

PRODUCT DATA SHEET

Sika® ViscoCrete®-5540

High range superplasticizer for concrete



DESCRIPTION

Sika® ViscoCrete®-5540 is a polycarboxylate based high range superplasticizer for concrete and mortar. Used for the production of site batched and ready mix concrete with extended slump retention, high water reduction and high strength development of concrete mixes.

USES

Sika® ViscoCrete®-5540 is suitable for the production of site mixed as well as ready-mix concrete.

Sika® ViscoCrete®-5540 is used for concrete with extended transportation of placing time.

Sika® ViscoCrete®-5540 facilitates extreme water reduction, excellent flow properties, optimal cohesion and highest self compacting behaviour.

Sika® ViscoCrete®-5540 is mainly used for the following types of concrete:

- Self compacting concrete (S.C.C) for grade 30 MPa and above
- Hot weather concrete and concrete with extended transportation or placing time, typically up to 6 hours slump retention with one time dose at the RMC plant
- Concrete with highest water reduction (up to 30%)
- High strength concrete (60MPa and above)
- Slickline concrete
- Shotcrete

High water reduction and excellent workability have a positive influence on the above mentioned applications.

PRODUCT INFORMATION

Composition	Polycarboxylic polyether type polymer based on latest flake technology
Packaging	1000 kg IBC container
Shelf life	12 months from date of production

CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-5540 acts by different mechanisms. Through surface absorption and sterical separation effect on the cement particles, in parallel to the hydration on process, the following properties are obtained:

- Strong self compacting behaviour, therefore suitable for the production of self compacting concrete (S.C.C)
- Extremely high water reduction (resulting in high density and strengths)
- Excellent flowability (resulting in highly reduced placing and compacting efforts)
- Robust admixture suitable for difficult concrete raw materials specially pour quality aggregates
- Improved shrinkage and creep behaviour
- Reduced rate of carbonation of the concrete

Sika® ViscoCrete®-5540 does not contain chloride or other steel corrosion promoting ingredients. It may therefore be used without any restriction for reinforced and prestressed concrete construction.

APPROVALS / CERTIFICATES

Conforms to the requirements of MNS ASTM C494C/494M:2011.

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Storage conditions	Should be stored properly in undamaged unopened, original sealed packaging in dry conditions at temperatures between +5°C and +35°C. Protected from direct sunlight and frost. In case of long storage mix before.
Appearance and colour	Turbid
Density	~ 1.05 ± 0.02 kg/L
pH-Value	4.0 - 6.0 (at 20° C)
Total chloride ion content	Free (EN 934.01)
Concreting guidance	The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Refer to relevant standards. Fresh concrete must be cured properly.
Recommended dosage	<ul style="list-style-type: none"> ▪ For Low to Medium Workability: 0.5 - 1.1% by weight of cementitious ▪ For Flowing and Self Compacting Concrete (S.C.C): 1.1 - 2.0% by weight of cementitious
Dispensing	<p>Sika® ViscoCrete®-5540 is added to the gauging water or simultaneously with it poured into the concrete mixer. For optimum utilization of the high water reduction we recommended thorough mixing at minimal wet mixing of 90 seconds.</p> <p>Effects of overdosing and underdosing: Significant overdosage will result in increased workability and setting time of the concrete and will cause bleeding of concrete mix. Underdosage will result in reduced workability (more difficult placing) and shorter setting times (reduced workable lives). However, provided the concrete is cured effectively, the ultimate strength and properties will not be affected.</p>
Compatibility	<p>Sika® ViscoCrete®-5540 can be combined with the following Sika Products:</p> <ul style="list-style-type: none"> ▪ SikaPump® Start ▪ SikaFume® ▪ SikaCrete® L Slurry ▪ SikaRapid® series ▪ Sika® Aer ▪ Sigunit® L54 AF ▪ Sika® Fiberforce® ▪ SikaTard® series <p>Pre-trials are recommended if combinations with the above products are being made. Please consult our Technical Services for other Sika Products.</p>

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.

ECOLOGY, HEALTH AND SAFETY

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.

