Mark P. Kearns IT-RO Presentations 2019

Digitisation of the Rotational Moulding Process

Data acquisition, ubiquitous connectivity and real-time communication are changing how manufacturing companies function and operate. Industry 4.0 technologies and their increased use of digital and analytics are already improving manufacturing productivity, efficiency, and effectiveness. Digital advances and better human-machine interfaces are enhancing problem solving, operator training, and overall production performance. At the same time, lower automation costs are fundamentally changing discussions about when and how to use automation in manufacturing. This presentation will look at a number of ongoing Industry 4.0 related rotomoulding research and development projects currently underway at The Polymer Processing Research Centre at Queen's University, Belfast. Innovations in Robomould®, rotomoulding control, simulation, process optimisation, composites and robotics will be presented with a view to detailing their potential impact on future rotomoulding technology, production and markets.

Multi-layer Rotomoulding

Multi-layer Rotomoulding (skin/skin and skin/foam/skin) continues to play an important role in many rotomoulding applications, enabling the rotomoulding designer to take advantage of e.g. the mechanical 'structural' properties of one material and combine it with the 'Barrier' properties of another to create the 'perfect' package for the application. This presentation will highlight the advantages of a number of multi-layer applications and highlight current research and development related to processing and process optimisation.

Kearns Biopic

Mark P. Kearns is Moulding Research Manager of the Polymer Processing Research Centre (PPRC) within the School of Mechanical and Aerospace Engineering, Queen's University, Belfast. A Chartered Engineer and Fellow of the Institution of Chemical Engineers, he has a Master's Degree in Rotational Moulding and has managed polymer processing research, development and industrial support / training projects for companies and industrial trade associations across Europe, Asia, South Africa, North and South America for more than 25 years. Mark has been the PPRC project manager on six EU funded research projects, supervisor on seven Knowledge Transfer Programs and has helped co-supervise rotomoulding PhD, MSc and BEng students since the early 1990's. He has co-authored two books on Rotomoulding, over 60 papers, articles & conference proceedings, is Global Contributing Editor to Rotoworld® Magazine and lectures extensively worldwide on rotomoulding technology.