AFFILIATO:

Market Monitoring Newsletter

THE ESSENTIAL NEWS OF ROTOMOULDING WORLDWIDE

Linamar bolsters portfolio with acquisition of Bourgault.

Linamar Corporation has taken a significant stride in advancing its position within the agriculture sector with the acquisition of Bourgault Industries Ltd. Located in St. Brieux, Saskatchewan, Canada. Bourgault Industries is a renowned global leader in broad-acre seeding, known for its cutting-edgeagricultural equipment.

This acquisition further solidifies Linamar's status as a top-tier short-line agricultural equipment manufacturer. Linamar's pre-existing agricultural brands, including MacDon, a specialist in harvesting like headers for combine harvesters, and Salford, a provider of tillage and crop nutrition solutions, are set to synergize effectively with Bourgault's offerings. This strategic acquisition propels Linamar into a comprehensive suite of products covering the entire crop production cycle. Linamar intends to form a new Agriculture division within its Industrial Segment, alongside its existing aerial work platform manufacturing division, Skyjack. This acquisition also encompasses Bourgault's Highline Manufacturing division, specializing in hay handling and livestock feeding equipment, as well as Free Form Plastics, a roto-moulding producer. This integration marks another significant milestone in Linamar's diversification strategy, reinforcing its ability to achieve consistent, sustainable growth with strong financial performance.

https://www.futurefarming.com/tech-in-focus/linamar-bolsters-portfolio-with-acquisition-of-bourgault/

Rototek is B Corp Certified.

As part of the Gusto Group, Rototek is proud to be one of the first B Corp Certified Construction and Manufacturing companies in the UK with an impact score of 92.3 points (way above the benchmark of 80 points). B Corps are purpose-driven businesses that are creating benefit for all stakeholders, not just shareholders.

They are using business as a force for good, focusing on people, planet & profit. The certification process is rigorous, with applicants required to provide evidence of socially and environmentally responsible practices relating to energy supplies, waste and water use, worker compensation, diversity and corporate transparency. Since the early days, the company has always supported its local community and had a sense of purpose alongside growing a successful group of businesses - being a B Corp ensures the company will stay true to our values as the businesses grow. The Gusto Group, Rototek, Gusto Construction & Gusto Homes teams have been working really hard on this behind the scenes and they are incredibly proud to join the B Lab UK Community.

https://www.linkedin.com/posts/rototek-ltd_rototek-are-b-corp-certified-as-part-activity-7150453423241342977-ENuX

DOE Funding Opportunity for Clean Hydrogen.

Persico Group reports that a funding opportunity of up to $59 million has been announced by the U.S. Department of Energy (DOE) to expand the development, demonstration, and implementation of cost-effective clean-hydrogen technologies!

The projects supported by this funding will demonstrate: cost reduction, improvement of the infrastructure components performance, innovative end-use applications and streamlining and improvement of processes for the effective, timely, and fair deployment of clean hydrogen technologies. This program is a big step in the direction of a more sustainable and clea future.

https://www.linkedin.com/posts/persico-spa_a-funding-opportunity-of-up-to-%3F%3F-%3F%3F-activity-7151600567134400513-lVHi

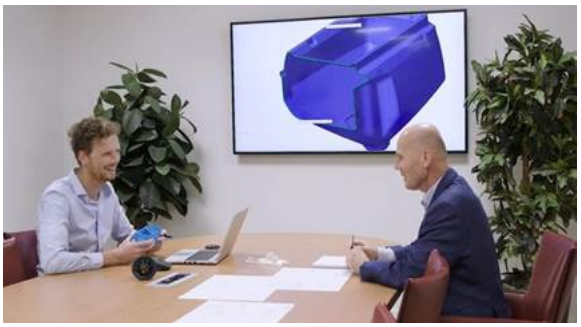
Rotovia Group welcome the iTUB team.

Saeplast Iceland has acquired the minority shares in iTUB, a tub rental company and is from January 1st 2024 100% owned by Rotovia. iTUB was established back in 2010 together with three leading seafood companies in Norway, Leroy, Nergard and Batsfjordbruket. In 2016 Icefresh, a German seafood company, acquired shares in iTUB as well.

