

PRODUCT DATA SHEET

SikaPlast®-454

High range water reducer / superplasticiser

DESCRIPTION

is a concrete superplasticizer based on modified polycarboxylate ether. The Product is used in ready-mix and site-batched concrete for high water reduction combined with high setting control.

USES

is used for:

- Economic, eco-friendly and ergonomic production of concrete mixes with highly workable, non-segregating concrete utilizing low water cement ratios
- Ready-mixed concrete
- Pumped concrete
- Long-distance transporting
- High workability without segregation or bleeding
- High durability

CHARACTERISTICS / ADVANTAGES

- High water reduction
- Good dispersion even in mixes with high fines
- High workability for longer periods
- Lowers pumping pressure
- Resistance to segregation even at high workability
- Extended setting with longer workability
- Higher final strengths
- Improves surface appearance and durability of concrete

APPROVALS / STANDARDS

Conforms to IS 9103 / ASTM C494

PRODUCT INFORMATION

Chemical base	Aqueous solution of modified polycarboxylates
Packaging	255kg/bulk
Appearance / Colour	Light brown liquid

Shelf life	12 months from date of production
Storage conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight and frost. Always refer to the packaging. Frost: If frozen or if precipitation has occurred, the Product may be used after thawing slowly at room temperature and intensive mixing.
Density	~1.08 kg/l at 25°C
pH-value	≥6

TECHNICAL INFORMATION

Concreting Guidance	▪ Follow the standard rules of good concreting practice for both production and placement. ▪ Carry out laboratory trials before concreting on site, especially when using a new mix design or producing new concrete components. ▪ Carry out trials to confirm the flowability and workability of the concrete. ▪ Cure fresh concrete properly and apply curing as early as possible, particularly in hot, windy and dry conditions, as well as at low temperatures.
Specific Advice	▪ Excessive water addition or overdosing may cause bleeding, segregation and extension of setting-times. ▪ Due allowance should be made for the effect of fluid concrete pressure on formwork, and stripping times should be monitored. ▪ The product ensures that the concrete remains workable for a certain period. Workability loss depends on the following aspects: - temperature, - type of cement, - nature of aggregates, - method of transport, - and initial workability. ▪ To achieve longer workability period please use a setting retarder from the Sika® Retarder series.

APPLICATION INFORMATION

Recommended Dosage	▪ 0.2 to 2% by weight of cementitious. The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilized in special cases according to specific job conditions. An overdosing may cause: ▪ Reduced permeability ▪ Long extension of initial and final set ▪ Increase in air entrainment Note: Preliminary laboratory trials are always recommended to determine the optimum consumption and injection parameters. Contact Sika Technical Services for additional information.
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SYSTEM INFORMATION

Compatibility	The Product is compatible with most of the Sika products. Use Sika® Stabilizer as viscosity modifying agent in self compacting concrete The Product is not compatible with melamine or naphthalene based admixtures. The Product is compatible with all standard cement types. For use with other cements contact your local Sika technical service for information. The Product can be combined and is recommended for use with other Sika products, such as: ▪ SikaRapid® hardening accelerators ▪ Sika® Stabilizer workability improver, for example Sika® Stabilizer VMA series to modify viscosity ▪ SikaControl® durability and quality enhancer, for example SikaControl®
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AER series to improve frost and thaw resistance

- Sika® Separol® mould release agents
- Sika® Antisol® curing compounds

The Product is not compatible with admixtures from the Sikament® range.

Always conduct trials before combining different products.

Contact Sika Technical Services for additional information.

BASIS OF PRODUCT DATA

Data Sheet for the product concerned, copies of which will be supplied on request.

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

APPLICATION INSTRUCTIONS

MIXING

The Product is a ready-to-use liquid that is added to the concrete during the mixing process. Optimal water reduction is obtained if the Product is dispensed into the concrete mix after the addition of 50–90 % of mixing water. Avoid adding the Product to dry materials. The Product should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing the Product they must be dispensed separately.

After adding the Product allow enough mixing time to secure a homogenous concrete. If necessary, continue mixing and add additional Product to obtain the required workability.

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 Product Data Sheet.



Product Data Sheet

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