

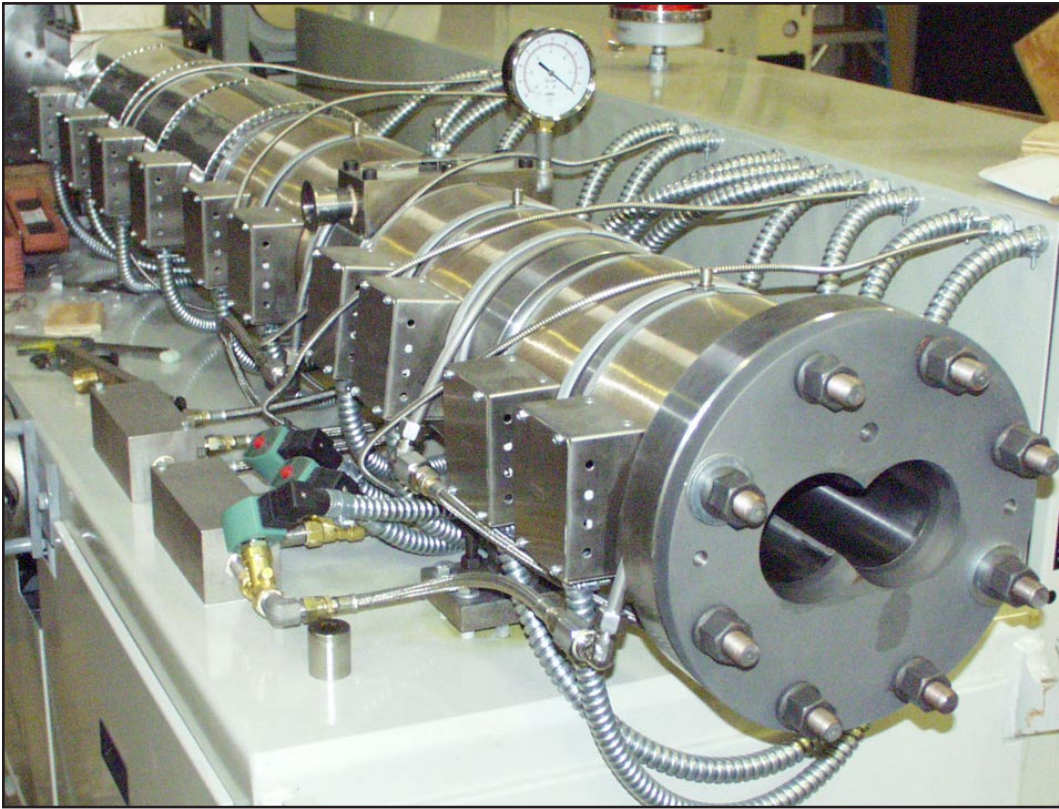
6 A typical hollow profile extrusion line

Solid and hollow profiles are common with hollow profiles being more difficult to extrude. Equipment and processes used to extrude these will be explained in detail.



6.2 Extruder

The components of an extruder discussed in this section are the drive, barrel, feed throat, screw(s), co-extruder, instrumentation and control system.

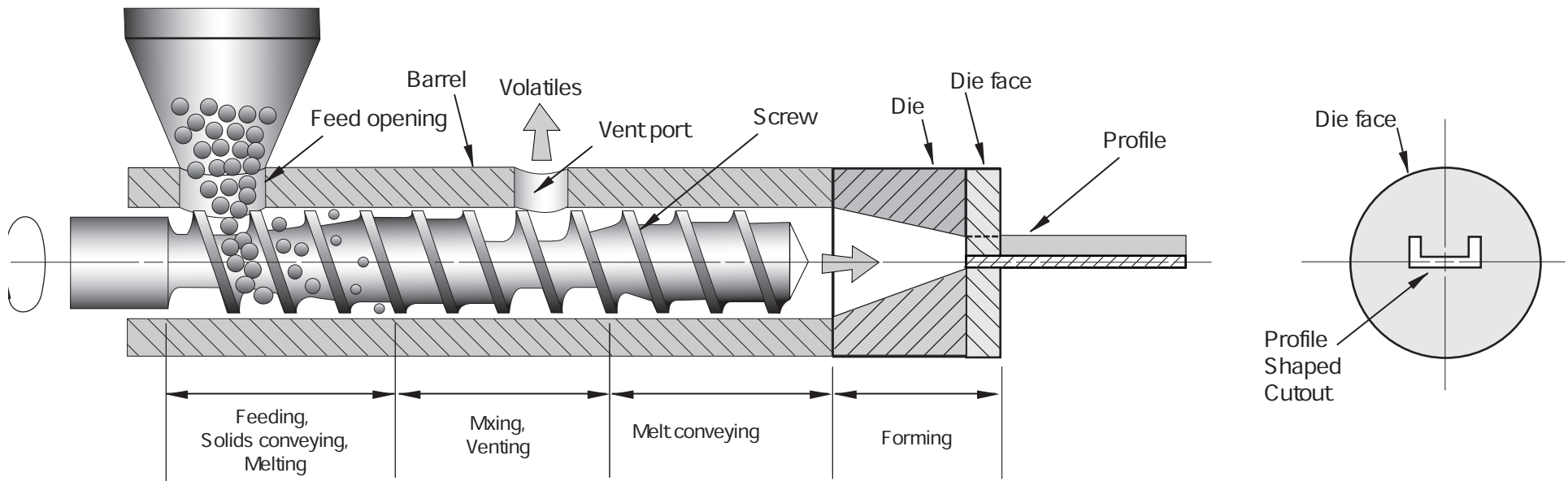


6.2.3 Barrel

The extruder barrel houses the extruder screw(s) and helps to control the temperature of the plastic during different stages of processing. The extruder barrel (straight for single screws and parallel twin screws; tapered for conical twin screws) is usually a nitrated steel cylinder but a bimetallic liner should be considered for abrasive or corrosive materials; this liner is a hard, integral layer with high wear resistance. In most cases, the wear resistance of the barrel should be better than that of the screw because it is more difficult to rebuild. It is important that the barrel and screw material is matched.

These tasks are:

- feeding
- solids conveying
- melting
- mixing
- melt conveying
- venting or degassing
- die forming



A simplified profile extruder cross-section