

# AALBORG WHITE<sup>®</sup> Made in Denmark



### Use

AALBORG WHITE<sup>®</sup> cement gives you the opportunity to choose among all the colours of the spectrum when producing your concrete or dry mix.

- White concrete is obtained by mixing AALBORG WHITE<sup>®</sup> cement with pure, light sand and white aggregates like white granite, white marble or crushed calcined flint.
- Light grey concrete is obtained by mixing with ordinary aggregates or with grey portland cement.
- Coloured concrete is obtained by mixing with pigments.

AALBORG WHITE<sup>®</sup> cement is often used in white or coloured dry mix for facings. AALBORG WHITE<sup>®</sup> is also perfect in concrete for panels, balconies, cornices, ornaments, paving stones and flags, sculptures, in terrazzo, for swimming pools and in light pointing mortar.

The light-reflecting properties of AALBORG WHITE<sup>®</sup> provide traffic with additional safety when you produce kerbs, road-markings, medium barriers, tunnel linings and tunnel ramps.



#### Aalborg Portland A/S

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### Product

AALBORG WHITE® cement made in Denmark is a rapid hardening portland cement with high (2 days) and (28 days) strengths, produced of extremely pure limestone and finely-ground sand.

AALBORG WHITE<sup>®</sup> cement made in Denmark is characterised by the white colour, the high consistency, the extraordinarily low content of alkali (Na<sub>2</sub>O), high sulphate resistance (low C<sub>3</sub>A-content) and a chromate content ≤ 2 mg/kg.

### **Product Certificate**

AALBORG WHITE<sup>®</sup> cement made in Denmark operates under a quality management system which complies with the requirements of EN ISO 9001, registered with Bureau Veritas Certification.

AALBORG WHITE<sup>®</sup> cement made in Denmark is certified according to i.a. British Standards, Deutsche Industrie Norm, and has an EC-certificate according to the European cement standard EN 197-1.

AALBORG WHITE<sup>®</sup> cement made in Denmark conforms to local standards on all markets

AALBORG WHITE<sup>®</sup> cement made in Denmark complies with the requirements of the American ASTM C 150-99a for type I, II, III and V cement as well as for low alkali cement.

Type V cement must contain less than 5% tricalciumaluminate ( $C_3A$ ). Furthermore, AALBORG WHITE<sup>®</sup> cement made in Denmark is product certified by the Danish certification body Dansk Beton Certificering under the abovementioned EC-certificate of conformity of cement to EN 197-1, certificate no. 1035-CPD-70054.

AALBORG WHITE<sup>®</sup> cement made in Denmark is under environmental management system certified according to EN ISO 14001.



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### Product data

AALBORG WHITE® made in Denmark			
Type EN 197-1	CEM I 52.5 R		
Strength class	52.5 R		
Sulphate resistance	C <sub>3</sub> A ≤ 5%		
Alkali content	≤ 0.3%		
Fineness EN 196-6	Blaine (m²/kg) 400		

Content of cement clinker mineral (%)						
C₃S	C <sub>2</sub> S	C <sub>3</sub> A	C44			
77	16	5				

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#### Density and setting

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Absolute density (kg/m³)	3130		
Bulk density (kg/m³)	1100		
Initial setting EN 196-3	120 min.		

Cement s	Cement strength				
Cement strength	1 day MPa	2 days MPa	7 days MPa	28 days MPa	
EN 196-1	23	42	60	72	

AALBORG WHITE® is available in: 25 kg paper bags Big bags of approx. 1500 kg and in bulk by cement trucks, railway wagons or vessel.

# Mix Designs

### Alkali content

AALBORG WHITE<sup>®</sup> cement made in Denmark has an equivalent alkali content (acid-soluble alkalis) of ≤ 0.3%. By most national standards the cement can be described as a lowalkali cement.

### Sulphate resistance

AALBORG WHITE® cement made in Denmark is cement with high sulphate resistance by most national standards, as the content of the cement clinker mineral  $C_3A$  is  $\leq 5\%$ .

### Chromate content

AALBORG WHITE<sup>®</sup> cement made in Denmark has a low content of chromate of ≤ 2 mg/kg.

### **From Cement to** Concrete

### Water

Use clean water e.g. tap water.

#### Aggregates

The aggregates have a major effect on the appearance of the finished concrete surface. The aggregates should there-fore be selected, stored and used in an appropriate way so as to meet the aesthetic demands to the finished concrete surface.



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The mix of the aggregates should be kept as constant as possible in order to avoid differences in shade of the finished concrete surface.

### Admixtures

All admixtures should be colourless to avoid discoloration of the white or light concrete.

Air entraining agents are known to reduce the tendency of efflorescence. Such admixtures that act upon the setting and hardening should also be used in accordance with usual quidelines. To ensure the requested white colour it is recommended always to make trial mixes.

### Constructions and casting

The constructions should be of a design that is suitable for repelling pollution from percolating water and dirt.

Particular care must be exercised in the choice of basic materials, casting materials, mixing and casting processes, curing, and finishing.

# **From Cement** to Mortar

AALBORG WHITE<sup>®</sup> is often used as binder in various types of mortar and together with lime in a lime-cement mortar. Tools used for mixing the mortar should be stainless in order to preserve the white colour.

### Storage

AALBORG WHITE® cement can be stored for at least twelve months, if kept indoor under suitable and dry conditions. Care should be taken to avoid moist.

Do not store cement bags directly on the ground or on a floor or even with direct contact to an outer wall.

We recommend that cement bags are stacked on a counterfloor 10-20 cm above the regular floor or on pallets. The cavity below the counterfloor should be ventilated to keep the bags dry.

Cement that has been stored for a long time should be examined by e.g. trial castings prior to use. If the cement contains stony lumps it should not be used, as the strength cannot be guaranteed.

### Service

Our technical advisory department is here for you, should you require assistance in respect to mix designs or to the use of our AALBORG WHITE® cement.

For further information on our products please visit our homepage www.aalborgwhite.com

# Health and Safety

Contact with cement mixed with water or body fluids (e.g. sweat or eye fluid) or with concrete or mortar should be avoided as it may cause irritation. dermatitis or burns. If such contact occurs, the affected area should be washed without delay with plenty of clean water. In case of eye contact rinse immediately with clean water and seek medical advice.

