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Italcementi Group

With sales amounting to about 4.2 billion Euro, Italcementi Group is the world's fifth largest cement producer. The Group's companies combine the expertise, know-how and cultures of 22 countries across four continents.

Italcementi Group is a member of WBCSD, the World Business Council for Sustainable Development, and has adhered to the UN Global Compact, a strategic initiative promoted by the United Nations to align companies' operations and plans with universally accepted principles in the areas of ethics.

The business strategy of the Group is focused on two fundamental assets: research and innovation. This vision, with a multidisciplinary approach to research, has enabled Italcementi Group to develop cutting-edge high-tech products – photocatalytic and transparent cements, for instance - and realize state-of-the-art buildings like i.lab, the Group's new Research & Innovation centre, designed by Architect Richard Meier and certified Leed Platinum. Investment in new products, materials and services to best meet the needs of the building community as well as customer focus are the Group's strengths. That is why the company is committed to continuously developing new marketing tools able to foster an even more effective and satisfactory relationship with the customer.

i.nova

i.nova is the innovative market approach through which Italcementi Group aims at offering its leadership in innovation to the building community. i.nova groups all products - the various types of cement, concrete, mortar and lime - into 11 Performance Families in order to simplify the purchasing process and guarantee the same readily understandable approach, organized in a common language, to all customers from all world markets. The i.nova Branding System is designed as an explanatory guide using a straightforward and

intuitive visual language to provide customers with clearer and easier guidance on the Group's product ranges so that the right solution is immediately identified. Through i.nova, Italcementi Group confirms its attention placed on customers by putting them at the centre of a strategy focused on delivering solutions (performance) according to their needs instead of simply selling a product (best price - best product approach).

Benefits

- > Fight smog (depolluting)
- > Fight dirt (self-cleaning)
- > Fight bacteria (bacteriostatic)
- > Fight odours (odour-eliminating)
- > Solvent-free
- > Prevent the formation of stains due to external pollutants
- > Fully recyclable as inert waste
- > Reduce maintenance costs
- > Improve the quality of life

Applications

Cement for concretes and mortars, for structural and non-structural uses, cast-in-place or prefabricated structures

- > Residential buildings
- > Commercial buildings
- > Industrial buildings
- > Concrete structures
- > Walls, partitions and ceilings
- > Tunnels
- > Multi-storey car parks
- > Kitchens
- > Gymnasiums
- > Sports centres
- > Hospitals

* In case of indoor use, photocatalysis is activated in the presence of sufficient sunlight and/or dedicated artificial light.



ITALCEMENTI

June 2014

Photocatalytic cements



What if a cement could fight smog, soil and odours?

Discover the range of **i.active photocatalytic cements** based on the **TX Active** photocatalytic technology patented by Italcementi.

+80 

Deciduous trees*

Coating a surface area of 1,000 m² with TX Active-based products equals to planting 80 deciduous trees

-30 

Petrol-fuelled vehicles

Coating a surface area of 1,000 m² with TX Active-based products equals to eliminating the pollution caused by 30 petrol-fuelled vehicles

-50% 

Pollution

Coating 15% of the surface area of a large city with TX Active-based products ensures a 50% reduction of air pollution

* With an active leaf area of 160 m² each.

Estimated values based on the UFORE Model (Urban Forest Effect) by D.J. Nowak - USDA (United States Department of Agriculture) Forest Service (USA).



i.active is the new performance family of products based on the TX Active photocatalytic technology and featuring depolluting, self-cleaning, bacteriostatic and odour-eliminating properties.



>Depolluting >Self-cleaning >Bacteriostatic >Odour-eliminating



The **i.active** range of Italcementi products includes the following photocatalytic cements: **i.active ULTRA** - high strength Portland cement, and **i.active TECNO** - limestone Portland cement. **i.active** cements are suitable for the formulation of dry ready-mixed products, mortars and concretes, for structural and non-structural applications, cast-in-place or prefabricated elements. They endow built structures with the ability to purify the air, maintain their aesthetic characteristics over time, and fight bad odours and the formation of bacteria.



Fighting smog

i.active cements actively fight pollution. Through the combined action of light and the TX Active photocatalytic technology, **i.active** cements decompose the pollutants produced by daily activities (factories, traffic, domestic heating) resulting in better air quality. Building with **i.active** cements helps significantly to improve quality of life in urban areas, and is particularly useful in tunnels and similar structures that are difficult to ventilate.

Fighting soil

Surfaces made of **i.active** cements are brighter, cleaner, and have a lasting aesthetic quality. Recent tests performed at the University of Ghent (Belgium) demonstrated that photocatalytic surfaces built using products based on **i.active** cements are able to decompose the microorganisms that corrode the surfaces, inhibit the build-up and proliferation of algae, and prevent the consequent surface deterioration.

Fighting bacteria

Laboratory tests conducted according to standard UNI 11021:2002 have certified that the growth of microorganisms (*Aspergillus Niger*, *Penicillium sp.*, *Paecilomyces fulvum*) is inhibited on products based on **i.active** cement. **i.active** cements help to maintain healthier, better sterilized environment, ideal for hospital settings.

Fighting bad odours

Products based on **i.active** cements foster the decomposition of inorganic compounds (NO_x) and volatile organic compounds (VOCs), including aromatic hydrocarbons. For example, they can reduce tobacco and solvent smells, cooking odours and odours due to the presence of other hydrocarbons in the air. Moreover, their positive effect on bioeffluents (chemicals emitted by the human body) makes **i.active** cements especially suitable for gyms and sports centres. The final effect is an improvement in perceived air quality, particularly notable in confined spaces.

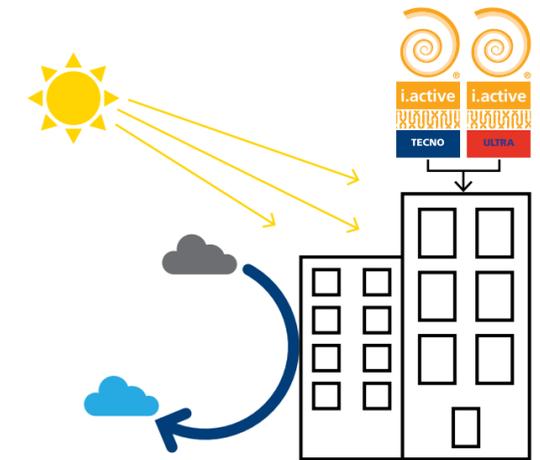
What is TX Active?



TX Active is the photocatalytic technology for cementitious materials patented by Italcementi. Mortars, paints, plasters and floors made with TX Active-based products are able to significantly reduce organic and inorganic polluting agents in urban air while preserving the aesthetic quality of buildings. With its depolluting, bacteriostatic and odour-eliminating properties, it is a quality seal for photoactive cementitious products developed to improve life in our cities.

How does it work?

Photocatalysis is a natural process in which a substance - called photocatalyst - uses natural or artificial light to activate a strong oxidizing process that results in the transformation of organic and inorganic substances into harmless compounds. Thus, TX Active acts as an accelerator of oxidizing processes that already exists in nature; it promotes faster decomposition of pollutants and prevents their build-up on surfaces.



The **i.active** family includes only a few of the many products created by Italcementi Group's continued commitment to developing innovative solutions for architecture and the construction industry. For further information please visit www.i-nova.net, and consult the technical data sheets of **i.active** cements.

