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Introduction

Turning ideas into finished products



■ Any industrial product manufactured using a rotational moulding process undergoes a complex sequence of operational steps enabling initial ideas to be turned into final products.

This process implies a close cooperation among manufacturing companies, designers, mould makers, moulders and suppliers of polymers and additives in a constant dialog to optimize the appearance, technical properties and performance of the final product.

All partners involved in the rotomoulding production chain play a fundamental role in the success of the final product as they contribute their know-how to the solution of technical problems and construction details and to the optimization of total manufacturing costs.



BIT&GML

Mould-making experience

■ The BIT&GML rotational moulding division aims at offering its customers a complete mould-making service.

Thanks to its highly qualified, technology-responsive engineering office, to a close cooperation with leading companies in the rotomoulding industry and to a highly specialised finishing department, BIT&GML is able to provide an excellent value-for-money service from designing through mould making up to the manufacturing of prototypes.

BIT&GML has gained a wider experience in the manufacturing of moulds for kayaks made by die casting or solid block machining.

Link: www.bitgml.it



Fluid Airsystems

Handling efficiency

■ Fine chemical companies and paint factories were initially the main customers of Fluid Airsystems which now include ceramic and plastic manufacturers as well as food and pharmaceutical companies. Today Fluid Airsystems offers powder-handling technology to ceramic manufacturers, food and pet food companies.

In order to develop increasingly safe solutions for our customers, at Fluid Airsystems we set up an in-house laboratory in 2004 where the chemical and physical properties of any material are analysed. Our customers are given the chance to monitor the materials "travelling" along the manufacturing path and verify the conditions under which they can be conveyed. Rotational moulding is a process where moulds are directly filled with powder by means of pneumatic conveying systems and polyethylene powder dosing machines.

Link: www.fluidairsystems.it



Ubitech

Every mould you need

■ Ubitech manufactures moulds in processed or cast aluminium for rotomoulded products such as tanks, furniture, boats, etc. Being a very efficient and effective alternative, rotomoulding has been widely used for manufacturing big-sized one-piece items over the past few years. Our mission is being able to rapidly and accurately re-produce new ideas and realities coming from improvement and to promote continuous improvement and innovation of our production processes. If you want to turn any idea into a real product, Ubitech is your reliable partner.

Link: www.ubitech.es



Sivipol

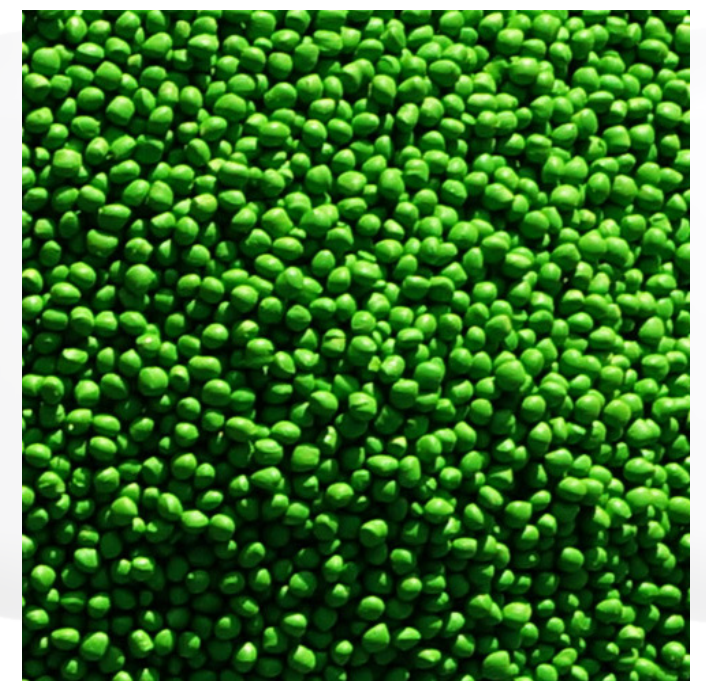
Powders for all tastes

■ Thanks to a thirty-year experience in plastic materials, Sivipol is a young, dynamic, flexible company that started producing powders for the rotational moulding, masterbatch production and textile industry a few years ago.

All powders produced by Sivipol are analysed by an ad-hoc laboratory able to constantly monitor important parameters such as particle size, creep, MFI and density while offering and guaranteeing products fully responding to customer requirements.

Over the past few years rotational moulding has become more and more important thanks to the high number of sectors where it can find application and to its potential for development. And this is exactly the reason why Sivipol product range includes SMILENE, a powdered polyethylene (LLDPE, metallocene LLDPE, HDPE) that can be adapted to customer requirements.

Link: www.sivipol.it





Property

Walls

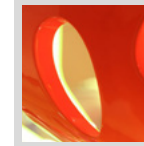


■ Hollow items can be manufactured using rotational moulding but this does not mean that a 'hollow item' is an object whose only visible part is what can be seen from the outside.

It is therefore possible to mould "hollow items" with two walls very close to each other. Both the internal and the external parts are then visible and require custom finishing.

It is possible to produce moulds enabling double-wall moulding by designing the mould with its cover acting as a "male mould" that defines the internal part. And in order to give the powder enough space to flow inside the mould, it is necessary to design the two walls so as the internal clearance is at least 5 times the wall thickness.

Link: www.rotodesign.it



Property

Planarity



■ It may be difficult to guarantee absolute planarity when relatively large panels are rotomoulded.

One of the most common planarity defects is the so-called warpage, which is a huge concave or convex deformation of the part walls. Since warpage is normally increased by sharp edges or very small corner radii, this deformation problem can be solved by increasing corner radii.

Link: www.rotodesign.it





Property

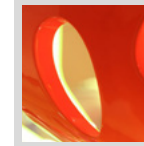
Shrinkage



■ The volume reduction occurring during the solidification process leads to a volume contraction in all directions, also depending on the morphology of the part to be manufactured. The shrinkage of a moulded part where the presence of regular walls is very limited (thanks to metal inserts, reinforcing ribs etc.) is lower than average shrinkage rates.

In order to manufacture a good-quality product, particular attention is paid to the initial designing phase: attention to details in the designing phase allows to eliminate some of the most common problems: for instance deformation and distortion can be reduced by inserting stiffening ribs into wide planar surfaces and by avoiding sharp edges.

Link: www.rotodesign.it



Property

Reinforcing ribs



■ When manufacturing rotomoulded products, it is possible to include ribs of various types to reinforce the points subjected to particular stress. The recommended depth is about four times the material thickness, while the width should be about five times the material thickness. These parameters are generally applicable and can vary according to the geometry of the product and to its condition of use.

Link: www.rotodesign.it

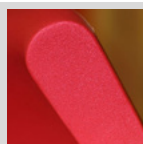


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