Up to date, iTUB has been focusing on renting Sæplast tubs to the seafood industry in Northern Europe. Going forward iTUB's strategy is to expand into other markets like meat, waste, and chemicals in new regions like South/Central Europe and America. This will be done in gradual steps in the coming years. The iTUB team led by Hilmir Svavarsson is now fully integrated into the Rotovia group which can't wait to see more sustainable iTUB products and solutions providing outstanding pooling services to both current and new customers.

https://www.linkedin.com/posts/rotovia_saeplast-iceland-has-acquired-the-minority-activity-7152582788087496704-Sj52

Personal Development at Rotovia Deventer.



In today's dynamic business environment, a company that focuses on developing its employees builds a solid foundation for long-term success. Nurturing the development of employees, recognising and valuing their skills is one factor that enables a company to achieve its goals and strive for continuous growth.

At Rotovia, nurturing the development of employees is a top value, as is nurturing health and safe working space. By giving its employees the opportunity for personal development the company contribute to their job satisfaction and enjoyment but also build a strong team open to challenges and working together to achieve success. This view is also shared by the Rotovia Deventer management team, headed by Plant Manager Björn de Grutter. Rotovia invites to its latest article on 'Personal Development at Rotovia Deventer', in which its outline the development trajectories of employees at the Deventer plant.

https://www.linkedin.com/posts/rotovia_personal-development-at-rotovia-deventer-activity-7152630515634692096-k34y

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Redline Plastics has been named a finalist for the 2023 Plastics News Processor of the Year Award!

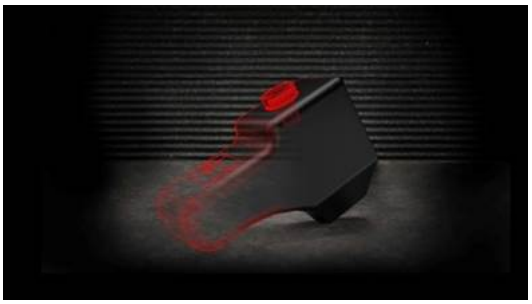
The Redline Plastics team is proud to announce that the company has been named a finalist for the prestigious "Processor of the Year" award for 2023 from Plastics News. Processor of the Year candidates are judged on seven criteria: financial performance, quality, customer relations, employee relations, environmental performance, industry/public service and technological innovation.

The other finalists finalists for the 2023 Plastics News Processor of the Year award are PTI Engineered Plastics and Radius Packaging. The companies will be recognized at the 2024 Plastics News Executive Forum, March 11-13 in Clearwater Beach, Fla., where the Processor of the Year winner will be revealed. They also will be profiled in Plastics News's March 25 issue. This is the second year running that Redline Plastics has been a finalist!

https://redlineplastics.com/redline-plastics-has-been-named-a-finalist-for-the-2023-plastics-news-processor-of-the-year-award/

Rotomolded Acetal Fuel Tanks Viable Alternatives to Fluorinated HDPE Tanks

Processor, material firm adapt resin to rotomold part with a challenging feature



These two articles explain how Gemstar Manufacturing used its proprietary robotic rotational molding system, called Robomold, and partnered with Celanese, and one of its distributors, Entec Polymers, to develop a resin appropriate for manjufacturing a specialized fuel tank designed for groundskeeping equipment used on golf courses.

One of its customers, a groundskeeping equipment manufacturer, wanted a fuel tank design that encompassed a difficult-to-mold funnel-type filler spout designed to prevent fuel overfills. In addition, the client wanted the lightweight tank to be manufactured from a single layer of plastic, and it had to meet U.S. Environmental Protection Agency (EPA) regulations for fuel vapor permeation. Then, Gemstar Manufacturing worked with Celanese and Entec to manufacture premium fuel tanks using single-layer acetal solution designed specifically for rotational molding. Celanese's Hostaform POM RF delivers unparalleled toughness and rigidity, temperature resistance, wear resistance, and low fuel permeation while Gemstar's Robomold technology provides ideal precision repeatability necessary for highly specialized custom parts. The technology is adapted from technologies from AMS Robotics, in Belgium, where the precursor system is called Robomould. After importing a Robomould system, Gemstar customized and improved it, transforming it into the company's own system.

