

Immediate Release

Multi-Partner Project 'Ecogel Cronos' Proves Process for Effectively Replacing Volatiles in Liquid Resin

Ecogel Cronos, a multi-partner European Commission funded project, has concluded having demonstrated how powder gel coats can directly replace liquid gel coats offering significant reductions in VOC emissions in the RTM production plant.

VOC emissions, otherwise known as Volatile Organic Compounds, are potentially harmful vapours that are found in everyday building and internal materials such as carpets, furniture, cleaning products, and of course, paint. It contains solvents that evaporate easily into the air and can cause breathing problems and other issues.

The main aim of the Ecogel Cronos project was to develop an innovative and high productivity Resin Transfer Moulding (RTM) process by means of the use of fast curing "zero VOCs emissions" powder gel coats (with and without electrically conductive properties) and also to develop electrically conductive hot skin mould technologies based on laminates made of carbon-fibre-plastics (CFP laminates) to mass production parts for automotive and goods transport sector.

The first step in the development of the powder gel coat was the formulation of a powder resin system. Different systems were developed within the project and combined with the suitable additives in order to obtain highly reactive, stable, cost-effective and suitable for case studies requirements powder gel coat formulations. Modelling tasks were employed to determine the electrical conductivity threshold in the formulations of electrically conductive powder gel coat.

Environmental, health and economic factors were taken into account throughout the duration of the project; an LCA of the powder gel coat was completed, specifying the safety criteria for the new processes based on standards and legislation in force and defining the methodology for estimating the price of the chosen demonstrators while making an estimation of cost savings.

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Raquel Giner Borrull, Project Manager and Coordinator from AIMPLAS, said "Replacement of liquid gel coats with powder gel coats, in the RTM industry, provides significant benefits related to economics, safety, the environment and process flexibility. Curing time of powder gel coat is reduced up to 80% when compared to conventional liquid gel coat which will contribute to increase RTM process production ratios."

Gary Foster, Project Manager at project partner, NetComposites, said "We've seen some fantastic results and we are really pleased that we now have a powder gel coat that is not only more environmentally friendly, but also shows superior features such as hardness. We really do expect this to be the standard system in the future."

The project was led by AIMPLAS, Spain, and involves 12 other project partners: AIMPLAS, Spain, SBS, Italy, Composite Integration, UK, Clerium, Netherlands, Indupol, Belgium, Axon, United Kingdom, NetComposites, United Kingdom, FACHHOCHSCHULE BIELEFELD, Germany, e-Xstream, Luxemburg, Ecoinnova, Spain, KETEK, Finland, IK4-Cidetec, Spain, Megara Resins, Greece.

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Notes to Editors

About NetComposites

NetComposites Ltd was established in 2000 in Chesterfield in the UK, initially as a news and information portal for the composites industry. Since then, the company has grown year-on-year, its activities broadening to include applied research and development, conferencing and training.

Today, NetComposites remains a privately-owned company with around 25 staff (including 8 PhDs) and a well-equipped development centre.

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