BUILDING TRUST

PRODUCT DATA SHEET

# Sikament® GSC 3446

(formerly MasterPolyheed® GSC 3446)

High range, water-reducing, superplasticising admixture for the production of rheoplastic concrete

## DESCRIPTION

The basic components of Sikament® GSC 3446 are synthetic polymers, which allow mixing water to be reduced considerably and concrete strength to be enhanced significantly, particularly at early ages. Sikament® GSC 3446 is a chloride-free product.

## USES

- Production of rheoplastic self-compacting concrete
- Pre-cast concrete
- Low w/c ratio concrete
- For concrete to be placed in complicated formwork or with congested reinforcement

## FEATURES

Sikament® GSC 3446 allows the production of very flowable concrete, with a low w/c ratio. Table 1 shows some typical examples of reductions in w/c ratio. Concrete with Sikament® GSC 3446 shows early strengths higher than concrete without admixture having the same workability. The increase in strength,especially evident at early ages, remains at later ages, both in air-cured and steam-cured processes. Initial and final sets do not change significantly with respect to concrete without admixture.
Therefore, whenever longer transport and finishing times are needed, the use of retarding superplasticisers, such as Sikament® RB 850, is recommended.
Due to the reduction in the w/c ratio, all other properties of hardened concrete improve significantly, namely: lowered permeability, shrinkage and creep, increased workability and modulus of elasticity.

## CERTIFICATES AND TEST REPORTS

ASTM C494 Types A and F
BS 5075 Part 1 and 3

## PRODUCT INFORMATION

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| **Packaging** | 1000 lt. flow bins.<br>Bulk supply in tanker trucks is available upon request |
| **Shelf life** | Up to 12 months if stored according to manufacturer's instructions in unopened containers. |
| **Storage conditions** | Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. |
| **Appearance and colour** | Dark brown liquid |
| **Density** | 1.190-1.240 at 25°C |

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| **pH-Value** | 6-11 |
| **Total chloride ion content** | Nil to BS 5075 |

## APPLICATION INFORMATION

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| **Recommended dosage** | Sikament® GSC 3446 is normally dispensed, depending on the desired plasticising or water-reducing effect, at a rate of 0.6-3.0 ltr/100kg of cement or 3% cwt. Other dosages may be used, depending on the materials and conditions. |
| **Dispensing** | Sikament® GSC 3446 is introduced into the mixer together with mixing water. The plasticising effect, or water reduction, is higher if the admixture is added to the concrete after 50-70% of the mixing water has been added. The addition of Sikament® GSC 3446 to dry aggregate or cement is not recommended. |
| **Compatibility** | Sikament® GSC 3446 is compatible with all cements and admixtures meeting ASTM standards. The use of Sikament® GSC 3446 and SikaControl®-111 AER, air-entraining agent, is recommended whenever concrete is required to withstand freeze/thaw cycling. |

## 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.

## LIMITATIONS OF USE

**EFFECTS OF OVER-DOSE**
A severe over-dosage of Sikament® GSC 3446 will result in the following: Retardation of initial and final set Slight increase in air-entrainment Increase in workability

## 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.

## APPLICATION INSTRUCTIONS

Sikament® GSC 3446 should be added to the mix with the gauging water. No extension to mixing time is necessary. Never add Sikament® GSC 3446 to dry cement. Alternatively, when using Sikament® GSC 3446 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 10rpm to produce a fully homogenous mix.
When using Sikament® GSC 3446 to obtain very high early strengths, advantage must be taken of its water-reducing properties.

## LEGAL NOTES

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