VIDEO 1 A CUT ABOVE THE REST?

Location  Flymo-Electrolux Ltd.
           Newton Aycliffe, Co. Durham
Interviewee Peter Ginger, Plastics Division Manager,
           Electrolux Group Manufacturing Co. Ltd.
Presenter Dr. Peter Lewis, Open University
Producer Kevin Newport, BBC
Series Producer Phil Ashby, BBC
Recorded 1983/4

The aims of the video are:

1. to show the range of polymer processes used by a major manufacturer of consumer products
2. to indicate the way in which advanced technology is currently being applied both to primary shaping methods like injection moulding and secondary methods like assembly.

Pre-viewing comments

The application of the hover principle, where the downdraught from a fan is used to support the vehicle or object, goes back to the 1950s when the principle was invented by Christopher Cockerell. Like many inventors, he developed the idea with small prototypes on his kitchen table! It was not until the 1960s, however, that the idea was applied to small devices like grass mowers. Essentially, the idea is to use the same motor which produces the air cushion to drive a blade which provides the cutting action. The concept gives a device which is considerably more versatile than traditional rotary mowers, especially for uneven grassed surfaces. The original company (Flymo Ltd.) was highly sensitive to market fluctuations and sales were severely curtailed by the hot, dry summer of 1976. The UK operation has been taken over by the Swedish company, Electrolux, a much larger company making a diversity of manufactured goods, particularly vacuum cleaners, freezers and fridges. It helped them overcome the problem of cyclical fluctuations in the market. Electrolux also possessed considerable expertise in making and using programmable robots. Originally, Flymo had relied on trade moulders to provide polymer sub-assemblies, but the new operation gave much greater scope for in-house moulding. This was realized by moving to a greenfield site in Co. Durham and several million pounds were invested in new machinery and plant.

Post-viewing comments

The chief thermoplastic of interest to Flymo is ABS (acrylonitrile-butadiene-styrene) which is mainly used for hoods on the air-cushion mowers. Flymo processes about 3000 tonnes per annum of the toughest grades available, and its molecular structure is important for determining its use in a very demanding application. An appreciation of its flow properties helped to overcome the family moulding problems mentioned in the video. Being a large-scale manufacturing unit has encouraged the company to apply robots in a variety of ways, keeping unit costs down to a low level.