

PRODUCT DATA SHEET

SikaPlast®-451 PR

High efficient superplasticizer

DESCRIPTION

SikaPlast®-451 PR is the latest development of superplasticizer for concrete. It meets the requirements for high range water reducing superplasticizers.

USES

SikaPlast®-451 PR is a unique multipurpose superplasticiser that is particularly suitable for the production of ready mixed concrete. Additionally it provides high water reduction and improved fresh concrete characteristics.

With its outstanding cost / performance SikaPlast®-451 PR is used for the following:

- A wide range of applications where excellent workability is requested
- Concrete with high water reduction
- High efficient concrete applications
- Variable use in different concrete systems with different raw materials

PRODUCT INFORMATION

Chemical base	Polycarboxylate Ether
Packaging	255 kg HDPE carboy or Tanker supply
Shelf life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging.
Storage conditions	Store in dry conditions at temperatures between +10°C and +40°C. Protect from direct sunlight and frost.
Appearance / Colour	Light Brown Liquid
Density	~1.08 kg/l at 25°C
pH-value	≥ 6

CHARACTERISTICS / ADVANTAGES

SikaPlast®-451 PR is a powerful superplasticiser based on advanced technology which gives the following advantages:

- Strong water reduction, resulting in high density, high strength and reduced permeability
- Less sensitive against variations in aggregates and / or different cement types
- High efficiency even at low dosage rates
- Extended workability in conjunction with subsequent strength development
- Superior plasticising effect, resulting in improved flow, placing and compaction characteristics

APPROVALS / STANDARDS

IS 9103, ASTM C494

APPLICATION INFORMATION

Recommended Dosage	0.2 % to 2% b. w. o. cementitious. Optimum dosage has to be finalized through site trials. Stir well before use.
Dispensing	SikaPlast®-451 PR is added to the gauging water or added with it into the concrete mixer. To take advantage of the high water reduction, a wet mixing time, which is depending on the mixing conditions and mixer performance, of at least 60 seconds is recommended. To avoid excess water in the concrete, the final dosage must begin only after 2/3 of the wet mixing time.
Compatibility	SikaPlast®-451 PR may be combined with many other Sika® Products. Compatible with all types of cements and cementitious materials. Important: Always conduct trials before combining products in specific mixes and contact our Technical Service Department for information about specific combinations.

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.

IMPORTANT CONSIDERATIONS

When using SikaPlast®-451 PR a suitable mix design has to be taken into account and local material sources shall be trialled.

SikaPlast®-451 PR shall not be added to dry cement. Excessive water addition, overdosing, changes in aggregates properties, cement properties, cementitious materials properties may cause bleeding, segregation or setting issues.

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 containing physical, ecological, toxicological and other safety-related data.

MAINTENANCE

CLEANING

Clean all tools and application equipment with water immediately after use.

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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