

Press release  
La Garenne Colombes  
7th October 2011

## Altuglas International's innovative new Altuglas® ShieldUp acrylic sheet.

Altuglas International, a subsidiary of ARKEMA group, today launches its R&D department's very latest innovation: the Altuglas® ShieldUp nanostructured acrylic sheet. This acrylic glass is "meshed" and structured at the scale of a billionth of a metre to maximize its properties. The result: a light sheet combining strength and transparency no matter what the temperature. This combination of properties significantly expands the range of conventional uses for PMMA and offers exceptional opportunities for industries such as aeronautics, automotive industries, photovoltaic and safety glass.

### **Altuglas ® ShieldUp: a lighter alternative to glass.**

*"The current energy challenges we face have lead us to anticipate the needs of our industrial customers with a "revolutionary" product, says Frederic Vartician, General Manager- Sheet Business- Europe. 50% lighter than glass and more transparent, Altuglas® ShieldUp responds, for example, to the challenge of constructing panoramic roofs and side windows for the car industry, using lighter and stronger materials. Reducing the weight of a vehicle by 100 kg means a reduction in fuel consumption and CO2 emissions by 0.4 litres and about 1 kg respectively for every 100 km, without reducing performance."*

### **Altuglas ® ShieldUp is not only shock resistant, but also doesn't whiten, whatever the temperature.**

Naturally resistant to UV, PMMA is the most scratch resistant polymer you can get, making it ideal for outdoor use. Additives commonly used to improve the impact resistance of acrylic sheets cause a deterioration of transparency under high temperatures.

Altuglas® ShieldUp takes advantage of Arkema Group's very own polymerization technology: BlocBuilder® technology. It gives us complete control over polymer architecture at a nanoscopic scale. The result is a sheet far more resilient to shock and which retains complete transparency regardless of the temperature.

### **Altuglas ® ShieldUp: resistant to chemical.**

The formulation of the acrylic sheet strengthens chemical resistance to aggressive agents such as alcohol or other cleaning products.

### **Altuglas ® ShieldUp facilitates complex design structures.**

Unlike glass, the acrylic sheet is thermoformed and lends itself fully to the creation of complex shapes. It meets the needs of designers without altering its properties, particularly optical properties.

**Find out more about PMMA sheets:**

Known as “acrylic glass”, this polymer (polymethylmethacrylate) has exceptional optical properties, superior to that of glass. These properties have led it to become the material of choice across numerous industries, from the automotive industry to construction.

**Find out more about nanostructured sheets:**

Acrylic sheet (polymethylmethacrylate) combines two components PMMA and Elastomer, structured at the nanoscale, allowing for complete transparency while optimizing other properties such as mechanical and chemical resistance.

Nanostructuring means we can structure materials on the scale of a billionth of a meter. Like a knitted mesh, the material is organised in a particular pattern that repeats itself infinitely, giving objects fully mastered properties and improved performance.

**Find out more about Altuglas International, a subsidiary of ARKEMA:**

Altuglas International, world leader integrated in PMMA, is heavily involved in the field of engineered plastic - from MMA monomer to PMMA Acrylic glass – Altuglas International designs and manufactures highly innovative products tailored to the specific needs of its global customers. Its 1300 committed employees contribute daily to the success of its three areas of business (MMA, acrylic sheets and PMMA resins). Find out more at [www.altuglasint.com](http://www.altuglasint.com)

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To use the following high definition images to illustrate your article, please email [beatrice.troudet@altuglasint.com](mailto:beatrice.troudet@altuglasint.com)

1. Panoramic vehicle roof (with or without nanostructured sheet).
2. Nanostructure image.
3. Energetic review of innovation