

Arkema exhibits at K2019 its innovative and sustainable solutions addressing today's key societal challenges

As a global player in specialty chemicals and advanced materials, Arkema strives to generate sustainable growth by providing its customers with innovative and environmentally sound solutions. In an ever changing world, Arkema constantly innovates and offers solutions addressing these major changes in a wide variety of markets.

Visit our stand at the K2019 trade show in Düsseldorf (Germany) from 16 to 23 October to check out our product ranges and our latest innovations serving five markets.

- **TRANSPORTATION:** Vehicles are subject to ever more exacting environmental constraints, e.g. restrictions on CO2 emissions and the use of recyclable materials. Arkema's products offer environmentally sound solutions for materials lightweighting.



- **CONSUMER GOODS:** Arkema's materials and solutions are present in countless applications: eye glasses, smartphones, packaging and paper. Arkema's products play a role in improving everyday life while meeting consumers' high expectations in particular in terms of environmental impact.

- **SPORT:** Push back your limits! The motto of the greatest sportsmen and -women in competition. In this quest for excellence in performance, Arkema offers ranges of materials that combine comfort, suppleness, toughness and durability to shape the technical developments of their equipment.



- **INDUSTRY:** In this era of smart manufacturing, the boom in 3D printing (or additive manufacturing) has opened up for industry unprecedented prospects, a technological breakthrough in which Arkema is playing a leading role by offering its customers a unique range of dedicated materials (*3D Printing Solutions by Arkema*), as well as the relevant expertise in the main manufacturing technologies.

- **CONSTRUCTION:** It is estimated that the lifetime of a residential building is 100 years and that its renewal rate averages 1.5 in Europe (source: Swiss Life), hence entailing issues of quality and durability that are absolutely key. The Arkema Group is present in the construction and public works markets, for which it offers innovative and competitive solutions that improve the quality of construction materials and the environmental performance of buildings.



K2019: Our experts look forward to meeting you on our booth 6C57, Hall 6, where you will be able to experience our products “live”!

Arkema invites you to experiment, through interactive animations, its innovative solutions for many applications.

These experiments will give you an insight into our products' benefits in terms of:

- Durability
 - Design
 - Processing optimization
 - Reinforcement
 - Sustainability
- in the five key markets being showcased.



TRANSPORTATION

Vehicles are subject to ever more exacting environmental constraints, e.g. restrictions on CO2 emissions, which tends to mandate **reducing their weight** and using recyclable products from the design stage of new models.

Arkema stands as a special partner to meet these environmental requirements by offering product ranges that allow **the replacement of metal parts or the substitution of glass** for a vehicle's lights and transparent components:

- Over more than 70 years, our [Rilsan®](#) biosourced polyamide 11 flagship range has been renowned for its outstanding wide-ranging performance including resistance to high temperatures, chemical stability, and durability in the most demanding applications. It is used primarily in under-hood applications as a substitute to metal and rubber.

-- Building on this activity's know-how over 60 years, [Altuglas®](#) acrylic resins and sheets satisfy current technological developments: electrification, automation and connectivity. These products' characteristics are suited to these latest demands, which makes them materials of choice in automotive lighting as well as interior and exterior design.



Arkema also partners [MMAtwo](#), a European project entailing converting end-of-life and post-industrial PMMA waste into top quality raw materials, hence promoting the circular economy.

A further characteristic of the transportation market is **the growing electrification of vehicles**, despite obstacles still standing in the way: the high cost of vehicles, and especially limitations on battery power and significant charge time for these batteries.



Arkema is a major player in this field and is highly involved in the most common type of technology, namely lithium-ion batteries, with **Kynar® PVDF**, a fluorinated polymer highly resistant to high voltage and to electrolyte solvent, thereby enhancing battery energy efficiency, power and operating life.

Other products on display:

Lotryl®, Lotader®, Orevac®, Durastrength®, Clearstrength®, Luperox®, Sartomer®

CONSUMER GOODS

Arkema's materials and solutions are ubiquitous in countless applications: eye glasses, smartphones, packaging and paper. Arkema's products play a role in **improving everyday life** while meeting consumers' high expectations in particular in terms of environmental impact.

- **Rilsan® Clear** is one of the very few polymers to combine resistance to chemicals and to impact, detail and precision of parts, light weight, soft touch, transparency, deep color effect, and gloss. With such qualities, this material is highly sought after by spectacle makers to design stylish and novel models. Rilsan® Clear being 20% lighter than polycarbonate and 40% lighter than aluminium, tablet and smartphone manufacturers recently adopted this material for the manufacture of particularly lightweight and streamlined shells and internal frames. It is also a "green" plastic derived from the castor plant.



- Thanks to their excellent adhesive properties, Arkema's functional polyolefins (**Lotader®**, **Lotryl®**, **Orevac®**) have contributed to the now widespread use of multilayer structures for flexible food packaging, agriculture and cars. In the food sector, these adhesives are used to assemble various materials (plastics, cardboard, aluminium), thereby combining their respective benefits in order to manufacture packaging with oxygen-barrier properties to conserve the content.

