

Colombes, May 2nd 2022

JEC WORLD 2022 : ARKEMA UNVEILS ITS NEW SOLUTIONS FOR RECYCLABLE AND EVER MORE EFFICIENT COMPOSITES

As a major player in the composite sector, Arkema will once again launch at this year's JEC edition new adhesives solutions, advanced resins and show its range of semi-finished products. All innovations and product range are guided by the same goal: Innovative materials for a sustainable world.

BOSTIK, ARKEMA'S ADHESIVE SOLUTIONS SEGMENT, PRESENTS NEW HIGH-PERFORMANCE AND MORE CIRCULAR SOLUTIONS

At the exhibition Bostik will be showcasing the Pliogrip range of 2-component polyurethane and epoxy structural adhesives for composite bonding. The Performance Adhesives teamⁱ at Bostik will be available to discuss the classic Pliogrip products as well as new innovative MDIⁱⁱ Free technology for structural bonding applications.

Bostik will also highlight its newly launched R-SAF range, a new generation of recyclable structural MMA adhesives. This range can be recycled together with Elium[®] resin-based composites, through mechanical or chemical processes, allowing the Group to offer a unique solution for truly circular composites.

Finally, for the first time, Bostik presents the repair of a cracked bumper with Bostik[®] XPU20102 Ultrafast Black with low monomer, a solution that allows repairing instead of replacing and is thus fully in line with Bostik's approach to offer solutions that act as sustainability enablers

ARKEMA OFFERS UNIQUE AND PATENTED TOUGHENING TECHNOLOGY FOR COMPOSITES AND STRUCTURAL ADHESIVES WITH ITS BRANDS CLEARSTRENGTH[®] AND SARTOMER[®]

The new Clearstrength[®] XT 151 MBS toughener will be featured, an easily dispersible powder that provides outstanding viscosity control and toughening effects to high performance epoxy formulations. This new solution is part of the CLEARSTRENGTH[®] XT powders range for thermosetting resins which provides

- high durability
- best-in-market dispersion for optimal properties
- higher production capabilities
- lower energy costs

Arkema will also introduce the new liquid Sartomer[®] Advanced tough resins, ready-to-use solutions that disperse very easily, enabling formulators to reach new levels of durability achieving very high toughness while improving the flexibility of their systems.

The Sartomer[®] range of products also features reactive diluents, crosslinkers, and binders, as well as renewable based solutions that enhance the performance and lower VOC content of thermoset, thermoplastic and bio composites.

ARKEMA PARTNERS WITH CONTINUOUS COMPOSITES TO DISRUPT MANUFACTURING OF COMPOSITE MATERIALS

Arkema's partner, Continuous Composites, will showcase their revolutionary Continuous Fiber 3D Printing technology, CF3D[®], advancing the development of 3D composite manufacturing and leveraging Arkema's N3xtDimension[®] photocurable liquid thermoset resins. Together, the two companies enable high-end materials solutions for strong, lightweight and high temperature structures.

ARKEMA COMPOSITES ARE ALSO SEMI-FINISHED PRODUCTS

With its high-performance polymer Kepstan® PEKK, Arkema has joined forces with 9T Labs (Zurich), a start-up specializing in 3D printing and thermoplastic composites. 9T Labs has developed a technology to automate the manufacture of composites using additive manufacturing (AM), as well as advanced software algorithms.

Arkema's range also includes overmolding solutions with Kepstan® PEKK grades reinforced with carbon fibers that can be transformed through injection. This technology combines the performance of continuous fiber composites with the geometric complexity that injection molding allows over short cycle times. The process also allows simultaneous stamping of the continuous fiber substrate, and the excellent cohesion between the composite and overmolded parts is ensured by the continuity of the Kepstan® PEKK polymer matrix.

Arkema also provides a range of semi-finished products in the form of unidirectional carbon fiber tapes impregnated with high-performance thermoplastic resins, grouped under the UDX™ brand.

The polymers used to make UDX™ pre-impregnated thermoplastics are Rilsan® PA11, Rilsan® Matrix PPA, Kepstan® PEKK, or Kynar® PVDF, depending on the application and performance requirements:

- 100% bio-sourced Rilsan® polyamide 11 provides durability, flexibility, and chemically and mechanically resistant solutions, especially to impacts. Target markets include sports and leisure, consumer goods, and transportation;
- Rilsan® Matrix polyphthalamide has very good mechanical performance even under hot and humid conditions. The main dedicated markets include structural automotive parts, transportation, and energy storage (gas storage tanks);
- Kepstan® PEKK has exceptional resistance to impacts, heat, and highly aggressive chemical products. The target market is mainly the aerospace industry;
- Kynar® PVDF thermoplastic resin has excellent mechanical properties, as well as strong resistance to corrosion and fire. The target market is mainly the oil and gas industry.

ELIUM® THE SOLUTION FOR RECYCLABLE COMPOSITE

The Elium® liquid thermoplastic resin is perfectly suited to manufacture any composite parts and deliver the same performances as those made from thermoset resins with an added unique benefit: recyclability.

A 62M LONG RECYCLABLE WIND BLADE

The world's largest 100% recyclable blade made from Elium® thermoplastic resin has been successfully made this year within the ZEBRA consortium led by IRT Jules Verne. The Elium® resin is perfectly suited to the manufacture of large parts by resin infusion like wind blade. Composite components made of Elium® resin can be recycled using advanced recycling methods developed by Arkema. These methods are tested on all composite parts, including the waste generated by the production of this prototype blade.

FULLY RECYCLABLE COMPOSITE SAILING BOAT

The Ecoracer 769, a 7,8m long sailing boat, is eco designed and manufactured by Northern Light Composites. Using natural or recycled fibers, recyclable core and Elium® resin, the boat is easily recyclable at the end of its life, giving owners a new possibility to sail truly respecting the environment. The boat will be shown at this year's JEC edition at the Industry Planet Hall 5 booth G97.

JEC WORLD INNOVATION AWARDS FINALISTS 2022

In partnership with Optimas Solutions and Somocap, Arkema has been selected as finalists in the Building and Civil Engineering category for the SOF Radlink Composite Radial Coupling - a system that enables the easy, quick, and safe connection of tunnel segments in underground infrastructure. The replacement of a conventional steel material solution by a full thermoplastic parts have been made possible with the Elium® resin using pultrusion and thermoforming. The SOF Radlink Composite Radial Coupling is visible on our booth during the entire show.



TO FIND OUT ABOUT OUR RANGE OF MATERIALS FOR COMPOSITES, DO COME AND TALK TO OUR EXPERTS ON OUR BOOTH (V39 - HALL 5A)

- ⁱ The Performance Adhesive Team: The Ashland Performance Adhesives team. Pligrip is an Ashland Performance Adhesives product.
- ⁱⁱ MDI : Methylene diphenyldiisocyanate

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 85.5% of Group sales in 2021, 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 around €9.5 billion in 2021, and operates in some 55 countries with 20,200 employees worldwide.

Media contacts

Véronique Obrecht +33 (0)1 49 00 88 41 veronique.obrecht@arkema.com
 Anne Plaisance +33 (0)6 81 87 48 77 anne.plaisance@arkema.com

A French *société anonyme* (limited company) with share capital of €742,860,410 – Registered in Nanterre: RCS 445 074 685 Nanterre

Arkema

420 rue d’Estienne d’Orves
 92705 Colombes Cedex
 France
 P +33 (0)1 49 00 80 80
 arkema.com

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