

  
**Sephaku**  
CEMENT

Powered By

  
**DANGOTE**  
CEMENT



**BUILD**  
**STRONGER, FASTER**

## THE GENERAL PURPOSE PRODUCT

**Sephaku 32** is a 32.5R (CEM II/B-M (L) or CEM IV/B-V) General Purpose Cement and fully complies with the requirements for a strength class 32.5R in South African National Standard (SANS) 50197-1:2013.

'R' denotes early strength and the addition of high grade cement extenders ensures professional quality, less water to produce a cohesive mix and long term durability.

Sephaku cements have lower embodied CO<sub>2</sub> as a result of a proportion of the clinker that forms the base cement being replaced by an alternative cementitious addition.



## BENEFITS

- ✓ Product of choice for all types of 'home' concretes
- ✓ Extremely versatile for a wide range of building applications
- ✓ Consistent, convenient and cost-effective
- ✓ For general use in any home/building concrete, mortar, plaster and screed applications
- ✓ Improved workability, cohesion and finishing

## GUIDELINE PROPORTIONS FOR TYPICAL APPLICATIONS (BY VOLUME)

Guideline proportions in the tables below allow for a nominal 5-10% wastage.

 =  1 wheelbarrow load of cement in volume = 2 x 50 kg bags.

| APPLICATIONS                                                                                                                                    | CEMENT                                                                                  | SAND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | STONE                                                                                                                                                                                                                                                           | BAGS PER m <sup>3</sup> |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>HIGH STRENGTH CONCRETE</b><br>Improved water tightness, columns, slabs and heavy-duty industrial floors.<br><i>25 - 30 MPa</i>               | 1    | 2                                                                                                                                                                                                                                                                                                                                                               | 2                                                                                         | 9                       |
| <b>MEDIUM STRENGTH CONCRETE</b><br>Paths, driveways and light-duty floors.<br><i>20 - 25 MPa</i>                                                | 1    | 2.5                                                                                                                                                                                                                                                                          | 2.5                                                                                       | 7.5                     |
| <b>LOW STRENGTH CONCRETE</b><br>Foundations, footings, 'home' concrete, e.g. domestic flooring, steps, paths and fencing.<br><i>10 - 15 MPa</i> | 1    | 3.5                                                                                                                                                                                       | 3.5    | 5                       |
| <b>MORTAR (GENERAL PURPOSE)</b><br>Bricklaying and plastering.<br><i>5 MPa</i>                                                                  | 1  | 6                                                                                            |                                                                                                                                                                                                                                                                 | 6.5                     |
| <b>DRY, LEAN MIXES</b><br>Brick and block manufacture.                                                                                          | 1  | 8       |                                                                                                                                                                                                                                                                 | 5                       |



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## ROAD STABILISATION PRODUCT

**SepROAD** is a CEM II B-L 32,5N class cement. Formulated to comply with South African National Standard SANS 50197-1:2013 cement specification for common cements. Specifically formulated to stabilise a broad range of road materials. SepROAD is formulated using intimately ground clinker and high quality limestone. Reducing Plastic Index (PI), unconfined compressive strength (UCS) of high clay soils, ensuring durability, stability and strength. The longer setting times make it ideal to stabilise longer stretches of road.

Sephaku blended cements have lower embodied CO<sub>2</sub> as a result of a proportion of the clinker of the base cement being replaced by a high grade alternative cementitious addition.

In soil stabilisation the objective is to thoroughly intimately mix a carefully selected crushed soil and a stabilising agent, SepROAD, with an Optimum Moisture Content as tested in a laboratory to achieve

the highest compacted density and therefore the best Unconfined Compressive Strength and achieve the best durability for your stabilised road subbase to receive the final wearing surface.

