



CASE STUDY

'Plastics profile extrusion'

The task

Extrusion is one of the major methods of processing plastics both in terms of volume and value. Extrusion is also used as a preliminary mixing and plasticisation stage in most of the other plastics processing methods. Profile extrusion is often referred to as a 'black art' but the process is theoretically well developed. Since 1990 there have been many significant advances in understanding the process and using this improved understanding to improve process performance in terms of both quality and throughput speed. Despite this, the advances are not well known and there is a need to inform the industry of these.

What we did

Tangram Technology was commissioned by RAPRA Technology to produce a revised and thoroughly updated RAPRA Review Report on 'Plastics Profile Extrusion'.

This report covers all the changes in the industry, concentrating on the screw extrusion process where the extruded product has a constant cross-section.

Products and applications are reviewed in detail and major advances such as computer control, materials and speed and size issues are also covered. For general extruded products the issues are as much those of flexibility and control as those of significant new technological advances.

Topics include: Single and twin screw extruders; Die and calibrator design; Downstream equipment; Controls, monitoring and fault finding; Modelling and simulation; Materials; Products; Environmental issues.

Applications described cover: general profiles, pipe and tubing, waste and rainwater goods, gas and water distribution pipes, domestic water supply, corrugated pipe, foamed core and skinned pipes.

The benefits

- The basics of profile extrusion and the screw extruder are clearly and simply explained.
- The detailed technology basis for the development of the wide variety of extruder types is clearly explained.
- The latest technology in the field is reviewed and put into context within the whole field.
- Profile extruders have a rapid reference to the latest technology in the field and can seek additional information from the over 500 references and abstracts referred to in the report.

More details?

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