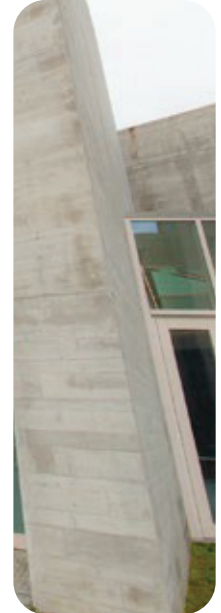
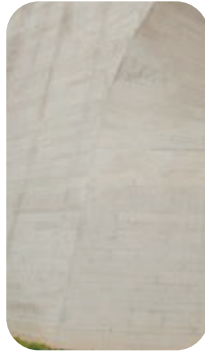


# ROBUSTEK CEM II/A-L 42,5R PORTLAND LIMESTONE CEMENT



**Production Sites**  
Secil-Outão Plant  
Maceira-Liz Plant

**Packaging**  
Bulk  
25kg sacks

**Certification**  
Cement certified according to NP EN 197-1.  
Certificates of Performance Regularity and Declarations of Performance  
0856-CPR-0115 (Secil-Outão) and 0856-CPR-0121 (Maceira-Liz)

<b>Product Composition (Cement Core)</b>	80% to 94% Portland Clinker 6% to 20% Limestone 0% to 5% Other Constituents
<b>Main Characteristics</b>	Grey-coloured, lower-heat cement with better workability than a CEM I cement in the same strength class. Quick resistance development (high initial resistance). Final resistances within the rated class values (resistance at 28 days).
<b>Main Applications</b>	CEM II/A-L 42.5R Portland Limestone Cement is a highly versatile product, combining good workability and high strengths, characteristics that enable it to be used in concrete of different strength classes and lightweight or heavyweight prefabrication. CEM II/A-L 42.5R cement is a product especially formulated and suited to: <ul style="list-style-type: none"> <li>• ready-mixed or cast in-situ medium to high resistance concrete;</li> <li>• prestressed concrete at current ages;</li> <li>• shotcrete, lightweight concrete and blinding concrete;</li> <li>• heavyweight standard turnover prefabrication or lightweight high turnover prefabrication;</li> <li>• reinforcement and repair of structural concrete.</li> </ul>
<b>Specific Warnings</b>	The correct development of resistances is sensitive to the curing process. <ul style="list-style-type: none"> <li>• care should be taken to avoid drying of all concreted parts;</li> <li>• concreting in very hot or cold weather should be avoided.</li> </ul> <p>To achieve optimum performance in concrete and mortar, it is recommended to study the composition. The enhanced workability enables the mixing water dosage to be reduced, ensuring a water/cement ratio compatible with the application conditions. It is possible to add fly ash under specific conditions and provided quality control and prior composition study requirements are fulfilled.</p>
<b>Safety Notice</b>	Handling powder cement may cause irritation to the eyes or airways. When mixed with water, it can also cause sensitive skin. The use of a dust mask, goggles, safety gloves and overalls is recommended to protect the hands and the skin. For detailed information refer to the Safety Datasheet.



## CHEMICAL CHARACTERISTICS

Properties	Testing Method	Specified Value (1)
Sulphate Content (in SO <sub>3</sub> )	NP EN 196-2	≤ 4,0%
Chloride Content	NP EN 196-2	≤ 0,10%

(1) The percentages refer to cement paste.

## MECHANICAL CHARACTERISTICS

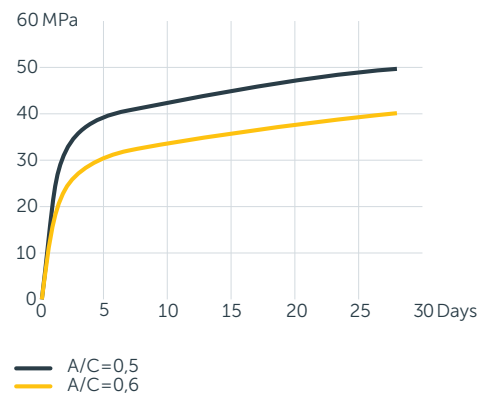
### Compressive Strength (MPa)

Resistance during the first days		Reference resistance	NP EN 196-1
2 days	7 days	28 days	
≥ 20	-	≥ 42,5 e ≤ 62,5	

## PHYSICAL CHARACTERISTICS

Properties	Testing Method	Specified Value
Start of Setting	NP EN 196-3	≥ 60 min
Expandability	NP EN 196-3	≤ 10 mm

### Indicative average values of compressive strength of concrete manufactured with 350 kg/m<sup>3</sup> of CEM II/A-L 42.5N cement



## CUSTOMER SERVICE

### CIAC – Customer Information and Service Centre

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