## BENEFITS

- ✓ Ideal formulation for modification of different soil types
- ✓ Extremely versatile for a wide range of building and civil applications
- ✓ Ideal to do longer stretches of stabilisation on roads.
- ✓ Due to longer setting times when used for stabilisation gives better UCS strengths.
- ✓ Ease of use by spraying or bags

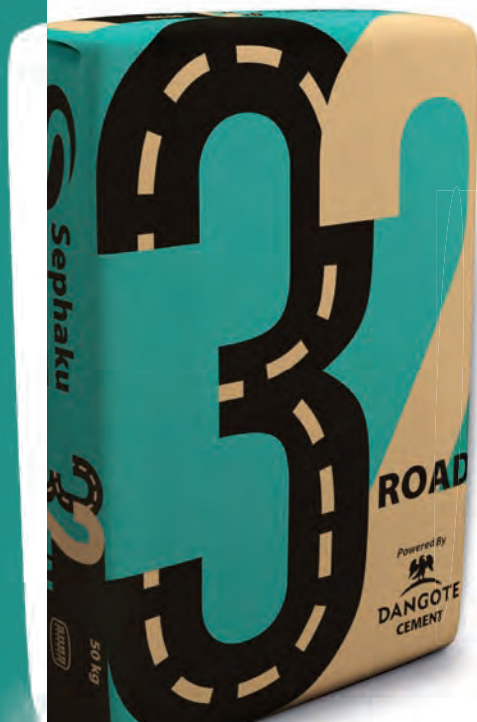
The product can (whilst it is available on site) be used for other conventional concrete like curbs culverts and drains. Therefore typical proportions as given below can be used.

## GUIDELINE PROPORTIONS FOR TYPICAL APPLICATIONS (BY VOLUME)

Guideline proportions in the tables below allow for a nominal 5-10% wastage.

 =   1 wheelbarrow load of cement in volume = 2 x 50 kg bags.

| APPLICATIONS                                                                                                                             | CEMENT                                                                                     | SAND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | STONE                                                                                                                                                                                                                                                                                                                                                          | BAGS PER m <sup>3</sup> |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>HIGH STRENGTH CONCRETE</b><br>Improved water tightness, columns, slabs and heavy-duty floors.<br>25 - 30 MPa                          | 1<br> | 2<br>                                                                                                                                                                                                                                                                                                                                                          | 2<br>                                                                                                                                                                                | 9                       |
| <b>MEDIUM STRENGTH CONCRETE</b><br>Paths, driveways and light-duty floors.<br>20 - 25 MPa                                                | 1<br> | 2.5<br>                                                                                                                                                                                                                                                                   | 2.5<br>                                                                                         | 7.5                     |
| <b>LOW STRENGTH CONCRETE</b><br>Foundations, footings, 'home' concrete, e.g. domestic flooring, steps, paths and fencing.<br>10 - 15 MPa | 1<br> | 3.5<br>                                                                                                                                                                              | 3.5<br>    | 5                       |
| <b>MORTAR (GENERAL PURPOSE)</b><br>Bricklaying and plastering.<br>5 MPa                                                                  | 1<br> | 6<br>                                                                                           |                                                                                                                                                                                                                                                                                                                                                                | 6.5                     |
| <b>DRY, LEAN MIXES</b><br>Brick and block manufacture.                                                                                   | 1<br> | 8<br>      |                                                                                                                                                                                                                                                                                                                                                                | 5                       |



## FOR THE MORE SERIOUS BUILDER

**Sephaku 42N** is a 42,5N (CEM II/A-L or CEM IV/A-V) general purpose cement and fully complies with the requirements for a strength class 42,5N in the South African National Standard SANS 50197-1:2013.

The 'N' denotes normal strength gain and the addition of high-grade cement extenders ensures professional quality and less water to produce a cohesive mix and long-term durability. Sephaku blended cements have lower embodied CO<sub>2</sub> as a result of a proportion of the clinker of the base cement being replaced by a high grade alternative cementitious addition.

For more specialised structural concrete applications, the use of Sephaku 42R or Sephaku 52 should be considered.



## BENEFITS

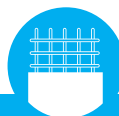
- ✓ Ideal across a wide range of building and civil work
- ✓ For use in the manufacture of concrete products
- ✓ Suitable for all types of 'home' concrete
- ✓ Extremely versatile and general purpose product for a wide range of concrete, mortar and screed applications
- ✓ Less water to produce a cohesive mix and long-term durability

## GUIDELINE PROPORTIONS FOR TYPICAL APPLICATIONS (BY VOLUME)

Guideline proportions in the tables below allow for a nominal 5-10% wastage.

