



AFFILIATO:



Market Monitoring Newsletter

THE ESSENTIAL NEWS OF ROTOMOULDING WORLDWIDE

Tower Cold Chain adds 2023 King's Award for Innovation to last year's Queen's Award.



Tower Cold Chain, which develops and manufactures temperature-controlled containers for the transportation of life-science and biotech products, has been awarded the prestigious King's Award for Enterprise, in the Innovation category in recognition of its KTM container – a thermally insulated passive pallet shipping system, with a patented modular construction design.

To win the King's Award for Innovation, Tower had to demonstrate outstanding commercial success over two years, attributable to the KTM. Extensive investment enabled Tower to scale production of the KTM at the beginning of the decade, a period that also coincided with the outbreak of the COVID-19 pandemic, when the KTM was widely used by pharmaceutical manufacturers to ship vaccines globally. Tower's passive systems consists of phase change materials (PCMs) and/or dry ice, intended to maintain the internal contents of the container within a specific temperature range for 120 hours, without any requirement for active control, electricity, or manual intervention. The standard controlled temperatures are ambient (15 to 25°C), chilled (2 to 8°C), frozen (-15 to -25°C) and deep frozen (-60 to -80°C). The KTM has filled a gap in the cold chain shipping market, with its design striking the optimum balance between volumetric efficiency, durability, and optimised weight. Employing a modular construction of roto-moulded parts, this produced a lighter, more robust and cost-effective option – between 5% – 30% lighter than competitor products. This further improves the KTM's sustainability credentials across all transport supply chains, offering a fully reusable, space-efficient solution.

Issues facing SMEs highlighted on visit by Minister to Clon.



Clonakilty-based Carbery Plastics welcomed Minister of State at the Department of Enterprise, Trade and Employment, Neale Richmond to its manufacturing plant.

During the visit, Minister Richmond met with management and discussed a wide range of issues, from the importance of family businesses in Ireland, to how SMEs can assist in the delivery of Ireland’s decarbonisation objectives. Established in 1977, the family-owned business specialises in the manufacture of environmentally-preferred, rotationally-moulded containers, for the storage of liquid fuels, waste, water, and specialty chemicals. Minister Richmond also saw the latest addition to the company’s range, in the guise of a new, innovative, family of ‘fully bundled’ chemical storage tanks. Engineered primarily for export markets, and certified to the international standards, the new range benefits from ‘tank within a tank’ construction, helping to reduce the risk of spills at chemical storage installations.

<https://www.southernstar.ie/business/issues-facing-smes-highlighted-on-visit-by-minister-to-clon-4261700>

Sealver builds 200 boats every year in France.

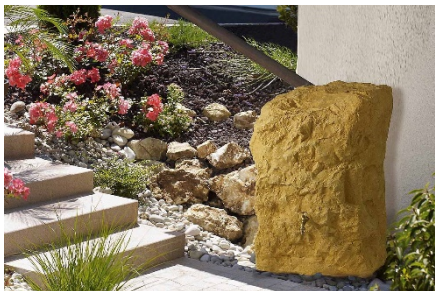


Sealver is a brand of rigid and semi-rigid motor boats. This shipyard is based on a very particular concept, since the boats are propelled by a jetski. The latter, whatever the brand, is “embedded in the hull” and serves as both propulsion and steering.

With this concept called WaveBoat, it is the only shipyard in the world to offer this alternative. Faced with the strong increase in demand, the yard had to expand. With 26,000 m² of land and 6,000 m² of covered buildings, the factory located in Sanguinet, in the Landes region, comprises 6 buildings recently inaugurated in May 2022. Each building represents a workshop with a specific skill. Thus, there is the building dedicated to polyester work, which builds hulls and moulded parts. A building dedicated to stainless steel work for all the hoops and other t-tops. A building for the floats of semi-rigid boats, which are entirely glued on site. A building for the production of rotational moulding parts used for the connection between the jetski and the boat. The building for fittings, the last point of passage for the boats before delivery. And finally, a showroom and administrative offices. With nearly 200 boats between 5 and 8 m, which leave the factory each year, the Sealver shipyard represents the largest production of small units in France, and is already thinking about an extension because the demand continues to grow.

<https://www.boatindustry.fr/article/43143/sealver-200-bateaux-construits-chaque-annee-dans-la-region-bordelaise>

A discreet and decorative rotomoulded rainwater collector



At a time when global warming is already threatening certain crops in France, rainwater harvesting is becoming an absolute necessity. Specialists in the field, such as the French brand Belli, have therefore launched the “decorative rainwater collector”.

Until a few years ago, rainwater harvesters were often green or blue, useful but not very aesthetic. With its new imitation rock model, the company has launched a product that looks just like a real rock. The 300-litre Belli rock water collector is a quality product made in France that offers many advantages for your garden. With dimensions of 60 (W) × 80 (L) × 97 (H) cm, it has a capacity of 300 l to collect rainwater. Its design in polyethylene, manufactured by rotational moulding, imitates perfectly the rock. This makes it both aesthetically pleasing and discreet in the garden. In addition, this material is highly resistant to shocks and temperature variations, ensuring a long life span. By choosing this Rocher water collector, the user contributes to preserving water resources while adding a decorative touch to his outdoor space.

