

PRODUCT DATA SHEET

Sikament® RB 644

(formerly MRheobuild 644)

HIGH RANGE WATER-REDUCING SUPERPLASTICING ADMIXTURE FOR THE PRODUCTION OF RHEOPLASTIC CONCRETE

DESCRIPTION

Sikament® RB 644 is a high range, chloride free, water reducing superplasticiser with effective dual action, used for high workability concrete as well as a substantial water reducer. Sikament® RB 644 is suitable for use in hot and tropical climatic conditions.

USES

Sikament® RB 644 allows the production of a flowable concrete, with low water / cement ratio. Concrete with Sikament® RB 644 shows strengths higher than concrete without admixture having the same workability. Due to the reduction in the water / cement ratio, all other properties of hardened concrete improve significantly, namely; lowered permeability, shrinkage and creep, increased workability and modulus of elasticity.

FEATURES

- Low water/cement ratio concrete.
- In complicated formwork or with congested reinforcement.
- Concrete requiring long slump retention period
- Walls, columns and piers
- Slabs
- Foundations

CERTIFICATES AND TEST REPORTS

Sikament® RB 644 follows the requirements of ASTM C494; Type A, F & G. BS EN 934-2

PRODUCT INFORMATION

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| Composition | Sulphonated naphthalene |
| Packaging | 210 L drum, 1000 L flowbin or bulk supply in tanker |
| Appearance and 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. Mix well before using. |
| Density | ~1.17 kg/l (+25°C) |
| Total chloride ion content | Nil (BS EN 934-2) |

TECHNICAL INFORMATION

Concreting guidance

The standard rules of good concreting practice for production and placing must be observed when using Sikament® RB 644 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

Sikament® RB 644 is normally dispensed at a rate of 0.5 – 2.5 litres per 100 kg of the binder. Other dosages may 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® RB 644 is suitable for mixes containing all types of cement and supplementary cementitious materials such as: Microsilica (Silica Fume), Fly Ash (PFA), GGBS (ground granulated blast furnace slag) and the following Sika products:

- SikaPump®
- Sika®FerroGard®
- SikaFume®
- SikaFiber®
- Sika® Aer
- Sika®Stabilizer
- SikaControl®

We recommend to perform trial mixes to establish the required performance when combining Sikament® RB 644 with the above products or other admixtures, Sikament® RB 644 should not be premixed with any other admixtures. If other admixtures are to be used, those should be dispensed separately. Please consult our Sika Technical Department for further assistance.

Dispensing

Sikament® RB 644 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sikament® RB 644 is poured into the concrete mix right after the addition of the first 70 % of the mixing water, i.e. when all solids are wetted. Avoid adding the admixture to the dry aggregates. Alternatively, when using Sikament® RB 644 to produce flowing concrete at site using ready mix trucks, it can be added to the concrete via the feed hopper at the rear of the truck. Mix before discharge for 3 minutes at 10 rpm to produce a fully homogenous mix.

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.

IMPORTANT CONSIDERATIONS

Before pouring, suitability tests on the fresh concrete must be carried out. With high workability mixes take special care that all 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® RB 644 a suitable concrete mix must be designed for the local material sources and trial mixes performed to verify suitability. When accidental overdosing occurs the set retarding effect and workability increases along with bleeding. Additional air may also be entrained. During this period the con-

crete must be kept moist in order to prevent premature drying out.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

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 exact product data and uses.

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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- Sika Oman LLC
- Sika MB Construction Chemicals for Manufacturing LLC
- Master Builders Solutions LLC

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 ISO 45001.



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