 =  1 wheelbarrow load of cement in volume = 2 x 50 kg bags.

| APPLICATIONS                                                                                                                             | CEMENT                                                                                     | SAND                                                                                                                                                                                                                                                                                                                                                         | STONE                                                                                                                                                                          | BAGS PER m <sup>3</sup> |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>HIGH STRENGTH CONCRETE</b><br>Improved water tightness, columns, slabs and heavy-duty industrial floors.<br>25 - 30 MPa               | 1<br>   | 2<br>                                                                                                                                                                                  | 2<br>    | 9                       |
| <b>MEDIUM STRENGTH CONCRETE</b><br>Paths, driveways and light-duty floors.<br>20 - 25 MPa                                                | 1<br>   | 2.5<br>                                                                                                                                                                                | 2.5<br>  | 7.5                     |
| <b>LOW STRENGTH CONCRETE</b><br>Foundations, footings, 'home' concrete, e.g. domestic flooring, steps, paths and fencing.<br>10 - 15 MPa | 1<br>   | 4<br>                                                                                               | 4<br>    | 5                       |
| <b>MORTAR (GENERAL PURPOSE)</b><br>Bricklaying and plastering.                                                                           | 1<br> | 6<br>                                                                                         |                                                                                                                                                                                | 6.5                     |
| <b>DRY, LEAN MIXES</b><br>Brick and block manufacture.                                                                                   | 1<br> | 8<br>    |                                                                                                                                                                                | 5                       |



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## THE EXTREME PERFORMANCE PRODUCT

**Sephaku 42R** is a type CEM II/AV 42,5R early strength cement and is manufactured to fully conform to the requirements of strength class 42,5R in accordance with South African National Standard SANS 501971:2013.

Sephaku 42R is rated 'R' in terms of early rapid strength development which makes it ideally suited where faster demoulding or striking/ stripping of formwork is beneficial.

Sephaku blended cements have lower embodied CO<sub>2</sub> as a result of a proportion of the clinker of the base cement being replaced by a high grade alternative cementitious addition.

Portland-Fly Ash cement concretes, designed for the same strength as Portland cement concrete, will continue to gain additional strength to 90 days and beyond, provided adequate curing is given to the concrete.



## BENEFITS

- ✓ Ideal for all types of building and civil work
- ✓ For use in the manufacture of concrete products
- ✓ Suitable for ready-mix and site-batched concrete, mortar and screeds
- ✓ Exhibits early strength which improves stripping time
- ✓ Benefits of reduced water demand make concrete easier to flow and pump, resulting in improved surface finish

## GUIDELINE PROPORTIONS FOR TYPICAL APPLICATIONS (BY VOLUME)

Guideline proportions in the tables below allow for a nominal 5-10% wastage.

 =  **1 wheelbarrow load of cement in volume = 2 x 50 kg bags.**

| APPLICATIONS                                                                                                                                    | CEMENT                                                                                            | SAND                                                                                              | STONE                                                                                             | BAGS PER m <sup>3</sup> |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------|
| <b>HIGH STRENGTH CONCRETE</b><br>Improved water tightness, columns, slabs and heavy-duty industrial floors.<br><i>25 - 30 MPa</i>               | <b>1</b><br>   | <b>3</b><br>   | <b>3</b><br>   | <b>6.5</b>              |
| <b>MEDIUM STRENGTH CONCRETE</b><br>Paths, driveways and light-duty floors.<br><i>20 - 25 MPa</i>                                                | <b>1</b><br>   | <b>3.5</b><br> | <b>3.5</b><br> | <b>6</b>                |
| <b>LOW STRENGTH CONCRETE</b><br>Foundations, footings, 'home' concrete, e.g. domestic flooring, steps, paths and fencing.<br><i>10 - 15 MPa</i> | <b>1</b><br>   | <b>4.5</b><br> | <b>4.5</b><br> | <b>5</b>                |
| <b>MORTAR (GENERAL PURPOSE)</b><br>Bricklaying and plastering.                                                                                  | <b>1</b><br> | <b>6</b><br> |                                                                                                   | <b>6</b>                |
| <b>DRY, LEAN MIXES</b><br>Brick and block manufacture.                                                                                          | <b>1</b><br> | <b>9</b><br> |                                                                                                   | <b>5</b>                |



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## THE PROFESSIONAL HIGH-STRENGTH PRODUCT

**Sephaku 52** is a type CEM I 52,5N high-performance cement and is manufactured to comply with the requirements for a strength class 52,5N in accordance with South African National Standard SANS 50197-1:2013.

