

## Technical Datasheet

### i.tech ALI PRE GREEN



### Description

i.tech ALI PRE GREEN is 100% made of ground sulphotoaluminate clinker with a 50% content of pre-consumer recycled material and CO<sub>2</sub> emissions (Core Process) of 480 kg/t versus the more than 750 kg/t for CEM I cements. Used in three-component mixes with calcium sulphate and Portland cement, it allows varying setting times throughout a very wide time interval by varying mixing ratios. Moreover, it provides rapid early strength evolution and progressive strength gain in the medium and long term until exceeding the values shown by the best-performing Portland cements.

### Applications

Mixed with anhydrite/gypsum and Portland cement, i.tech ALI PRE GREEN is recommended for the following formulations:

- Technical rapid-setting mortars (for repairs, fixing, etc.)
- Rapid or semi-rapid casting mortars
- Mortars for mechanical spraying
- Non-shrink mortars
- Grouts
- Rapid or semi-rapid drying screeds
- Self-levelling rapid drying screeds
- Rapid sealants

### Sustainability

i.tech ALI PRE GREEN production has low environmental impacts. The production of hydraulic binders like cement, is associated with the use of non-renewable resources such as limestone coming from quarries close to production plants and with high CO<sub>2</sub> emissions.

i.tech ALI PRE GREEN minimizes both impacts and, furthermore reduces the need for waste disposal by using pre-consumer recycled material otherwise destined for landfills. Cements belonging to the Italcementi GREEN Portfolio are sustainable products because they are characterized by :

- lower consumption of non-renewable resources:
- lower global warming potential of the production process
- avoided landfilling

and because they

- reduce the need of materials from quarries
- use as constituents recycled materials pre-consumer and post-consumer that, otherwise, would be disposed of
- reduce CO<sub>2</sub> emissions

Italcementi promotes low environmental impact products through transparent communication. The Product Stewardship by Italcementi defines as GREEN those binders that comply with both of the following requirements:

- CO<sub>2</sub> emissions (Core processes) lower than 550 kg/t



- use of 30% at least of recycled material pre-consumer or post-consumer

## Properties

It is generally used in ternary mixes with calcium sulphate and Portland cement to obtain the following physical mechanical properties:

- Differentiated setting time in a very wide time interval according to mixing ratios of i.tech ALI PRE GREEN, Portland cement and calcium sulphate
- Development of rapid early strength
- Progressive strength increase in the medium and long term up to exceed the values of the best performing Portland cements

Main phases (%)		
$C_4A_3\bar{S}$	$C_2S$	$C\bar{S}$
$\geq 58$	$\leq 25$	$\leq 5$

Main chemical components (%)					
$CaO$	$SiO_2$	$Al_2O_3$	$Fe_2O_3$	$SO_3$	$MgO$
36 ÷ 41	$\leq 9.2$	27 ÷ 33	$\leq 1.6$	10 ÷ 14	$\leq 5$

Specific surface area – Blaine fineness =  $4750 \pm 250 \text{ cm}^2/\text{g}$

## Benefits

- i.tech ALI PRE GREEN allows the formulation of shrinkage-compensating products.
- i.tech ALI PRE GREEN allows controlling the setting time and strength development by changing the mix ratio to Portland cement and calcium sulphate.
- i.tech ALI PRE GREEN, if correctly stored, offers excellent stability over time, so that formulations do not require to be adjusted as a function of product aging.
- i.tech ALI PRE GREEN allows the production of premixes with excellent stability properties, thus extending the shelf life of products.

i.tech ALI PRE GREEN may allow to obtain credits for some of the criteria in the certification system LEED (Leadership in Energy and Environmental Design) of buildings in urban areas.

## Packaging and storage

i.tech ALI PRE GREEN is available in bulk, big bags and 25 kg bags. The bags are stacked on pallets (1 000 kg or 1 600 kg) and protected with stretch film.

Store in fresh and dry place.

**For professional use only. The user is advised to conduct tests and assessments in order to define the suitability of the product for the intended application**

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