AFFILIATO:

Market Monitoring Newsletter

ARMO'S ROTATIONAL MOLDING NEWSLETTER jeudi 28 octobre 2021

Research & Patents

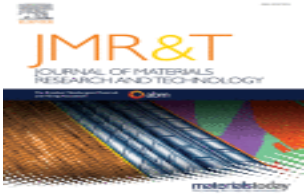
Fast FMCW Terahertz Imaging for In-Process Defect Detection in Press Sleeves for the Paper Industry and Image Evaluation with a Machine Learning Approach

We present a rotational terahertz imaging system for inline nondestructive testing (NDT) of press sleeves for the paper industry during fabrication. Press sleeves often consist of polyurethane (PU) which is deposited by rotational molding on metal barrels and its outer surface mechanically processed in several milling steps afterwards. Due to a stabilizing polyester fiber mesh inlay, small defects can form on the sleeve's backside already during the initial molding, however, they cannot be visually inspected until the whole production processes is completed. We have developed a fast-scanning frequenc-modulated continuous wave (FMCW) terahertz imaging system, which can be integrated into the manufacturing process to yield high resolution images of the press sleeves and therefore can help to visualize hidden structural defects at an early stage of fabrication. This can save valuable time and resources during the production process. Our terahertz system can record images at 0.3 and 0.5 THz and we achieve data acquisition rates of at least 20 kHz, exploiting the fast rotational speed of the barrels during production to yield sub-millimeter image resolution. The potential of automated defect recognition by a simple machine

learning approach for anomaly detection is also demonstrated and discussed.

Click here to read more :www.mdpi.com

Low velocity impact (LVI) and flexure-after-impact (FAI) behaviours of rotationally moulded sandwich structures



There is limited academic knowledge and industrial understanding available on low velocity impact (LVI) properties, impact damage propagation mechanism and post impact residual strength of rotationally moulded skin-foam-skin sandwich structures. In this work, two roto-moulded sandwich structures (sandwich-1 and sandwich-2) were manufactured at the same thickness and skin layers configurations, with two different commercially available foam core material types and densities. They were tested using an instrumented drop weight impact tester at 25 J, 35 J and 45 J energy levels to analyse the force–time, force–deflections, and energy–time properties. The damage mechanism was investigated with a high-resolution X-ray micro Computed Tomography (μ-CT) technique which correlated the measured impact properties for both type of sandwich structures. Flexure-after-impact (FAI) test was carried out to characterise the effects of impact induced damage on the residual strength of impacted sandwich specimens for the first time in this study. In comparison of two sandwich structures, the lower density foam material manufactured sandwich structures (sandwich-2) showed a better impact property, damage resistance and FAI strength compared to higher density foam material sandwich structures (sandwich-1). This result was not industrially expected and could be related to the incomplete decomposition of blowing agents or forming of immature foam cells in the foaming process of higher density foam material in sandwich-1 leading to its less impact and FAI test load bearing capacities.

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Rotomolding Market News - Europe

The AFR - the French-speaking Rotational Molders Association - and Polyvia Formation signed a partnership agreement in order to co-develop innovative training programs

Their goal is to develop an innovative training offer while integrating the use of digital technology for the traceability of each trainee's program.
This partnership, signed last June, concerns several distinct types of action : including two e-learning modules, one on the essential principles for implementing the process in the workshop and the second on the safety measures to be

observed in the workshop. The second action concerns a training course specific to rotational molding, planned in person with the creation of several standard modules, which will be offered to rotational molding companies. Finally, in the longer term, the partners want these training courses to be available in a multilingual version. These training courses will be intended for employees who recently joined a rotational molding company, whether under an employment contract or on a temporary basis, but also for already existing staff already in order to perfect their knowledge. (Translated from French)

Click here to read more :www.polyvia-formation.fr

A new feature for VARIBOX Connect

A new feature for VARIBOX Connect is proudly presented. VARIBOX Connect is now available for IBCs for chemical waste collection. Today our Sales Manager Sebastien Dufour showed the first VARIBOX Connect for waste collection to Daði Valdimarsson, Managing Director of Promens Roto. The first series of this new VARIBOX Connect version is installed on VARIBOX Intermediate Bulk Containers (IBCs) for the French market. From now on the new VARIBOX Connect feature shows you when to collect full IBCs (Intermediate Bulk Containers) from your customers. On a dedicated dashboard you will see when a container is full or almost full and where the IBC is located. You can extend your services to your customers by managing their chemical waste: picking it up when full and supply new containers.

Click here to read more :www.varibox-ibc.com

🚗 A nice advertising campaign along the road 🏡

800 banners, 8 000 posters, streamers banderoles. Take a look at the extraordinary advertising campaigns designed for Esso and Certas Energy France. You will certainly drive right by our banners.
You really can't miss them : they come with rotomolded mounts et are 5 meters tall 📍

Click here to read more :LinkedIn

Marco Manders' Fantastic Rotomolded Tulip-Inspired Public Seating

Dutch designer Marco Manders used the country’s signature flower as inspiration for this outdoor chair: The rotomolded Tulpi-Seat folds up to keep dry in the rain. Made from LDPE and 100% recyclable, it can pivot on its stainless steel stalk. The Tulpi-seat is maintenance free – no sealing or extra protection paint is required. It will not stain from bird, animal droppings, borehole water or oil/fat. It does not rot, crack, warp, splinter or decay. The Tulpi-seat is non-porous and

absorption-resistant which prevents mould, mildew, fungi or moss growth. It is resistant to corrosive substances, oils and fuels, insects, sea salt spray and other environmental stresses. The product is non-porous and will not absorb glue, the material is paint-resistant and grafitti-proof.

Click here to read more :www.core77.com