

**Arkema at Tectextil
Frankfurt – June 16th to 18th 2009
Hall 3- Level 1, Stand G78**

PRESS KIT CONTENT

Arkema presents at TECHTEXTIL 2009, a preview of a **new grade of its Rilsan® PA11** - its 100% bio-sourced technical polymer - designed for the fiber market. This new Rilsan® PA11 grade is intended to produce bio-based fibers that combine a unique set of performances: light weight, soft touch, and resistance to bacteria, wear and abrasion.



Arkema also presents its other renewable technical polymers: **Platamid® Rnew** - the first 100% biobased hotmelt adhesive -, and **Pebax® Rnew**, the first engineering thermoplastic elastomer made from renewable resources, these specific emulsions being used in various textile applications.

The manufacture of these various products is part of Arkema's strategy to increase its use of renewable raw materials.

At least, OPM, the new Arkema's subsidiary specialized in PEKK polymers, introduces its **OXPEKK® Permetta™**, an innovative high performance polymer adhesive films for high temperature textile adhesive applications.



Castor oil plant, raw material of Rilsan® Fiber



Platamid® powder & pellets for hot melt adhesives



Surgical mask in Pebax®



PEKK films for high temperature adhesive applications

A global chemical company and France's leading chemicals producer, Arkema consists of three businesses: Vinyl Products, Industrial Chemicals, and Performance Products. Arkema reports sales of 5.6 billion euros. Arkema has 15,000 employees in over 40 countries and six research centers located in France, the United States and Japan. With internationally recognized brands, Arkema holds leadership positions in its principal markets.

New high performance synthetic fiber of 100% vegetable origin produced from Rilsan® PA11

Arkema has developed a new grade of Rilsan® PA11 - its 100% bio-sourced technical polymer -, from which high performance fibers can be spun. These technical fibers combine a unique set of characteristics: light weight, soft touch, bacteriostatic properties, and wear resistance.

With its long-standing experience over more than 60 years, Arkema today is the world leader in castor oil chemistry, which produces Rilsan® PA11, the first high performance polyamide entirely derived from a 100% renewable and ecological raw material.

In addition to its renewable source, Rilsan® PA11 production is characterized by lower fossil energy requirements⁽¹⁾ and lower CO2 emissions⁽²⁾ in comparison to other polymers based on fossil resources.

On the strength of its expertise, Arkema continues its development work on its bio-sourced polyamide in order to target new markets in which ecological challenges and a quest for technical performance have become a genuine concern as well as a differentiating factor.

Mindful of these expectations, Arkema has developed a specific Rilsan® PA11 grade that can be extruded into fibers. The most advanced textile applications using this Rilsan® PA11 fiber may currently be found in the footwear, clothing and luggage markets. Arkema plans to extend the development of Rilsan® PA11 fibers to other textile applications requiring both optimum technical performance and a vegetable origin.

Rilsan® PA11 fibers feature key characteristics such as pleasant touch, dimensional stability, bacteriostatic activity without the need for a specific treatment, and outstanding resistance to wear and abrasion.

The French company SOFILA and the Japanese company UNITIKA FIBERS offer innovative textile products based on Rilsan® PA11, combining both the environmental and the technical benefits, for the footwear, clothing and luggage markets.

⁽¹⁾ Fossil energy requirements related to the production of Rilsan®PA11 are on average 15% lower (based on MJ/kg of polymer) than for petroleum-based nylon polyamides (datas coming from plastics Europe for the petroleum-based nylon polyamides)

⁽²⁾ CO2 emissions related to the production of Rilsan®PA11 are on average 75% lower (based on kg of CO2/kg of polymer) than for traditional petroleum-based nylon polyamides. (datas coming from plastics Europe for the petroleum-based nylon polyamides)

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Platamid[®] and Platamid[®] Rnew: hotmelt adhesives for a wide range of applications requiring durable bonding

For over 40 years, Arkema has been marketing Platamid[®] specialty copolyamides used as hotmelt adhesives in a wide range of textile applications requiring durable bonding. These hotmelt adhesives are also available in a biobased version to fulfil two major challenges of the adhesive market: lower emissions and sustainable chemistry.

Platamid[®] and Platamid[®] Rnew hotmelt adhesives provide excellent answers to highly demanding bonding challenges in markets such as textile interlining, technical textiles, construction, electronics, and automotive interior. They can easily be converted into net, web, film or filament, resulting in superior quality and cost-efficiency.

Arkema recently launched **Platamid[®] Rnew**, the first 100% biobased hotmelt adhesive. Platamid Rnew[®] has been developed firstly to respond to automotive industry requirements, namely a reduction in volatile organic compounds (VOCs) in the passenger compartment through the release of gases from the materials used in car interiors. Other technical textile markets are now following this trend.

Compared to other bonding solutions, **Platamid[®] and Platamid[®] Rnew** offer key advantages:

- Low to zero emissions as per VDA 278 for example
- Up to 50% less adhesive consumption for same adhesion strength
- Possibility of multi-laminates in one step
- Lamination and calibration in one step
- Versatile bonding conditions from 80 to 155 °C
- Steam activability
- Soft touch
- No solvent emissions during processing
- Durable bonding thanks to high washing, steam and solvent resistance

Platamid[®] and Platamid[®] Rnew afford strong and durable adhesion for a variety of industrial applications onto all common surfaces such as:

- Woven and nonwoven textiles including silk, wool, cotton, cellulose, polymer fibers and leather
- All types of foams like TPU
- Versatile plastics like plasticized and rigid PVC, PU, ABS, phenolic, epoxy, etc.
- Paper & wood
- Metals

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- **Nonwoven applications in Pebax[®] and Pebax[®] Rnew**
 - **Breathable waterproof membranes in Pebax[®]**

Pebax[®], a polyether block amide with the highest performance of all thermoplastic elastomers, is present in the textile sector with two specific applications: breathable waterproof Pebax[®], and nonwoven Pebax[®]. This latter application also exists in Pebax[®] Rnew, the first engineering thermoplastic elastomer made from renewable resources. With its 20 to 90% renewable carbon content, Pebax[®] Rnew naturally fits in with the eco-design approach adopted by a large number of industrial sectors, e.g. electronics, medical, sports and automotive, for their high added value products.