Sephaku 52 is suitable for use with cement extenders, e.g. Fly Ash, GGBS (Ground Granulated Blast Furnace Slag) and Silica Fume to enhance the properties and uses of concretes.

Sephaku 52 should be stored in a structurally sound bulk cement silo that is watertight and compatible with industry standard approved couplings for bulk cement tankers.

Sephaku 52 is only available in bulk. Kindly contact the call centre or your technical representative for more information.



## BENEFITS

- ✓ Particularly suited for civil engineering and structural concrete applications
- ✓ High-strength concrete, pre-casting and ready-mix
- ✓ Suited for water-tight, structural and pre-stressed concretes
- ✓ Day-one strength and cold-weather concreting
- ✓ Precision grouts, repairs and formulated cement products



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GROUT

# Choosing the Right Cement



|                          |   |   |   |   |     |
|--------------------------|---|---|---|---|-----|
| General purpose concrete | ● | ● | ● | ● | ●   |
| Mortar                   | ● | ● | ● |   |     |
| Plaster                  | ● | ● | ● |   |     |
| Screeding                |   | ● | ● | ● |     |
| Ready-mix/site batching  |   |   |   | ● | ● ● |
| Precasting               |   |   |   | ● | ● ● |
| Brick/block manufacture  | ● | ● | ● | ● | ●   |
| Improved aesthetics      | ● |   | ● | ● | ●   |
| Improved durability      |   |   | ● | ● | ●   |
| Watertight concrete      | ● |   | ● | ● | ● ● |
| Cold weather concreting  |   |   |   | ● | ● ● |
| Road stabilisation       | ● | ● | ● |   |     |

● Recommended for best performance

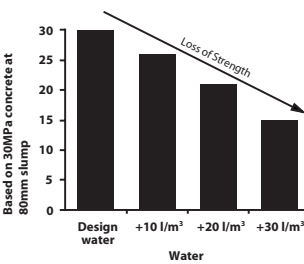
● Also suitable

● High strength

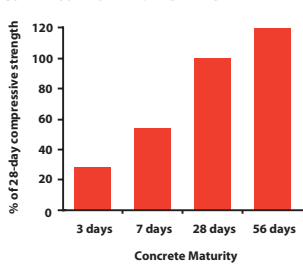
All Sephaku Cement products are compatible with admixtures such as plasticisers, superplasticisers, air-entraining agents and accelerators. Admixtures should be used in accordance with the manufacturer's guidelines and trial mixes are recommended to determine the optimum mix proportions.

In accordance with the requirements of the National Regulator for Compulsory Standards (NRCS), Sephaku Cement products are sold under Letter of Authority (LOA) Permit accreditation and carry the SABS mark.

