

PRODUCT DATA SHEET

Sikament® R-4 QV CD Star

HIGH RANGE WATER-REDUCING AND SLUMP RETAINING CONCRETE ADMIXTURE

DESCRIPTION

Sikament® R-4 QV CD Star (formerly named Sikament® R-4 QV CD*) is a highly effective dual action liquid superplasticiser that imparts excellent slump retention for prolonged periods.
Suitable for use in hot and tropical climatic conditions.

USES

Sikament® R-4 QV CD Star can be used as a superplasticizer for the production of free flowing concrete for:

- Piles and foundations
- Slabs
- Walls
- Columns and piers
- Slender components with dense reinforcement

It is also used as a water-reducing agent leading to high early strength concrete for:

- Pre-cast concrete elements
- Pre-stressed concrete
- Bridges and cantilever structures

CHARACTERISTICS / ADVANTAGES

Sikament® R-4 QV CD Star provides the following properties:

As a Superplasticiser:

- Workability is greatly improved
- Concrete is placed easily
- Especially suitable for slender components with densely packed reinforcement
- Concrete requires less vibrating
- Improved cohesion of the concrete mix significantly reduces the risk of segregation and allows greater time for placement

As a Water Reducer:

- Impressive water reduction capability
- Final strength improvement

APPROVALS / CERTIFICATES

Sikament® R-4 QV CD Star follows the requirements of ASTM C494; Type G and EN 934-2

PRODUCT INFORMATION

Composition	Sulfonated naphthalene
Packaging	1000 lt. flow bins. Bulk supply in tanker trucks is possible on request
Appearance / Colour	Dark brown liquid
Shelf life	12 months from date of production if stored properly
Storage conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5 °C and +45 °C. Protect from direct sunlight and frost.
Density	~1.24 kg/l (+25 °C)
Total Chloride Ion Content	Nil (EN 934-2)

TECHNICAL INFORMATION

Concreting Guidance

The standard rules of good concreting practice for production and placing must be observed when using Sikament® R-4 QV CD Star in concrete. Refer to relevant standards.

Fresh concrete must be cured properly especially at high temperatures in order to prevent plastic and drying shrinkage. Use Sika® Antisol® products as a curing agent or apply wet hessian.

APPLICATION INFORMATION

Recommended Dosage

0.6 - 2.8 % by weight of binder.

Higher dosages by weight of binder can be used depending on the mix design, raw materials, climatic conditions and concrete requirements.

Trial mixes must be performed to establish the exact dosage rate required.

Compatibility

Sikament® R-4 QV CD Star may be combined with all types of Portland cement (OPC and SRC), concretes containing pozzolanic materials such as; GGBS, PFA, micro-silica and the following Sika products:

SikaPump®, Sika® FerroGard®-901, SikaFume®, SikaFiber®, Sika Aer®, Sika® Stabilizer, Sika®-1 WT, Sika® WT-10

We recommend to perform trial mixes to establish the required performance when combining Sikament® R-4 QV CD Star with the above products or other admixtures. Please consult our Sika Technical Department.

Dispensing

Sikament® R-4 QV CD Star is added to the gauging water or simultaneously poured with it into the concrete mixer at the batching plant.

Do not add Sikament® R-4 QV CD Star directly to the dry mix.

For optimum utilization of its high water reduction property we recommend thorough mixing at a minimal wet mixing time of 60 seconds. The addition of the remaining gauging water (to fine tune concrete consistency) may only be started after two-thirds of the wet mixing time to avoid surplus water in the concrete.

IMPORTANT CONSIDERATIONS

Before pouring, suitability tests on the fresh concrete must be carried out.

Due to the extended workability take special care that formwork is properly installed and secured.

If frozen and/or if precipitation has occurred, it may only be used after thawing slowly at room temperature and intensive mixing.

When using Sikament® R-4 QV CD Star a suitable concrete mix must be designed for the local material sources and should be trialed.

When accidental overdosing occurs the set retarding effect and workability increases. Additional air may also be entrained.

During this period the concrete must be kept moist in order to prevent premature drying out.

BASIS OF PRODUCT DATA

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

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

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 Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

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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OHSAS: Sika UAE LLC,
Sika Gulf B.S.C. (c)

All products are supplied
under a management
system certified to conform
to the requirements of the
quality, environmental and
occupational health &
safety standards ISO 9001,
ISO 14001 and OHSAS
18001.

Product Data Sheet

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