PRODUCT DATA SHEET

SikaPlast® PH 8300

(formerly MasterPolyheed® 8300)

Water-reducing, high range, and retarding admixture based on modified poly-carboxylic ether

DESCRIPTION

SikaPlast® PH 8300 is an admixture of a new generation based on modified poly-carboxylic ether. The product has been primarily developed for applications in Ready-mix & Site-batched concrete where the highest performance is required.

USES

▪ Ready mixed & Site mix Concrete
▪ Long-distance transporting
▪ Pumped concrete
▪ High workability without segregation or bleeding
▪ High performance concrete for durability
▪ Mixes requiring >20% water reduction
▪ Concrete containing pozzolans such as microsilica, GGBFS, PFA including high volume fly ash concrete
▪ It does not contain chlorides or other ingredients promoting corrosion of steel reinforcement. It is therefore suitable for reinforced concrete.

CHARACTERISTICS / ADVANTAGES

▪ Good dispersion even in mixes with high cementitious fines
▪ Retains workability for long periods
▪ Lower pumping pressure
▪ Resistance to segregation even at high workability
▪ Reduced water content for a given workability
▪ Higher ultimate strengths
▪ Increased ease in finishing concrete

Chemistry and mechanism of action
What differentiates SikaPlast® PH 8300 from the traditional superplasticisers is a new, unique mechanism of action that greatly improves the effectiveness of cement dispersion. Traditional superplasticisers based on melamine and naphthalene sulphonates are polymers which are absorbed by the cement granules.

They wrap around the granules surface areas at the very early stage of the concrete mixing process. The sulphonic groups of the polymer chains increase the negative charge of the cement particle surface and disperse these particles by electrical repulsion. This electrostatic mechanism causes the cement paste to disperse and has the positive consequence of requiring less mixing water to obtain a given concrete workability.

SikaPlast® PH 8300 has a different chemical structure from the traditional superplasticisers. It consists of poly-carboxylic ether with long side chains. At the beginning of the mixing process it initiates the same electrostatic dispersion mechanism as the traditional superplasticisers, but the side chains linked to the polymer backbone generates a steric hindrance which greatly stabilises the cement particles ability to separate and disperse. Steric hindrance provides a physical barrier (alongside the electrostatic barrier) between the cement grains. With this process, flowable concrete with greatly reduced water content is obtained.

APPROVALS / STANDARDS

IS 9103, ASTM C494 Types B, D & G

PRODUCT INFORMATION

Chemical base	Polycarboxylate Ether
Packaging	245kg and bulk 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	Reddish brown liquid
Density	~1.12 at 25°C
pH-value	≥ 6

APPLICATION INFORMATION

Recommended Dosage	Optimum dosage of SikaPlast® PH 8300 should be determined with trial mixes. As a guide, a dosage range of 500ml to 1800ml per 100kg of cementitious material is normally recommended. Because of variations in concrete materials, job site conditions, and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local Sika representative. For addition information on SikaPlast® PH 8300 admixture or on its use in developing concrete mixes with special performance characteristics, contact your local Sika representative. Effects of over dosage A severe over-dosage of SikaPlast® PH 8300 can result in the following: ▪ Extension of initial and final set ▪ Bleed/segregation of mix A slight overdosing may not adversely affect the ultimate strength of the concrete and can achieve higher strengths than normal concrete, provided it is properly compacted and cured. Due allowance should be made for the effect of fluid concrete pressure on form work, and stripping times should be monitored. In the event of over dosage, consult your local Sika representative immediately.
Dispensing	SikaPlast® PH 8300 is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The plasticising effect and water reduction are higher if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of SikaPlast® PH 8300 to dry aggregate or cement is not recommended. Thorough mixing is essential and a minimum mixing cycle, after the addition of the SikaPlast® PH 8300, of 60 seconds for forced action mixers is recommended.
Compatibility	SikaPlast® PH 8300 is compatible with most of the Sika products. Use Sika Stabilizer as viscosity modifying agent in self compacting concrete. SikaPlast® PH 8300 is not compatible with Melamine or Naphthalene based admixtures and should not be used in conjunction in the same mix. SikaPlast® PH 8300 is compatible with lingosulphonates and carboxylic acid-based plasticizer and retarders and also with most type of air entrainers, accelerators, retarders, extended set control admixtures, corrosion inhibitors, and shrinkage reducers. SikaPlast® PH 8300 is also compatible with slag and pozzolans such as fly ash, metakaolin and silica fume

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.

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IMPORTANT CONSIDERATIONS

SikaPlast® PH 8300 ensures that rheoplastic concrete remains workable for 90 minutes. Workability loss is dependent on temperature, and on the type of cement, the nature of aggregates, the method of transport and initial workability. It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry climates

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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