

# Powercrete Plus

## PREMIUM TECHNICAL CEMENT • 52,5N

Innovative formulation has produced a Premium Technical Cement with

- Excellent strength performance at all ages
- Exceptionally high ultimate strength
- Good early strength
- Versatility
- Superior workability
- Enhanced durability and extendability



Technical data sheet

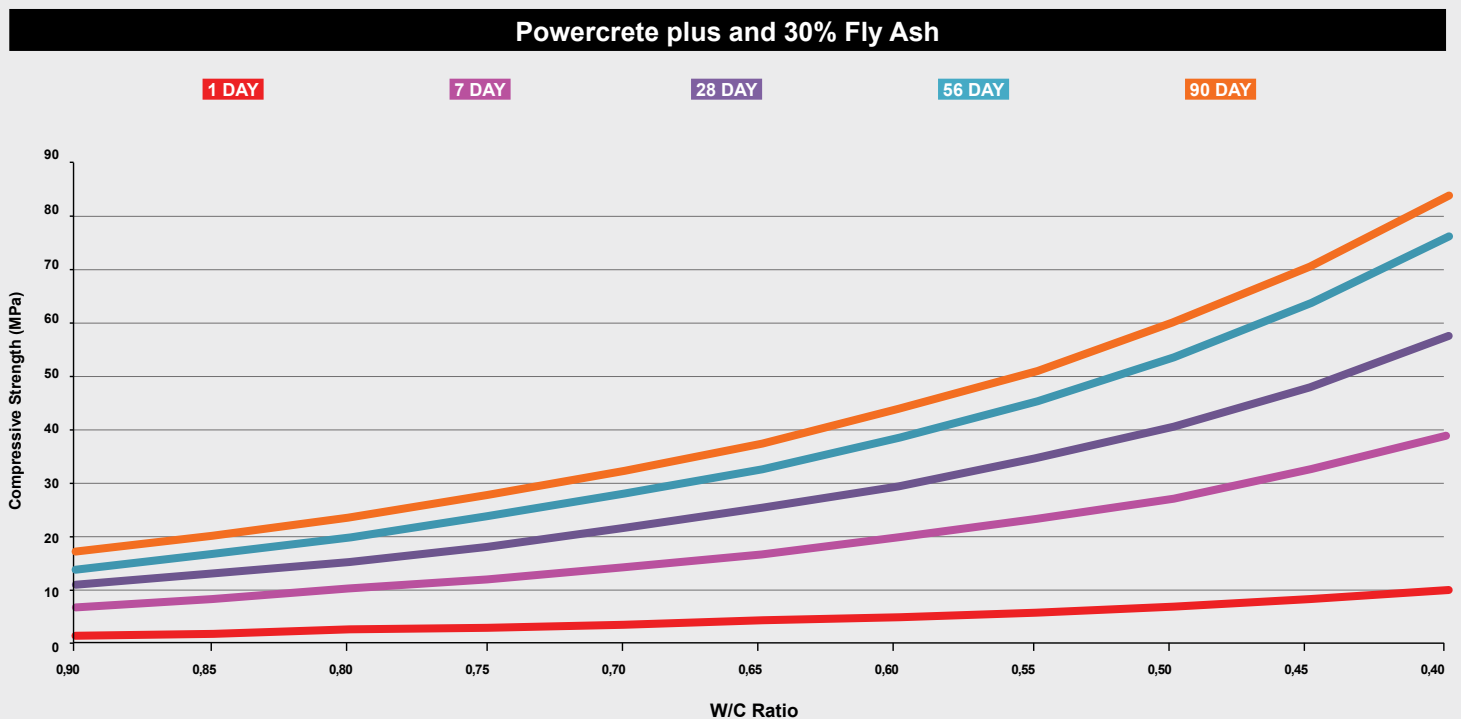
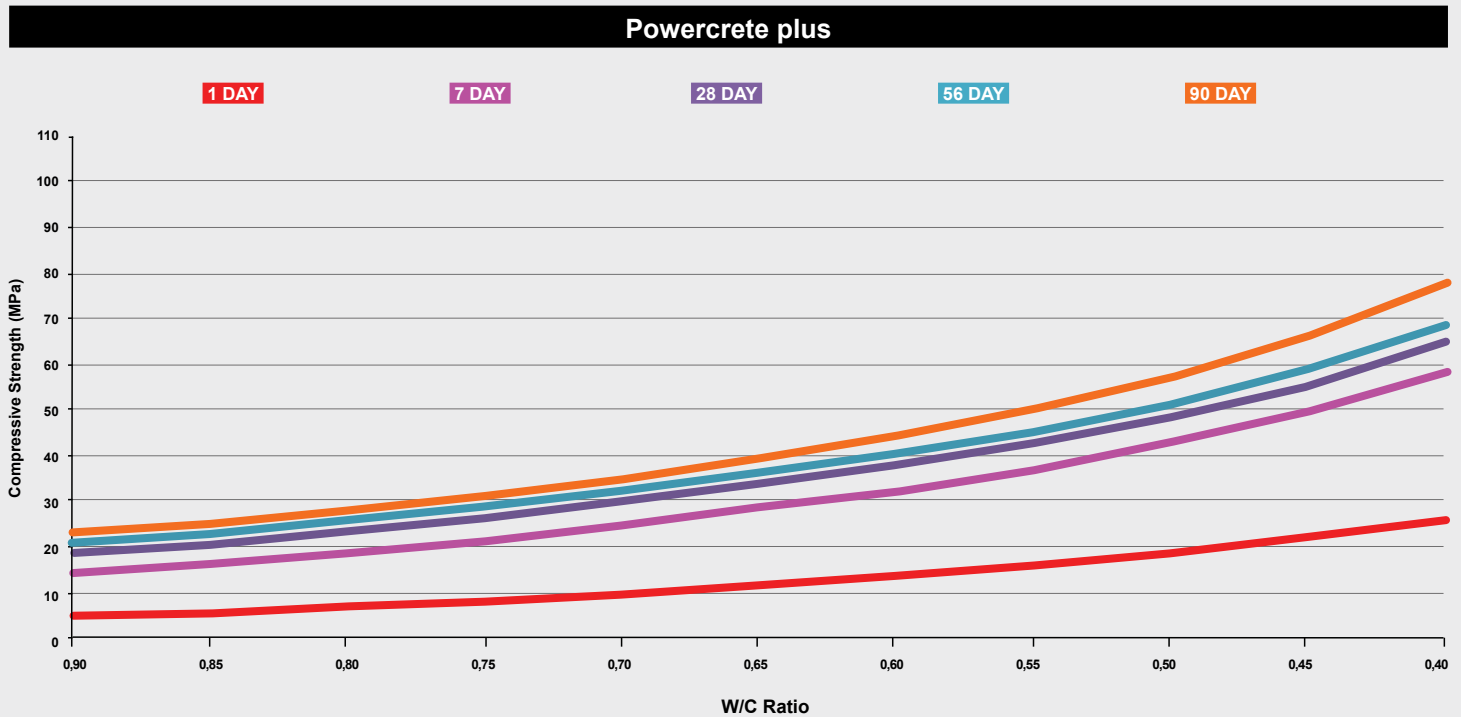
# Composition

