



New, Automated Cure Tracking Tool from Hexion Heightens Efficiency and Quality in Composite Processing

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Self-Contained Tool from Combined Composite Technologies is Fully Configurable and Programmable

Columbus, Ohio, USA—(June 11, 2015)—Combined Composite Technologies (CCT), a business unit of Hexion Inc. (Hexion), a global leader in thermoset resins, is introducing a programmable logic-controlled (PLC), automated resin curing and moulding system. The new self-contained Optibox™ tool system utilizes closely tracked data on resin filling and curing to optimize resin processing cycles for greater productivity and better quality laminates in composites manufacturing.

In a typical composite manufacturing process, once a resin infusion tool is closed, there is no way of monitoring what is actually happening inside. Processing steps are arbitrarily timed according to the resin manufacturer's suggestions even though, in actual practice, the optimal timing of these steps can vary. The Optibox tool allows composite manufacturers to automatically track and adjust each step's timing and heating precisely and trigger the next step as soon as the composite is ready. This responsive technology can improve efficiency through faster cure cycles and help reduce product flaws in preforms, prepreg moulding, and resin infusion processes, including vacuum assisted resin transfer moulding (VARTM).

"The Optibox tool is ideal for small to mid-size composites enterprises as it allows for efficient use of time, space, energy, expense and manpower," says Paul Collier, Managing Director of Hexion's CCT. "We've also had a lot of interest from technical educators who want to use the device in lecture hall demonstrations, so students will understand, in detail, how composite processing works. This specialised tool should also appeal to aerospace, rail and automotive parts manufacturers looking to produce extremely high-quality composite components through precisely controlled curing."

The Optibox tool device is a portable, self-heating, single- or double-sided, mould tool with an LCD readout. Interchangeable upper tool configurations enable flexible, rigid, heated and multi-cavity functionality. Once loaded with fiber reinforcement, the Optibox tool enables cycle time optimisation by tracking resin filling and curing through a variety of sensors, logging the data for quality assurance. Variables monitored include resin flow, temperature profile over up to twenty zones, extent of mould-filling, gelation, vacuum level, and degree of cure. Multi-zone heat controls respond to sensor feedback, promoting optimized curing to achieve desired part tolerances and finish. The fully programmable cure cycles combined with integrated pre-set or selectable vacuum settings afford the user complete process control.

About the Company

Based in Columbus, Ohio, Hexion Inc. (formerly known as Momentive Specialty Chemicals Inc.) is a global leader in thermoset resins. Hexion Inc. serves the global wood and industrial markets through a broad range of thermoset technologies, specialty products and technical support for customers in a diverse range of applications and industries. Hexion Inc. is controlled by investment funds affiliated with Apollo Global Management, LLC. Additional information about Hexion Inc. and its products is available at www.hexion.com.

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