To address ever more stringent product recycling regulations, Arkema's functional polyolefins (**Lotader®**, **Lotryl®**, **Orevac®**) facilitate recycling as they promote recycled multilayer structures in molding, film, and extrusion applications.

NEW

- Arkema Functional Polyolefins present a new grade, **Orevac® 18603**, designed for polyesters and flexible blister film. A new range of binder resins made from phthalate-free polypropylene is also being launched, the aim being to remove this substance from food packaging.

- High performance [Sarbio® liquid resins](#) from Sartomer®, derived from renewable raw materials, are unique and accommodate thermal curing as well as UV-curing for high output yield. They offer a sustainable approach to the development of consumer goods, and impart high performance plastic coatings to components used in smartphones, television sets, cosmetics packaging, household appliances, etc.

Other products on display: Durastrength®, Clearstrength®, Luperox®, Rilsan®, Kynar®, Sartomer®

SPORT

Push back your limits! The motto of the greatest sportsmen and -women in competition. In this quest for excellence in performance, Arkema offers ranges of materials that combine comfort, suppleness, toughness and durability to shape the technical developments of their equipment.

With its unique properties of energy return, light weight, elasticity, flexibility and impact resistance, Pebax® elastomer remains the choice material for football boots. In the 2019 Women's World Cup, it was featured in 61% of the sole of the shoes of the players during the competition. Arkema has also brought out an innovation with Pebax® Rnew, the first biosourced thermoplastic elastomer.

Other products on display: Altuglas®, Luperox®, Durastrength®, Clearstrength®, Sartomer®

INDUSTRY

In this era of smart manufacturing, the boom in 3D printing (or additive manufacturing) has opened up for industry in many markets (automotive, aerospace, oil and gas) unprecedented prospects in terms of freedom of design, rapid processing for prototyping and now for the production of small and medium series while saving on material.

3D PRINTING SOLUTIONS
BY ARKEMA

A technological breakthrough in which Arkema is playing a leading role, as it offers its customers a unique, and the largest, range of materials dedicated to 3D printing (**3D Printing Solutions by Arkema**), as well as the relevant expertise in the main manufacturing technologies.

Alongside its world-famous brands such as Rilsan® biosourced polyamides, Kynar® fluoropolymers, and Sartomer's N3xtDimension® resins, Arkema also markets Kepstan® PEKK (Poly-Ether-Ketone-Ketone) resins. These products, among the most high performance resins, afford a remarkable combination of mechanical strength and thermal resistance at very high temperature, with high dielectric rigidity and good insulating properties.



Luperox® organic peroxides are used for the crosslinking of elastomers to impart temperature resistance and durability. Elastomers crosslinked with Luperox® organic peroxides are used in every market requiring high performance products (e.g. automotive, high voltage cable). To boost its customers' productivity, Arkema offers organic peroxide grades pre-dispersed in an elastomer, e.g. **Luperox® F40ED**, to promote dispersion and reduce blending time, as well as the **Luperox® SP2** and **Luperox® SP** range which is scorch-proof and therefore helps reduce the production time of rubber parts by injection molding or extrusion.

NEW

Clearstrength® TX100 impact modifiers with a core-shell structure are available in powder form and easy to disperse in most liquid resins with a limited impact on their viscosity. They help enhance the mechanical properties and durability of composite parts and their assembly.

Other products on display: Altuglas®, Durastrength®, Sartomer®

CONSTRUCTION

It is estimated that the lifetime of a residential building is 100 years and that its renewal rate averages 1.5 in Europe (source: Swiss Life). Hence issues of quality and durability are absolutely key. The Arkema Group is present in the construction and public works markets, for which it offers innovative and competitive solutions that improve the quality of construction materials and the performance of buildings.

To optimize the quality of PVC window profiles, Durastrength® and Clearstrength® additives respectively impart impact resistance and UV resistance to PVC profiles and to roofing membranes. They help extend the quality of frames over time.

NEW

Our new **Durastrength® 367** grade is particularly dedicated to PVC outdoor applications. Plastistrength® acrylic additive facilitates the processing of the most rigid PVC formulations used for profile extrusion as well as formulations for calendaring and foaming processing methods.

NEW

Our new **Plastistrength® 580** grade has also been specially designed for thick PVC foam sheet as well as low density PVC foam.

Sartomer® Engineered Solutions resins facilitate the processing by UV and thermal pultrusion of reinforced glass fiber for enhanced end-properties in construction, transportation, industrial and energy applications.

Other products on display: Altuglas®, Luperox®, Lotryl®, Lotader®, Orevac®, Sartomer®

*A designer of materials and innovative solutions, **Arkema** shapes materials and creates new uses that accelerate customer performance. Our balanced business portfolio spans high-performance materials, industrial specialties and coating solutions. Our globally recognized brands are ranked among the leaders in the markets we serve. Reporting annual sales of €8.8 billion in 2018, we employ approximately 20,000 people worldwide and operate in close to 55 countries. We are committed to active engagement with all our stakeholders. Our research centers in North America, France and Asia concentrate on advances in bio-based products, new energies, water management, electronic solutions, lightweight materials and design, home efficiency and insulation. www.arkema.com*

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