The manufacturing process is fully automated and involves a six-axis robot. That level of precision and repeatability was essential to consistently form the funnel design on the fuel tank fill area. The improvement in part quality and consistency has been significant. Reducing the scrap rate can result in significant cost savings. The precise process allows for optimization of material and reduction of processing time by up to 50%compared to the industry average, according to Gemstar. These rotomolded fuel tanks made of acetal, which can accommodate a nearly endless array of fuel types, have been identified as a highly viable alternative to fluorinated fuel tanks in the wake of an Environmental Protection Agency (EPA) decision to halt the production of fluorinated coatings for high-density polyethylene (HDPE) containers due to per- and polyfluoroalkyl substance (PFAS) contamination.

https://www.plasticstoday.com/automotive-mobility/rotomolded-acetal-fuel-tanks-viable-alternatives-to-fluorinated-hdpe-tanks-

https://www.plasticsmachinerymanufacturing.com/rotomolding/article/53080965/processor-material-firm-adapt-resin-to-rotomold-part-with-a-challenging-feature

Preservation of musical legacy.

Peli Products is delighted to share the success story of safeguarding Andy Gray's invaluable microphone collection amidst a catastrophic fire that engulfed his recording studio. In the aftermath of the fire, Andy Gray faced substantial losses, including irreplaceable synths and music equipment.

Miraculously, his vintage microphone collection emerged unscathed, thanks to the robust protection provided by PELI cases. This incident underscores the paramount importance of investing in reliable and durable equipment solutions. Peli Products is grateful for the opportunity to contribute to the preservation of Andy's musical legacy. The attached video enables to witness the resilience of Peli Protective cases at the 10-minute 35-second mark.

https://www.linkedin.com/posts/peli_products_the-coalface-new-studio-tour-with-andy-activity-7152947708826173440-6cP_

InnovaSpa, rotomolded spas made in Canada.

InnovaSpa is the result of a partnership between two companies. Innovaplas is a North American company specializing in rotomolded polyethylene steps and ladders for above-ground pools.

In 2008, founder Charles Goulet acquired Lumi-O International, which specialized in the manufacture of spas and rotomolded polyethylene steps and ladders. It also had a pool lighting division. With a view to expansion, the InnovaSpa subsidiary was created to develop the rotomolded spa market in North America. Subsequently, a European subsidiary was born in 2018: InnovaSpa Canada. The aim was to provide European customers with local service and help develop Europe. Since 2022, this subsidiary has set up a physical stock of spas and spare parts in France to provide better responsiveness and dedicated support. Today, InnovaSpa has 6 models of rotomolded spas, complementary to acrylic spas and opening up new markets. Installation requires no concrete slab. They can be installed on lawns or directly on the ground.

https://activite-piscine.com/news/produits/innovaspa-des-spas-rotomoules-made-in-canada/

Rototec shares its BIM library.

ROTOTEC Spa is very proud to have been among the first in its industry to recognize and implement the potential of Building Information Modeling (BIM).

Today, the company is pleased to share the ongoing development and expansion of its BIM library, an initiative that reaffirms its commitment to innovation and technological leadership in the field of polyethylene tanks for water storage and purification. ROTOTEC's BIM library has been developed to provide industry professionals with immediate and free access to detailed and accurate models of its products. This resource is designed to facilitate project design, planning and implementation, while ensuring that the high standards of quality and sustainability that distinguish its products are met. Rototec continues to invest in this technology, with the aim of further expanding its offering and providing industry professionals with ever more effective tools. ROTOTEC Spa's BIM library is not only an example of its commitment to innovation, but also represents an important step towards a more efficient and sustainable future in the world of polyethylene.

https://www.linkedin.com/posts/rototec-s-p-a_systemgroup-bim-rototec-activity-7155123598637084672-HBib

Research & Patents

Influence of mold pressurization on cycle time in rotational molding composites with welded ignimbrite as loading.

In the context of rising energy costs and climate emergencies, there is a need to incorporate novel procedures or materials to meet sustainability requirements and increase the efficiency of processes and use of resources. Although rotational molding might seem disadvantageous due to the long cycle times and high energy consumption, its inherent advantages, including the production of hollow parts of any size without wasting materials, with good surface reproducibility and no internal stresses, using cost-effective tooling remain noteworthy.