**Powercrete plus** is produced at our Lichtenburg Cement Works in the North West Province as a CEM II/A-V 52,5N Portland Fly Ash cement in accordance with SANS 50197-1 (EN 197-1).

Powercrete plus is available in 25 kg and 50 kg bags, as well as 1,5 ton bulk bags and bulk.

# Strength performance

Powercrete plus meets the high strength, and good early strength, requirements of specialist technical applications, such as post-tensioning of prestressed beams, while maintaining good extendability with supplementary cementitious materials, e.g. fly ash and slag. The product's versatile formulation has proved to be the solution of choice for the ready-mixed concrete industry, as it responds particularly well to the productivity demands of large construction projects.



**Disclaimer:** These performance curves are provided in good faith and are intended as a helpful guideline for users of our cement products. The data was generated under ideal controlled conditions using standard\* laboratory materials and a general PCE plasticizer. Testing under different conditions outside our control may not reproduce exactly the same results.

\*Category S fly ash as per SANS 50450-1 (EN 450-1) produced by Ash Resources was used in concrete trials.

## Quality

**Powercrete plus** complies with the chemical and physical requirements of SANS 50197-1 (EN197-1).

The Powercrete plus bag also displays the following locally regulated quality symbols:

- LOA number
- SABS mark
- e-Mark

## Physical properties

Property	Powercrete plus*	SANS 50197-1 (EN 197-1) requirements
2 day compressive strength	26 MPa	≥ 20,0 MPa
28 day compressive strength	56 MPa	≥ 52,5 MPa
Initial set	220 min	≥ 45 min
Soundness	1,0 mm	≤ 10 mm

