



## **PRESS RELEASE**

Paris, March 22 2006

### **Lafarge joins forces with two of France's leading engineering schools, École des Ponts and École Polytechnique, to set up a chair in the Science of Materials for Sustainable Construction**

Lafarge, *École des Ponts* and *École Polytechnique* announce the creation of a new education and research chair in the Science of Materials for Sustainable Construction. This chair, the only one of its kind in the world, will further a high level, innovative, interdisciplinary approach to materials research, opening huge scope for new construction techniques that are more respectful of the environment, people and the planet.

In the last few years there has been a revolution in building materials, with the emergence of ultra-high performance concretes that are more ductile, more durable and more resistant to abrasion, corrosion and adverse weather conditions. We have also seen the emergence of self-placing concretes, and plasterboards with improved fire resistance, acoustic and thermal insulation properties. The development of these exceptional materials has only been possible thanks to an increasingly rigorous interdisciplinary scientific approach, covering physics, chemistry and mechanical engineering, along with sophisticated observation and digital modeling systems for accurate analysis at nanometric scale. These innovations are transforming the construction industry, revealing vast new horizons for architectural and structural progress.

It is this context that has prompted Lafarge to set up a chair in the Science of Materials for Sustainable Construction, calling on the complementary scientific expertise of two of France's leading engineering schools – *École Polytechnique* and *École des Ponts* — in addition to the unique know-how developed at the Lafarge Research Centre at Isle d'Abeau. The chair will aim to develop the scientific basis required for an interdisciplinary, multi-scale approach to construction materials engineering, the optimization of the application of these materials, their functional properties and durability under specific environmental conditions.

The new chair fits in with wider-reaching initiatives on sustainable development, with sustainable construction emerging as a key issue as economic growth and urban development lead modern society to approach the natural limits of the planet. Sustainable construction involves many factors, including the sustainable use of natural resources, the reduction of disturbance caused by worksites, better thermal and acoustic building insulation, positive-energy buildings, controlled structural ageing, and recycling of materials and structures. The new chair will help stimulate research in these areas, the aim being to reduce the ecological footprint of buildings, meeting the needs of current generations without jeopardizing the capacities of those to come.



The **course** (Master's level) will start in September 2006, and will be open to École des Ponts and École Polytechnique graduates, plus French and foreign graduates (engineering school or Bachelor's), post-doctorates and research scientists.

**Teaching** will draw chiefly on the expertise of the Mechanical Engineering and Physics Departments of École Polytechnique and on the specialist know-how developed by École des Ponts in thermodynamics and thermomechanics in complex continuous environments.

Teaching personnel will also include engineers and research scientists from the Lafarge Research Centre and professors and researchers from prestigious international universities such as the Massachusetts Institute of Technology (MIT), Berkeley and Princeton.

**Research** will be organized in projects lasting several years on major issues, combining a strong industrial emphasis with a solid scientific content. Typical research topics include the environmental behavior of plaster, the deferred behaviour of concrete, the reaction of concrete to freezing, and the analysis of CO<sub>2</sub> emissions generated during the life cycle of concrete.

The **Directors of the Chair** in the Science of Materials for Sustainable Construction are Patrick Le Tallec (École Polytechnique), Olivier Coussy (École des Ponts) and Paul Acker (head of Structured Materials Department at Lafarge Research Centre, Isle d'Abeau).

The **opening ceremony for the new Chair** will take place today, March 22 2006, at the Lafarge Research Centre at Isle d'Abeau, near Lyon, with proceedings overseen by Dominique Perben, Minister of Transport, Infrastructure and Tourism. Yannick d'Escatha, the Dean of École Polytechnique, Philippe Courtier, Director of École des Ponts, Bertrand Collomb, Chairman of Lafarge and Bruno Lafont, CEO of Lafarge, will be present at the ceremony.

### **Other information**

Lafarge is the world leader in building materials, with top-ranking positions in all four of its businesses: Cement, Aggregates & Concrete, Roofing and Gypsum. With 80,000 employees in 75 countries, Lafarge posted sales of Euros 16 billions in 2005.

Lafarge is the only construction materials company to be listed on the 2006 '100 Global Most Sustainable Corporations in the World'. Lafarge has been committed to sustainable development for many years, pursuing a strategy that combines industrial know-how with performance, value creation, respect for employees and local cultures, environmental protection and the conservation of natural resources and energy. To make advances in building materials, Lafarge places the customer at the heart of its concerns. It offers the construction industry and the general public innovative solutions bringing greater safety, comfort and quality to their everyday surroundings.

**École Polytechnique** enjoys a long tradition of scientific excellence in French higher education, fulfilling its mission of training people capable of designing and running complex innovative endeavors at the highest international level. In addition to a very solid multi-disciplinary scientific core, its four-year engineering degree courses also include modules in humanities, ethics and sports, and place a strong emphasis on interaction with business and industry. École Polytechnique also runs 19 master's degree courses and receives over 400 PhD students every year. The student population of 1500



includes 30% from outside France. The teaching staff numbers 400, and there are 600 researchers in 21 research centre laboratories. École Polytechnique is a member of ParisTech.

**École Nationale des Ponts et Chaussées** pursues a dual mission of teaching and research, training engineers and doctors with top-class scientific, technical and general skills in civil engineering, development, construction, transport, industry, economics and the environment. It has 1300 students, including 160 PhD students (35% of students are from outside France), and around 300 researchers at 13 laboratories. Operations are structured by two supporting networks in the form of ParisTech and the Marne la Vallée Polytechnicum.

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