To address energy consumption concerns, increase productivity, and enhance the environmental footprint

of rotomolded products, this work proposes the incorporation of residual welded ignimbrite from quarries, a dusty material with over 60% of SiO_2, combined with the mold pressurization, finding a 4% reduction of total cycle time with ignimbrite, which is further shortened to 12% when pressure is applied. Particularly notable is the reduction 27% reduction in oven time when using ignimbrite at 10% under pressure. The thermomechanical and rheological characterizations revealno adverse effects either by the use of pressure or the mineral dust, thus establishing a viable alternative for energy (and cost) reduction. Besides, the obtained parts show good aesthetics, a stone-like aspect, which might provide additional features for applications such as outdoor furniture or storage tanks.

https://pure.qub.ac.uk/en/publications/influence-of-mold-pressurization-on-cycle-time-in-rotational-mold

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Use of Pressure in Rotational Molding to Reduce Cycle Times: Comparison of the Thermomechanical Behavior of Rotomolded Reed/Polyethylene Composites.

Rotational molding advantages include the production of a hollow part with no welding lines, either of small or big sizes, with no internal stresses and good surface details. However, the process is limited by the long cycle times, and its related high energy consumption.

Different strategies can be followed to reduce such energy use. This work assesses the use of pressure inside the molds during the densification and cooling stages, finding reductions in overall cycle time of approximately 20%, because of the reduction in the heating time required but also to the increased cooling rate. The influence of such an approach on the production of composites with reed fibers has also been assessed, finding a similar trend towards cycle time reductions. The rotomolded samples' thermomechanical and rheological behavior were determined, finding that viscosity was not affected due to the incorporation of air during the moldings; besides, the homogeneity of the composites increased due to the mold pressurization. The parts obtained show good aesthetics and good thermomechanical behavior along the entire temperature range studied, and particularly for 10% composites; higher fiber ratios should be prepared via melt compounding. Therefore, the mold pressurization allows us to reduce both oven and cooling times, which can be translated into an increase in productivity and a decrease in energy consumption, which are undeniably related to the increase in the products' sustainability and cost.

https://www.mdpi.com/2504-477X/8/1/17

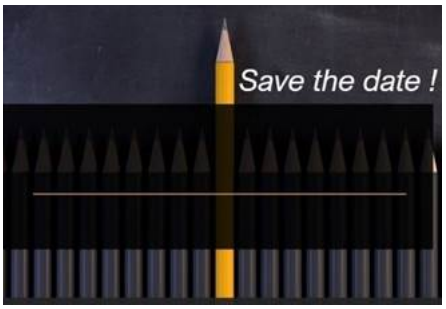
Investigating the influence of peak internal air temperature (PIAT) on material characteristics of linear low-density polyethylene (LLDPE) during rotational moulding.

In present study, six samples of ICORENE 1613 LLDPE fuel tank with homogeneous composition were analysed for six different PIAT values of 165°C, 170°C, 180°C, 190°C, 195°C and 200°C in the first stage. In the second phase of the study, the samples with optimum PIAT values were considered for the Tensile and Flexural strength study at different temperatures.

Peak Internal Air Temperature (PIAT) values were obtained using the rotolog instrument, while the tensile and flexural tests were performed utilizing the Universal Testing Machine for accurate characterization of the material properties. The tensile and flexural strength were carried out at three different operating temperatures considering the tank will be subjected to variable operating conditions in real world exercise. The maximum value for both all the process parameters studied were observed at PIAT value of 195°C, the same has been chosen for the further investigation. The failure data obtained from these two destructive testing will be helpful to mitigate the defects during the process. The tensile test results indicate that the LLDPE sample exhibits the maximum tensile strength of 17.3 MPa at 23°C and the highest elongation

percentage at failure, which is 182.7% at 80°C. Moreover, the sample shows a remarkable flexural strength of 75.97 MPa at 23°C, which is indicative of its superior ability to resist deformation under applied bending stresses.

https://iopscience.iop.org/article/10.1088/2631-8695/ad1d22



28th January 2024 -30th January 2024

StAR Event

LOCATION:

Kerala, India

MORE INFORMATION:

https://www.starasia.org/annualconference2024.php

6th February 2024 - 7th February 2024

Nordic ARM Event

LOCATION:

Iceland

MORE INFORMATION:

https://www.nordicarm.org/

13th June 2024 - 14th June 2024

ARM & IT-RO Tour of Italian Rotomolders

LOCATION:

Italy

MORE INFORMATION:

https://rotomolding.org/page/ExecutiveForum

17th June 2024 - 19th June 2024

ARMA Event

LOCATION:

Gold Coast Australia

MORE INFORMATION:

www.rotomouldconference.com.au

24th September 2024 -26th September 2024

Rotoplas 2024

LOCATION:

Rosemont, Illinois, USA

MORE INFORMATION:

https://www.rotoplas.org/