

Arkema wins the 2020 Pierre Potier Prize for its Elium® liquid thermoplastic resin for wind turbines

Today, in the presence of Agnès Pannier-Runacher, Minister Delegate for Industry attached to the Minister for the Economy, Finance and the Recovery, Arkema was awarded the 2020 Pierre Potier Prize for its Elium® liquid thermoplastic resin, a breakthrough innovation in the composites market that enables the manufacture of 100% recyclable wind turbine blades.

The production of wind energy, both on shore and off shore, is expected to play a major role in the transition towards low-carbon energies. Yet, in this market which counts annual growth of 12 to 15%, tens of thousands of blades are produced around the world every year. These blades use composites based on thermoset resins, which are very difficult to recycle and are therefore most often buried or incinerated at the end of their life cycle, with a significant environmental impact.

Developed in Arkema's research centre in Lacq (64), [Elium® liquid thermoplastic resin](#) is the first ever resin that enables the manufacture of fully recyclable wind turbine blades – a true breakthrough innovation. Recycling, whether mechanical or chemical, is a considerable asset in the life cycle of wind turbines. The parts are first ground and then heated to depolymerise the resin so that it can be separated from the fibre filler. After purification and reformulation, a new liquid thermoplastic resin is obtained with the same characteristics as the virgin resin.

Arkema is thus at the heart of the ZEBRA (Zero wastE Blade ReseArch) consortium led by IRT Jules Verne, an ambitious project that aims to create the first 100% recyclable wind turbine blade and to contribute to the development of environmentally friendly and sustainable solutions for wind power.

"We are immensely proud to receive the Pierre Potier Prize, which commends an innovative and sustainable solution for wind turbine blades at the end of their life cycle – a major challenge for the sector due to considerable volumes involved. With our Elium® thermoplastic resin, we have provided a solution to the environmental challenges of wind power by making it part of a circular economy approach", says Guillaume Clédât, Global Sales and Development Director for Elium® resin.

Beyond the wind power market, Elium® resin enables the production of a wide variety of fibreglass or carbon-fibre-composite thermoplastic parts of all sizes and with complex shapes. Its economic benefit comes from two major characteristics: its ease of implementation with short hardening times at room temperature and its compatibility with the numerous technologies for processing existing thermosetting resins, thus limiting investments for fabricators already equipped with these machines and opening up a vast range of developments in many sectors such as transportation, construction and the boating industry.

Arkema has already received the Pierre Potier Prize:

- In 2016, for its [Kynar® fluorinated polymer with durable hydrophilic properties](#) for the manufacture of hollow fibres used in ultrafiltration modules for water purification.
- In 2013, for its high-temperature polymer [Rilsan®-HT](#), the first thermoplastic in the polyphthalamide (PPA) family, produced up to 70% from castor oil and used as a replacement for metal or rubber in under-the-cowl automotive applications.

Created in 2006 by the Ministry for the Economy, Finance and Industry and now sponsored by the Maison de la Chimie Foundation and France Chimie, the Pierre Potier Prize highlights and rewards initiatives in the field of chemistry that promote sustainable development as well as the development of eco-responsible approaches in the sector. Awarded by a jury of research, industry and ministry experts, this award has become an important reference for business support organisations.

Building on its unique set of expertise in materials science, **Arkema** offers a portfolio of first-class technologies to address ever-growing demand for new and sustainable materials. With the ambition to become in 2024 a pure player in Specialty Materials, the Group is structured into 3 complementary, resilient and highly innovative segments dedicated to Specialty Materials -Adhesive solutions, Advanced Materials, and Coating Solutions- accounting for some 80% of Group sales, and a well-positioned and competitive Intermediates segment. Arkema offers cutting-edge technological solutions to meet the challenges of, among other things, new energies, access to water, recycling, urbanization and mobility, and fosters a permanent dialogue with all its stakeholders. The Group reported sales of €8.7 billion in 2019, and operates in some 55 countries with 20,500 employees worldwide. www.arkema.com

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