

## Heraclex<sup>®</sup> des\_1.0

### Heraclex<sup>®</sup> compound for Ultra High Performance Concrete (UHPC)

#### Fields of application

The Heraclex<sup>®</sup> des\_1.0 is a compound suitably studied for obtaining a cement-based composite material showing very high mechanical performance and excellent durability. Thanks to its self compactability it lets an extraordinary freedom to designers for realizing innovative shapes and original finish in the field of both urban and interior design.

#### Mixture composition

The content of the Heraclex<sup>®</sup> des\_1.0 bag must be added to sand, cement, fibres and water to obtain a customized formulation.

Thanks to the technical support of INNOVAcrete on the concrete mix design, the fibre reinforced concrete mixture obtained by using Heraclex<sup>®</sup> guarantees outstanding technical-structural performances, which offer many degree of freedom to designers in the choice of original shapes.

The optimized mix design will be different for each customer, and tailored to meet his specific needs.



### Physical and mechanical properties

By using Heraclex<sup>®</sup> des\_1.0 an UHPC with the following characteristics can be realized:

- ultra resistance to compression (>70 MPa after 1 day of wet curing at 20°C; >100 MPa after 7 days of wet curing at 20°C; >115 MPa after 28 days of wet curing at 20°C);
- ultra resistance to bending (>10 MPa after 1 day of wet curing at 20°C; >15 MPa after 7 days of wet curing at 20°C; >20 MPa after 28 days of wet curing at 20°C);
- self-compacting requirement maintained at least 30 minutes;
- outstanding toughness;
- resistance to blows and shocks;
- resistance to abrasion;
- ultra-resistance to fatigue;
- thinness and lightness, due to ultra performance;
- durability (no corrosion);
- dimensional stability;
- stain and water repellence on demand;
- eco-friendliness;
- recyclability;
- atoxicity (both during processing and use);
- fire-proofing (MO-A2 class);
- customization (in the shape, colour, finish...).

## Technical data

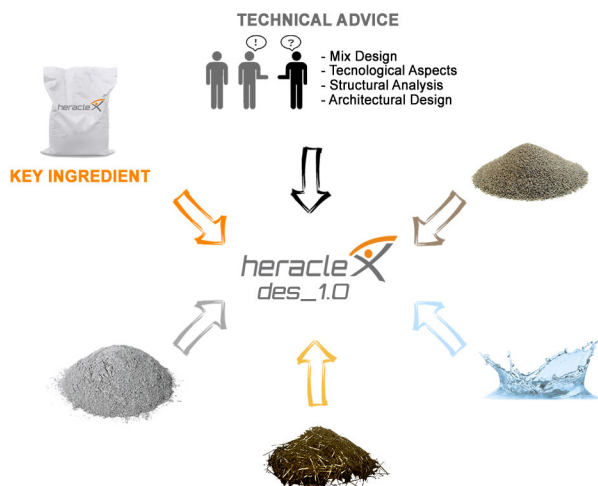
State: Powder  
Colour: Ivory  
Apparent density: max. 0.700 kg/dm<sup>3</sup>  
Grain size: min. 98 % < 0,600 mm  
Content in chloride: max 0,05%  
Humidity: max. 6 %  
Water solubility: partially soluble  
Temperature of use: > 0°C  
Storage: dry and protected place



*Heraclex® des\_1.0  
is available in 20 kg bags.*

## Use

The content of the Heraclex® des\_1.0 bag should be added to sand, cement, fibres and water, according to the mix proportions suggested by the INNOVAcrete team in order to obtain a customized formulation.



## Storage and validity

Heraclex® des\_1.0 has 12-month validity from delivery note issue date, if it is stored in a dry place and in original bags kept perfectly closed. Should moisture be absorbed by the product, this does not affect its efficaciousness, but it makes its dosage difficult and the distribution in the finished mixture not homogeneous. It is therefore advisable to close bags carefully after each collection.

## Precautions

Heraclex® des\_1.0 is normally harmless in contact with skin. It is easily removable from any surface with water. Inhalation can cause irritation of the first part of the respiratory tract. This trouble disappears immediately by stopping handling; it is therefore advisable to use dust masks and not to disperse it in the environment. In case of accidental loss it must be picked up in the dry state and discharged in an authorized waste dump.

The specifications stated in this report have been got either through standardized tests and rules or their modifications.

All the data stated in this technical sheet are based on our knowledge and experience. However, before using the item differently from indicated, it is advisable to carry out preventive tests. In any case, INNOVAcrete does not assume any responsibility for any damage or defect caused by the use of our products, as the employment conditions are not under our control. We also inform that our technical service is at our customers' disposal for any information concerning the correct employment of our products.

## Latest version

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This Technical Data Sheet is valid until replaced by a new issue.