

# PRODUCT DATA SHEET

## Sikament® N-7

### HIGH RANGE WATER-REDUCING CONCRETE ADMIXTURE

#### DESCRIPTION

Sikament® N-7 is a dual action liquid superplasticiser for the production of free flowing concrete or as a substantial water-reducing agent for promoting high early and ultimate strengths.

Sikament® N-7 is chloride free and is compatible with all types of Portland Cement.

#### USES

Sikament® N-7 is used as a superplasticiser in the production of free flowing concrete for:

- Slabs and foundations
- Walls, columns and piers
- Slender components with densely packed reinforcements
- Textured surface finishes

Sikament® N-7 is also used as a water-reducing agent leading to high early and ultimate strength concrete for:

- Precast concrete elements
- Prestressed concrete
- Bridges and cantilever structures
- Areas of concrete where formwork must be removed quickly or early loading will be applied

#### PRODUCT INFORMATION

|                            |   |
|----------------------------|---|
| <b>Chemical Base</b>       | Naphthalene Formaldehyde Sulphonate   |
| <b>Packaging</b>           | 200 Litre Drum and 1000 Litre IBC's   |
| <b>Appearance / Colour</b> | Dark brown liquid   |
| <b>Shelf Life</b>          | 24 months from the date of production if stored in undamaged and unopened, original sealed packaging, in dry conditions at temperatures between +5°C and +30°C. |
| <b>Storage Conditions</b>  | Protect from direct sunlight and frost  |

#### CHARACTERISTICS / ADVANTAGES

As a superplasticiser:

- Workability is improved over a longer period of time
- Increased placeability in slender components with congested reinforcements
- Decreases the amount of vibration required for compaction
- Normal set without retardation
- Significantly reduces the risk of segregation

As a water-reducer and strength enhancer:

- Water reduction up to 25% (depending on dosage)
- High early strength
- High ultimate strength

#### APPROVALS / STANDARDS

Sikament® NN conforms to the requirements of ASTM C 494 Type F and BS 8110: Part 1.

## Recommended Dosage

Sikament® N-7 can be used at the rate of 600 – 2000 ml per 100 kg of cement depending on requirements concerning workability and strength. It is recommended that trial mixes be conducted to determine the exact dosage rate required.

Note:

For more specific requirements, advice is available from our Technical Service Department to determine the usage rate for optimum results.

## Dispensing

Sikament® N-7 shall be dispensed neat into the premixed concrete after all the other concrete components, including total water, have been discharged into the pan-mixer or truck mixer.

**Do not dilute** Sikament® N-7.

### Typical Performance:

Variation in dispensing method of Sikament® N-7 and effect on slump properties.

| Mix | Dosage   | Slump (mm) |
|-----|--|------------|
| 1   | Without Sikament® N-7  | 50         |
| 2   | 1% Sikament® N-7 with gauging water  | 120        |
| 3   | 1% Sikament® N-7 (neat without gauging water) added immediately after making original concrete and further mixing for 1 minute | 150        |
| 4   | 1% Sikament® N-7 (neat without gauging water) added ½ hour after making up concrete and further mixing for 1 minute            | 160        |

- Concrete consistency
  - Measured in terms of slump to BS 1881: Part 102
  - With Sikament® N-7 added at different times
- Cement: OPC (Type 1)
- Granulometry: 0 – 31 mm
- W/C: 0.54 for all mixes

Comparative strength of plain concrete against Sikament® N-7 high strength concrete and Sikament® N-7 flowing concrete with constant cement content.

| Mix Design                 | Plain Concrete | Sikament® N-7 High Strength Concrete | Sikament® N-7 High Flow Concrete |
|----------------------------|----------------|--------------------------------------|----------------------------------|
| Cement, Type 1 (kg)        | 450            | 450                                  | 450                              |
| W / C Ratio                | 0.45           | 0.34                                 | 0.45                             |
| Sikament® N-7 (litres)     | -              | 4.5                                  | 4.5                              |
| Slump (mm)                 | 50             | 60                                   | 180                              |
| Temperature (°C)           | 30             | 30                                   | 30                               |
| Compressive strength (MPa) |                |                                      |                                  |
| - 1 day                    | 16             | 29                                   | 20                               |
| - 3 days                   | 25             | 43                                   | 34                               |
| - 7 days                   | 33             | 49                                   | 44                               |
| - 28 days                  | 48             | 65                                   | 55                               |

Note: These are typical test results. Site results may differ according to mix design and site conditions.

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (available on request) containing physical, ecological, toxicological and other safety-related data.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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### Product Data Sheet

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