



**LANEMARK**  
INTERNATIONAL

# rotational moulding

## Process Heating Matches New Opportunities

**The design opportunities that are arising from developments in plastic rotational moulding techniques signal a step forward for one of the more 'traditional' manufacturing processes. The industry is now looking to take full advantage of new raw material options and enhanced equipment designs – a scenario in which Lanemark gas process burner systems have much to offer.**

This progress – perhaps seen best where high strength and durability of rotational moulded products is required – is closely linked to the provision of efficient process heating, and Lanemark International can point to a growing list of customers in the sector who are gaining from the company's forced draught (FD) gas burner technology. As new production opportunities are reflected in the need for high quality processing techniques, the design and operating characteristics of Lanemark burners are continually being refined to meet the challenge.



Examples of marine navigation aids, produced by XJF Plastics using Sorcerer Machinery technology – with the help of the Lanemark FD burner design.

Suppliers of both new and refurbished rotational moulding ovens will point to the efficient heating of plastic polymer granules contained within a steel mould, and their optimised transition then through liquid to gel, as being fundamental. This is increasingly significant as these new opportunities gather pace – typified by the need to ensure the consistency and wall thickness of the resultant product meets the specified objectives. It is in this context that the excellent controllability and

turndown capability of burner systems becomes so important – requirements fully met by Lanemark equipment.

The quality and consistency of the end product is as vital in this sector as any other area of manufacturing – especially in an increasingly competitive environment. The case studies highlighted overleaf offer an insight into how two leading companies in the industry are gaining from Lanemark's track record and expertise.

The Lanemark forced draught (FD) series of oven burners – used extensively in the rotational moulding industry – offers a range of distinct operational advantages, including –

- High turndown capability
- Short flame profile
- Optimised temperature control
- Proven performance and economic operation

A choice of models is available – including the FD-C (GA) series gas and air modulating burners – capable of delivering a range of heat outputs between 117 and 880 kW to meet precise application requirements.



## Performance that goes on and on and on ...



**LANEMARK**  
BurnerCare

- In every industry where unplanned downtime can be extremely damaging and expensive, the support and structure of the Lanemark BurnerCare package is widely regarded as a key element of the Lanemark service.
- Lanemark BurnerCare is designed to ensure ongoing performance and peace of mind for every rotational moulding customer.
- Burner system commissioning, planned maintenance schedule options, comprehensive on-line support and the supply of spare parts are key elements of the Lanemark BurnerCare service.



# Sorcerer Machinery/ XJF Plastics

**Sorcerer Machinery's advanced polymer coating technology is behind the development of a range of machines in the sector. The company highlights a typical installation of four units at XJF Plastics in Chesterfield who design and manufacture rotational moulded components for customers in sectors ranging from construction to materials handling – particularly impressive is its range of marine navigation aids.**



Two-axis rocking rotational moulding machines at XJF Plastics that benefit from excellent Lanemark burner control built into the Sorcerer Machinery design.

Traditionally, polyethylene materials are well recognised as being highly suitable for rotational moulding operations but their soft and flexible characteristics have inevitably limited them to certain types of design. Now, new materials lend themselves to applications in perhaps more stress-sensitive areas or with a more complex design, such as the aerospace and marine sectors. This trend calls for high levels of temperature control to maintain powder flow requirements to meet objectives such as impact resistance, strength or resistance to deflection, and it is here that the capability of the Lanemark burner design is critical.

The Sorcerer Machinery equipment operated by XJF Plastics achieves a 200°C rise in temperature in just two and a half minutes, maintaining this level within 1°C. The two-axis rocking design allows the polymer material to form efficiently – enhanced by close links between the burner controls and the machine's temperature control system.

Benefiting from a Lanemark FD15 design, rated at 515 kW, firing directly into a burner combustion chamber, the application is seen as an excellent example of the use of the company's burners in a rotational moulding context and the control and turndown advantages they offer.



# RotoMech Engineering

**With an excellent track record in supplying both refurbished and new rotational moulding systems to industry, customers of RotoMech Engineering – both sub-contract moulders and in-house producers – call for flexible systems that are central to high quality end products. The optimum provision of process heat using Lanemark burner designs in this context, is seen as fundamental.**

The use of Lanemark systems has helped RotoMech Engineering to develop a leading position in this sector, not least because of the controllability and the turndown characteristics of the burner design. The company makes full use of the capabilities of Lanemark's expertise via packaged heating solutions that offer installation simplicity and ease of maintenance. Operating on either natural gas or propane, the range of Lanemark forced draught 'FD' burner systems will typically heat a rotational moulding oven to approximately 300°C, and maintain this level to within +/- 5°C, to optimise material dispersion. The turndown characteristics of the burners in this context is extremely important as it is not uncommon for the moulding oven to be kept 'on hold' pending the next mould being prepared and located.

RotoMech's expertise is centred on both drop and straight-arm systems, which provide the rotation and oscillation that the rotational moulding process is based upon. The FD burners are roof mounted on the moulding ovens and fire vertically down into the re-circulated process air flow, delivering a clean and efficient heat input into the system.



A Lanemark burner used by RotoMech which fires vertically down into the moulding oven.

The application is seen as a good example of forced draught gas burner technology offering the optimum blend of performance, control and economic operation when compared to electrically heated alternatives – which can often be slow and relatively expensive – and radiant heating systems which are limited to simple shapes.