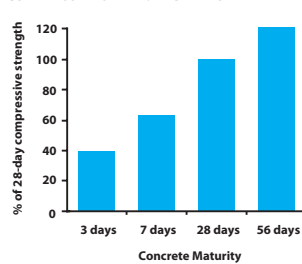
EFFECT OF EXCESS WATER ADDITION ON CONCRETE COMPRESSIVE STRENGTH



SEPHAKU 32,5 R COMPRESSIVE STRENGTH DEVELOPMENT



SEPHAKU 42,5 N COMPRESSIVE STRENGTH DEVELOPMENT



SEPHAKU 42,5 R COMPRESSIVE STRENGTH DEVELOPMENT

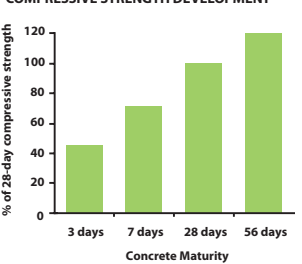


TABLE 1: COMPRESSIVE STRENGTH REQUIREMENTS OF SANS 50197-1

| Strength class | Compressive Strength, MPa |        |                   |        |
|----------------|---------------------------|--------|-------------------|--------|
|                | Early strength            |        | Standard strength |        |
|                | 2 days                    | 7 days | 28 days           |        |
| 32,5N          | -                         | ≥ 16,0 | ≥ 32,5            | ≤ 52,5 |
| 32,5R          | ≥ 10,0                    | -      |                   |        |
| 42,5N          | ≥ 10,0                    | -      | ≥ 42,5            | ≤ 62,5 |
| 42,5R          | ≥ 20,0                    | -      |                   |        |
| 52,5N          | ≥ 20,0                    | -      | ≥ 52,5            | -      |
| 52,5R          | ≥ 30,0                    | -      |                   |        |

TABLE 2: COMMON CEMENTS: SANS 50197-1

| Main types | Notation of products (types of common cement) |             | Composition, percentage by mass <sup>(a)</sup> |                       |                    |             |                    |             |              |             |           |         |                               |
|------------|-----------------------------------------------|-------------|------------------------------------------------|-----------------------|--------------------|-------------|--------------------|-------------|--------------|-------------|-----------|---------|-------------------------------|
|            |                                               |             | Clinker                                        | Blast furnace slag    | Silica fume        | Pozzolana   |                    | Fly ash     |              | Burnt shale | Limestone |         | Minor additional constituents |
|            |                                               |             | K                                              | S                     | D <sup>(b)</sup>   | Natural P   | Natural calcined Q | Siliceous V | Calcareous W | T           | L         | LL      |                               |
| CEM I      | Portland cement                               | CEM I       | 95 - 100                                       | -                     | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
| CEM II     | Portland-slag cement                          | CEM II A-S  | 80 - 94                                        | 6 - 20                | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-S  | 65 - 79                                        | 21 - 35               | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            | Portland-silica fume cement                   | CEM II A-D  | 90 - 94                                        | -                     | 6 - 10             | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            | Portland-pozzolana cement                     | CEM II A-P  | 80 - 94                                        | -                     | -                  | 6 - 20      | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-P  | 65 - 79                                        | -                     | -                  | 21 - 35     | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II A-Q  | 80 - 94                                        | -                     | -                  | -           | 6 - 20             | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-Q  | 65 - 79                                        | -                     | -                  | -           | 21 - 35            | -           | -            | -           | -         | -       | 0 - 5                         |
|            | Portland-fly ash cement                       | CEM II A-V  | 80 - 94                                        | -                     | -                  | -           | -                  | 6 - 20      | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-V  | 65 - 79                                        | -                     | -                  | -           | -                  | 21 - 35     | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II A-W  | 80 - 94                                        | -                     | -                  | -           | -                  | -           | 6 - 20       | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-W  | 65 - 79                                        | -                     | -                  | -           | -                  | -           | 21 - 35      | -           | -         | -       | 0 - 5                         |
|            | Portland-burnt shale cement                   | CEM II A-T  | 80 - 94                                        | -                     | -                  | -           | -                  | -           | -            | 6 - 20      | -         | -       | 0 - 5                         |
|            |                                               | CEM II B-T  | 65 - 79                                        | -                     | -                  | -           | -                  | -           | -            | 21 - 35     | -         | -       | 0 - 5                         |
|            | Portland-limestone cement                     | CEM II A-L  | 80 - 94                                        | -                     | -                  | -           | -                  | -           | -            | -           | 6 - 20    | -       | 0 - 5                         |
|            |                                               | CEM II B-L  | 65 - 79                                        | -                     | -                  | -           | -                  | -           | -            | -           | 21 - 35   | -       | 0 - 5                         |
|            |                                               | CEM II A-LL | 80 - 94                                        | -                     | -                  | -           | -                  | -           | -            | -           | -         | 6 - 20  | 0 - 5                         |
|            |                                               | CEM II B-LL | 65 - 79                                        | -                     | -                  | -           | -                  | -           | -            | -           | -         | 21 - 35 | 0 - 5                         |
|            | Portland-composite cement <sup>(c)</sup>      | CEM II A-M  | 80 - 88                                        | ←————— 12 - 20 —————→ |                    |             |                    |             |              | —————→      |           |         | 0 - 5                         |
|            |                                               | CEM II B-M  | 65 - 79                                        | ←————— 21 - 35 —————→ |                    |             |                    |             |              | —————→      |           |         | 0 - 5                         |
| CEM III    | Blast furnace cement                          | CEM III A   | 35 - 64                                        | 36 - 65               | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM III B   | 20 - 34                                        | 66 - 80               | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM III C   | 5 - 19                                         | 81 - 95               | -                  | -           | -                  | -           | -            | -           | -         | -       | 0 - 5                         |
| CEM IV     | Pozzolanic cement <sup>(c)</sup>              | CEM IV A    | 65 - 89                                        | -                     | ←———— 11 - 35 ———→ |             |                    |             |              | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM IV B    | 45 - 64                                        | -                     | ←———— 36 - 55 ———→ |             |                    |             |              | -           | -         | -       | 0 - 5                         |
| CEM V      | Composite cement <sup>(c)</sup>               | CEM V A     | 40 - 64                                        | 18 - 30               | -                  | ← 18 - 30 → |                    |             | -            | -           | -         | -       | 0 - 5                         |
|            |                                               | CEM V B     | 20 - 38                                        | 31 - 49               | -                  | ← 31 - 49 → |                    |             | -            | -           | -         | -       | 0 - 5                         |