Pebax[®] and Pebax[®] Rnew for nonwoven applications

Arkema has developed new Pebax[®] and Pebax[®] Rnew technology that promises to open up revolutionary opportunities for the design of durable elastomer nonwovens for superior performance, lighter weight, and ease of assembly. At Techtexsil 2009, Arkema exhibits high elongation and high energy recovery Pebax[®] nonwoven samples produced with the meltblown process. As a meltblown web, Pebax[®] and Pebax[®] Rnew can be used to make roll goods with a large width which are then cut into narrow widths. These nonwovens are suitable replacements for many narrow elastic and spandex-containing woven or knit textiles. As potential waistband for example, 200 gsm Pebax[®] webs afford total recovery when stretched 100 % repeatedly, and elongation at break of up to 600%. They also have excellent hot-wash and dryclean resistance.

Melt spinning of nonwovens is a rapidly growing process, and is a simple and inexpensive approach to convert polymer directly into roll goods.

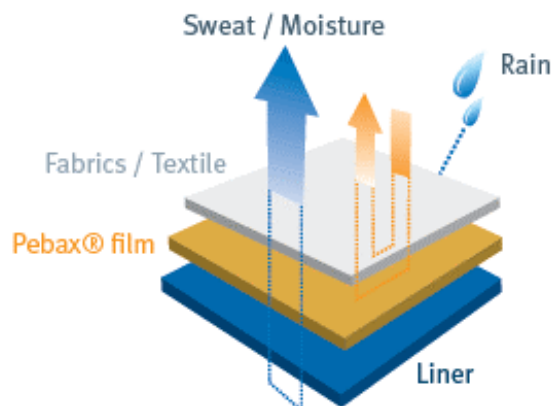
Pebax[®] breathable waterproof membranes

With its unique copolymer structure, Pebax[®] offers a perfect combination of mechanical strength, breathability, and ease of processing. When either extruded into a thin film or laminated onto a substrate, the hydrophilic grades offer excellent permeability to moisture vapor while remaining waterproof. They also offer an excellent barrier layer to bacteria. They can be laminated onto synthetic nonwovens, wovens, or any textiles with the help of some functional polyolefins, and require no adhesives or bonding agents to adhere onto these substrates.

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These advantages make breathable Pebax® the material of choice in many applications such as construction wrapping, food packaging, medical, and sports clothing. Pebax® breathable grades can be extruded into a very thin monolithic film down to 15 microns, or laminated onto a wide variety of substrates (wovens, nonwovens, textiles, etc.), offering excellent adhesion for structural integrity.

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OPM introduces OXPEKK[®] Permetta[™], High Performance Polymer Adhesive Films

Technical films ideal for high temperature textile adhesive applications

Oxford Performance Materials (OPM), of France's leading chemicals producer Arkema, introduces at the TECHTEXTIL tradeshow its OXPEKK[®] Permetta[™] high performance polymer adhesive films. These new products have a wide variety of uses in aerospace, industrial, electronic, and medical markets. OXPEKK[®] Permetta[™] films offer very high thermal performance, excellent adhesion behavior, excellent abrasion resistance, along with highly selectable electrical properties.

In addition, OXPEKK[®] Permetta[™] is inherently flame retardant UL94 V-0 rated, meets OSU 65/65, and is available in medical implant grades supported by extensive ISO 10993 biocompatibility testing. Specific grades are available for long term medical implants. OXPEKK[®] Permetta[™] also is a green product as it enjoys the benefit of producing no volatile organic compounds.

OXPEKK[®] Permetta[™] is made from the firm's polyetherketoneketone polymer (PEKK) which is produced in an amorphous and crystalline form. The initial offering will include films with a width up to 393 mm and thickness from 25 to 600 microns. Typical applications include use as an adhesive layer for composites, membrane systems and for metal composite hybrids. OXPEKK[®] Permetta[™] is a suitable adhesive for carbon, glass, aramid, ceramic PBO and metallic fibers. As a true thermoplastic, OXPEKK[®] Permetta[™] can be processed by nip-roll and compression molding. Target applications include aerostructures, safety and protective composites, soundproofing and dampening.

The OXPEKK[®] Permetta[™] products are available in the Americas directly from OPM. In Europe the product will be made available from Velox (www.velox.com), the firm's current distributor of granules. In Asia the products will be made available directly from Arkema Japan (www.arkema.co.jp).

About OPM

Founded in March 2000, OPM has rapidly become an industry leader in the ultra-high performance thermoplastic polymers market. The firm's versatile OXPEKK[®] polymers are currently being used in medical, space and defense, semiconductor and industrial markets worldwide. OPM is ISO 9001:2000 and ISO 13485:2003 registered. For additional information, please visit www.oxfordpm.com. In February 2009 OPM was acquired by Arkema.

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