



“Transparent cement” for the Italian Pavilion of Shanghai

Italcementi Group’s innovation and new products in the spotlight at Expo 2010

Milan, 22 March 2010 – A new type of cement has been set up which, by bonding special resins into a newly conceived mix, allows manufacturing solid insulated yet light-transmitting construction panels. The new **i.light**[®] transparent cement, used to build the Italian Pavilion for the World Expo 2010 opening in Shanghai on May 1, was presented today at the *Triennale* Museum in Milan.

The new material has been developed by Italcementi Group to meet the project needs of the building that will represent Italy in China during the six months of the International Exhibition. *«After meeting architect Giampaolo Imbrighi, project manager of the Pavilion, we had the need to identify, in the shortest possible time, an innovative and cost-effective solution to make the Italian Pavilion’s walls transparent - explained Giovanni Ferrario, Chief Operating Officer of Italcementi Group. We successfully managed to set up our new ‘transparent cement’ as a result of winning field-research experience. Once again, Italcementi Group is successful in bringing the innovation to a sector, such as the building materials industry, that is only apparently “traditional”. Innovation is playing an increasingly important role in our company’s mission».*

The new product developed at the Bergamo-based laboratories ensures transparency through an innovative cement / admixtures mix design. The excellent flow properties of the mix allow bonding a plastic resin matrix into a final panel that combines the typical robustness of cementitious materials and the possibility of filtering light both inwards and outwards. This is the first solution for an industrial application of “transparent cement”: *«The resins – explain the researchers – if adequately inserted in the cementitious material, have higher transparency performance than the optical fibres experimentally used in this field, but also cost much less allowing for their application on a large scale».*

3,774 transparent panels made from 189 tons of “transparent cement” will cover a total surface area of 1,887 square metres, approx. 40% of the entire Pavilion, creating a sequence of lights and shadows in constant evolution during the day. The transparent effect is more evident when it is dark and, seen from the outside, the building will allow the interior lights to filter through while, from inside, during the day, it will show the changes in the levels of daylight.

Used for the first time in Shanghai, future applications of this material may encompass its use as an architectural component with diversified, integrable functions, such as, for example, *internal lighting* (shading/light diffusion techniques).

The challenge of transparency confirms the innovative and creative dimension of *Made in Italy* and allowed Italcementi Group to provide the Italian Pavilion with *know-how* and solid business experience, as had happened in the past with other important architectural projects.

"Every person is in daily contact with cement. Italcementi Group research effort, in which the company invests more than 13 million Euro annually, is to make cement a more sustainable material able to create healthy environments where living is comfortable, as in the case of "transparent" buildings where the light becomes the most prominent element" says **Enrico Borgarello**, Italcementi Group Innovation Director.

At the heart of Italcementi Group's innovation are the laboratories based in Bergamo and Paris where the daily work of about 170 researchers, including chemists, geologists and engineers, has made it possible to file over 60 patents in just more than a decade.

Italcementi Group's new research centre, known as **ITCLab** - Innovation and Technology Central Laboratory, is rising on the Kilometro Rosso site in Bergamo. The new construction will boast a surface area of 11,000 m², of which over 7,000 m² totally devoted to research laboratories.

Italcementi Group has developed a network of International scientific cooperation consisting of research centres, universities and companies of the building and building material industry. The current network includes 10 external centres, 30 companies and 26 Italian, European and non-European universities.

The well-known "smog-eating cement" TX Active[®], widely used all over the world, has been selected for the "Italy of the innovators" exhibition to be held in the Italian Pavilion. The ecological cement, one of Italy's technological innovations and excellences, will be on display at Expo, from 24 July to 7 August 2010.

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Italcementi Group is the fifth largest cement producer in the world. The Group companies combine the expertise, know how and cultures of 22 countries in 4 Continents, boasting an industrial network of 59 cement plants, 15 grinding centres, 5 terminals, 373 concrete batching units and 92 aggregates quarries. In 2009 Italcementi Group had sales amounting to over 5 billion Euro.