Notes

- (a) The values in the table refer to the sum of the main and minor additional constituents.
- (b) The proportion of silica fume is limited to 10%.
- (c) In Portland-composite cements CEM II A-M and CEM II B-M, in pozzolanic cements CEM IV A and CEM IV B, and in composite cements CEM V A and CEM V B, the main constituents other than clinker shall be declared by designation of the cement.

# BUILDING PROSPERITY IN SOUTH AFRICA

*"Sephaku Cement, powered by Dangote Cement, is the partner of choice for those building South Africa."*



Sephaku Cement, powered by Dangote Cement, is CHANGING THE GENETIC CODE OF CEMENT IN SOUTH AFRICA. With the most high-tech plants in the country turning its turbines, it has injected fast, strong and confident DNA into an ageing sector. The roots of South Africa's first new clinker producer since 1934 date back to 2006 when its hugely successful Greenfields project commenced.

Today, as a 36% associate company of Sephaku Holdings, we are immensely proud to stand side by side with Dangote Cement, which is **AFRICA'S FASTEST GROWING INDUSTRIAL** company.



Sephaku Cement is committed to being the sub-Saharan driver of Dangote Cement's bold vision to build prosperity in Africa. As a 64%-owned subsidiary of the company, customers gain access to a range of benefits, which are unlocked as a direct result of being part of a truly pan-African manufacturer and distributor of cement, including:

- Proven success through efficient production facilities in strategic locations close to key growth markets;
- The operation of modern plants in exciting growth markets; and,
- High-quality products at affordable prices, backed by excellent customer service.

Sephaku's operations include a 6,000-ton per day flagship clinker facility located near Lichtenburg in the North West Province, a cement milling plant in Delmas, Mpumalanga, and Sephaku Ash, producing close to 1.3 million tons of ash annually. Its plants run on the latest cement production technology equipment and, critically, do not emit more than 30mg of particulate matter per cubic metre of normal air.

With a positive impact on cost and environmental management efficiencies, its operations are in the region of 30-40% more efficient through, amongst other factors, installation of new vertical roller mill technology for all milling requirements. Embedded in these impressive plants, operational and process efficiency and customer-centric service, Sephaku Cement confidently stakes its claim as one of the continent's most proficient producers of integrated cement and clinkers.

**Pieter Fourie, Chief Executive Officer,  
Sephaku Cement**



Call us on **0861 32 42 52**  
**[www.sephakucement.co.za](http://www.sephakucement.co.za)**