## Chemical properties

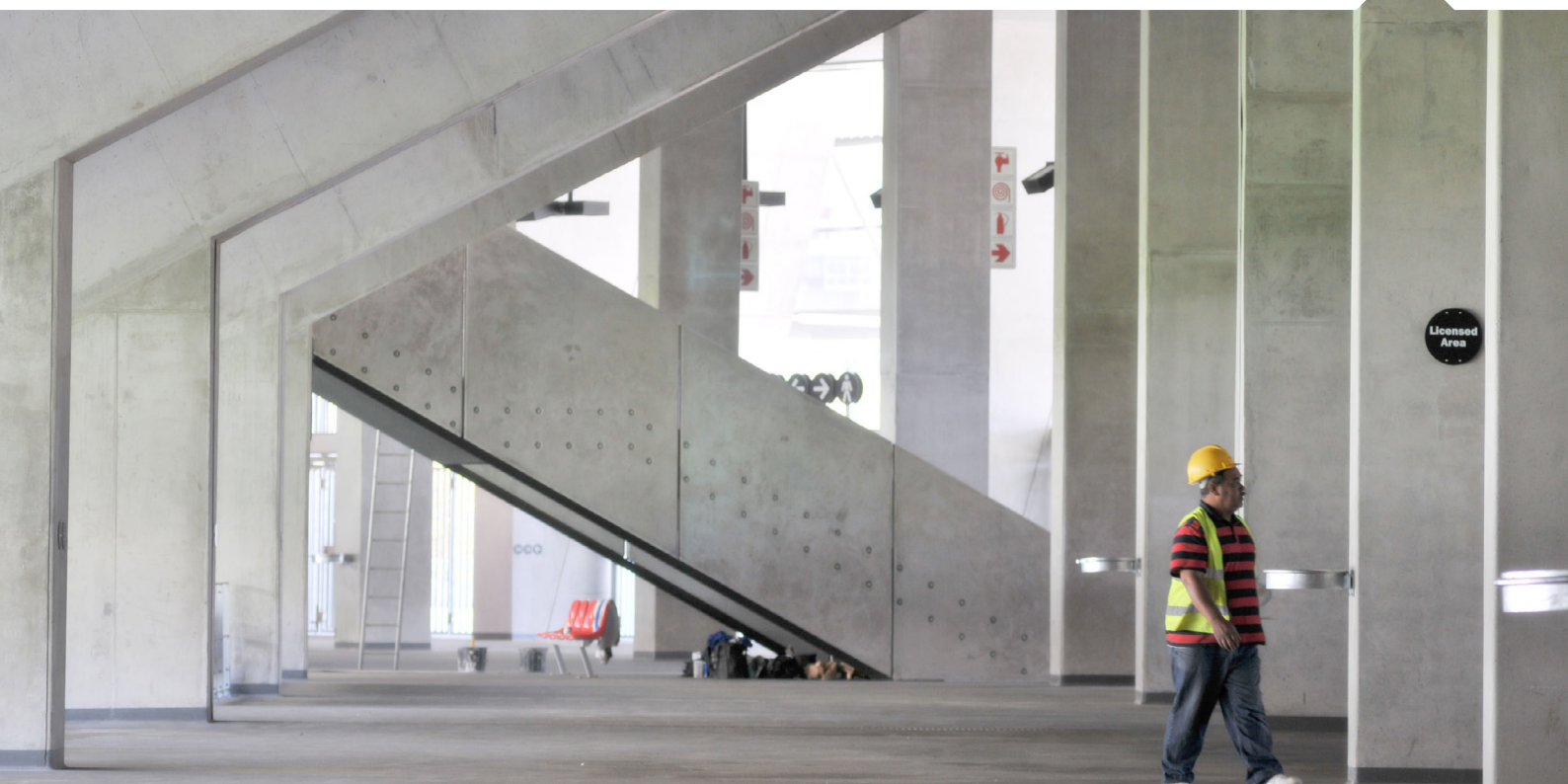
Property	Powercrete plus*	SANS 50197-1 (EN 197-1) requirements
SO <sub>3</sub>	2,54% m/m	≤ 4,0 % m/m
Cl <sup>-</sup>	0,047% m/m	≤ 0,10% m/m
Na <sub>2</sub> O Equivalent	0,46% m/m	-
Na <sub>2</sub> O Equivalent Clinker	0,37% m/m	-

## Special properties

Property	Powercrete plus*	SANS 50197-1 (EN 197-1) requirement
HOH - Heat of Hydration	255 J/g	< 270 J/g at 41 h (as per EN 196-9) *Typical test results

## Special characteristics

- **Powercrete plus** is designed to be further extended with fly ash or slag to produce customised site blends
- Reduced water demand: typically by between 2% and 5% compared with a CEM I class cement





## Technical support

- **Powercrete plus** is fully supported by the unique technical and laboratory resources of the Afrimat Integrated Solutions and Innovation Centre (ISIC). ISIC operates one of the largest and most respected SANAS accredited Civil Engineering testing facilities in South Africa.
- Complying with ISO/IEC 17025, the ISIC facility has a proud record of continuous accreditation since 1996

## Storage and handling

- Stored cement must not be exposed to moisture
- Preferably store bags in a shed on plastic sheeting or pallets
- Only stack pallets two high – three is unstable and unsafe
- Close windows and doors to prevent damp air blowing over the bags
- Make tidy stacks with wide aisles to avoid damage by forklifts
- If stored outside, stack loose bags on pallets or timber slats under plastic sheeting
- Make a ridge with the sheeting so that rain runs off
- Cement deteriorates with time, therefore plan the layout of your stacks so that the first-in bags can conveniently be the first out (FIFO)
- When lifting bags of cement, keep a straight back and bend at the knees
- Handle bags carefully to avoid tearing the plastic

## Safety

Before starting any job, make safety the first step in your planning. Safety datasheets are available from:

- Integrated Solutions and Innovation Centre (ISIC) on 011 226 3600
- Website: [www.afrimat.co.za](http://www.afrimat.co.za)

## Ordering

Place orders for Powercrete plus via:

- Cement Call Centre on 011 657 1122
- Your local Sales Representative

## Contact us

### For further information on Powercrete plus

- Please speak to your local Sales Representative
- Cement Call Centre on 011 657 1122
- For technical queries, please contact ISIC on 011 226 3600

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