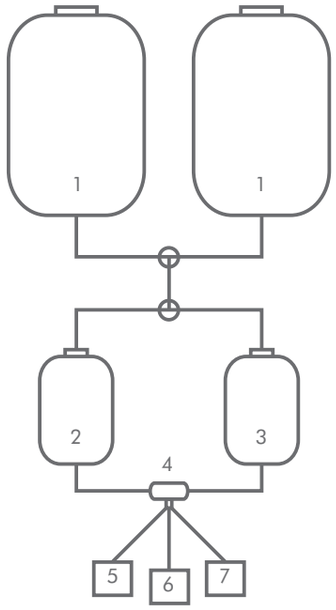
This procedure is used for the production of mouldings of circular symmetry, such as sheaves, rollers, bushes and tube.

In the centrifugal process the pre-heated mould rotates at a high speed about a horizontal or vertical axis. The centrifugal force presses the melt against the moulds' walls. Items produced in this process are characterised by high strength.

GRAVITY CASTING

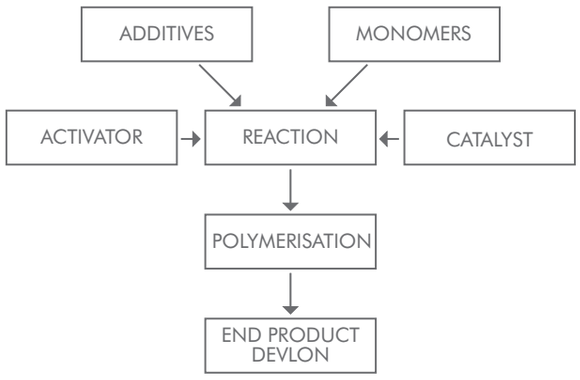
In this process the melt is gravity-fed into pre-heated moulds. The gravity process is used for the production of semi-finished products such as rod, plate, large tube and other castings such as outrigger floats.

Casting Figure 1



1. STORAGE TANKS
2. ACTIVATOR
3. CATALYST
4. MIXING HEAD
5. SPIN CAST MACHINE
6. GRAVITY CAST MOULD
7. CUSTOM CAST MOULD

Casting Figure 2



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