<https://www.neozone.org/bon-plan/ce-recupereur-deau-de-pluie-discret-et-decoratif-de-300-l-ressemble-a-un-enorme-rocher/>

Persico expands in the USA

In order to increase its range of services on the North American market, the Bergamo-based Persico Group has acquired the US company Precision Mold Services, which has been specialising in the construction of rotational and thermoforming moulds, as well as in the overhaul, maintenance and repair of moulds, since 1999.



Precision Mold Services will change its name to **Persico Rotomolding** and will consolidate the group's U.S. headquarters and rotational molding operations, currently located in Rochester Hills, Michigan, into its facility in Blaine, Minnesota. The objective is to concentrate all rotational moulding activities in one location to create synergy by combining the respective technical expertise in machinery and moulds. Persico's other plants in Michigan (Rochester Hills and Shelby Twp), which serve the automotive industry, will continue to operate as before.

<https://www.polimerica.it/articolo.asp?id=29738>

Research & Patents

Robotic Rotational Molding Creates New Opportunities for Military and Aerospace Applications.



Innovative robotic rotational molding technology allows for the use of new materials in manufacturing parts and hard cases for military and aerospace applications. This is creating opportunities for new product geometries, tighter tolerances, and less waste than traditional plastic molding.

There are thousands of applications within the aerospace and defense industries using plastic parts and storage containers. Today, the production of specialized parts and protective hard cases for military applications can call for unique materials to meet more stringent standards (flammability, high heat/cold tolerances, airtightness, watertightness, electromagnetic interference shielding, multi-layering, to name a few). Meeting these strict requirements can be challenging when using traditional molding processes such as rotational molding, thermoforming, blow molding, or injection molding. In recent years, a growing number of companies have turned to robotics to enhance their manufacturing capabilities. In the world of specialty plastic molding, robotic rotational molding offers a new approach for designing custom parts and protective hard cases. This technology allows for precise control of multiple heating and cooling zones, customized material flow, optimized material use, increased product quality, consistent part traceability, instant cycle data collection, reduced cycle times, focused cycles for highly engineered resins, and elimination of labor-intensive processes (article written by Corey Latuff, Engineering Manager, Gemstar Manufacturing)

<https://www.mobilityengineeringtech.com/component/content/article/adt/pub/features/articles/47889>



Data-Driven Modeling for Multiphase Processes: Application to a Rotomolding Process.

This paper addresses the problem of capturing the multiphase nature of a rotational molding process using subspace identification (SSID) to enable improved control. Existing SSID techniques are not designed to utilize any known, multiphase nature of a process in the model identification stage.

This work adapts existing SSID methods to account for multiple phases by splitting the data into phases during the identification step and building a distinct SSID model for each phase while carefully connecting the individual models through the means of subspace states. This is achieved via a partial least-squares (PLS) model that relates the final states of the preceding phase to the initial states of the proceeding phase. This multiphase subspace identification (MPSSID) approach exploits the ability of SSID techniques for dynamic modeling of batch processes, which allows for model construction using batches of nonuniform length. In this work, the proposed approach is applied to the rotational molding process. For rotational molding, the final product quality is dependent on the temperature trajectory of the polymer inside the mold, and the process goes through visibly distinct phases that can be recognized when a specific temperature (not time) is reached. Data from past experiments are used to build the model and validate it, comparing the predictive ability of multiphase models to conventional one-phase models. Results demonstrate the ability of the multiphase models to better predict both the temperature trajectories and final product quality of validation batches.

<https://pubs.acs.org/doi/abs/10.1021/acs.iecr.3c00053>

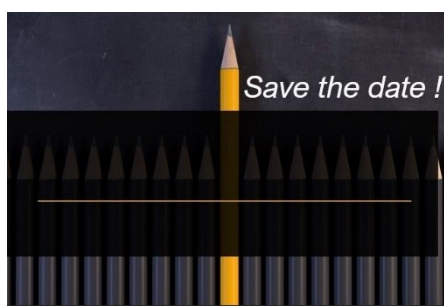
Improved balance between dimensional stability, mechanical properties and processability of linear low density polyethylene for rotational molding.



The linear low density polyethylene (LLDPE) products made by rotational molding (RM) usually involve two main problems of poor dimensional stability and insufficient mechanical properties. Although the decline in thermal expansion coefficient and rise in mechanical strength can be attained by filling with inorganic particles, the melt fluidity of LLDPE, which is of great importance for RM, would be significantly reduced.

In this study, a combination of crosslinker low-temperature blending and partial chemical crosslinking strategy is employed to enhance the dimensional stability and mechanical properties of LLDPE without sacrificing the melt fluidity. The structure–property relationships in the crosslinked specimens are analyzed based on X-ray diffraction, differential scanning calorimetry, thermogravimetric analysis, scanning electron microscopy, and dielectric spectrometry. The results show that our simple, low-cost and universal strategy not only contributes to a better dimensional stability and significantly improved mechanical properties, but also endow the samples with promising processability and thermal stability.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/app.54066>



2 June 2023

[Introduction to Rotomolding Seminar](#)

25 /27 June 2023

[Rotomould23](#)

1 /13 September 2023

[Rototour Nordic 2023](#)

10/12 September 2023

[ARMO World Conference 2023](#)

27/30 September 2023

[ARM 2023 Annual Meeting](#)

28/29 November 2023

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