

PRODUCT DATA SHEET

Sika® ViscoCrete® TC 1500

(formerly MasterGlenium® TC 1500)

New Generation Superplasticiser for Underground Construction Works and High Strength Concrete Class

DESCRIPTION

Is an innovative second-generation superplasticizer based on polycarboxylic ether (PCE) polymers. It is derived directly from the "Total Performance Control" concept. Is used for ready-mix concrete. Its particular configuration allows its delayed adsorption onto the cement particles and disperses them efficiently. As compared with other PCE superplasticizers, it is possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics. The molecular structure of the Product is effective in early strength development. Conventional superplasticizers completely wrap cement particles and prevent them from joining with water by forming a barrier. By this way, the hydration process becomes slower. Differently from this mechanism, molecules leave gaps on cement particles that allow sudden hydration. These gaps enable early high strength development. The Total Performance Control concept ensures that ready-mix producers, contractors and engineers get a concrete that is of the same high quality as originally specified; starting from production at the batching plant, to the delivery and application into place, and followed by its hardening process. "Utilizing Rheodynamic" concrete technology it provides a concrete mix with exceptional placing characteristics and accelerated cement hydration for early strength development and high-quality concrete.

USES

Is used for:

- Economic, eco-friendly and ergonomic production of concrete mixes with highly workable, non-segregating concrete utilizing low water cement ratios
- High early and final strength gains
- Ready-mixed concrete

Is used in:

- All consistencies, including Self-Compacting Concrete (SCC)
- All standard cement types, including low-clinker mixes containing fly ash, slag, and silica fume
- Reinforced and pre-stressed concrete

CHARACTERISTICS / ADVANTAGES

- Capability of delivering high quality concrete at any time to the job site in place
- Production of a concrete with low water cement ratio that meets EN 206-1 without loss of workability
- Single product for many application needs
- Easier placing and faster strength development
- Improved concrete surfaces
- Guarantee to place the same concrete as specified and ordered from ready-mix plant
- More versatile and forgiving concrete mix
- Insurance that concrete meets original specification
- High quality concrete with better durability
- Controlled set times
- Cohesive and non-segregating
- Minimal bleed water
- Higher earlier strengths than can be achieved with conventional high-range water reducers
- Increased ultimate compressive strength
- Higher modulus of elasticity
- Improved bond strength to steel
- Low permeability
- High durability
- Reduced shrinkage and creep
- Highly reliable in-place structural integrity

APPROVALS / CERTIFICATES

Conforms to EN 934-2., tab. 3.1/3.2

PRODUCT INFORMATION

Composition	Aqueous solution of modified polycarboxylates
Packaging	Bulk's and IBC's Refer to the current price list for available packaging variations.
Appearance / Colour	Yellow, 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 +35 °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	1,06 - 1,10 g/cm ³ (ISO 758)
pH-Value	4,00 - 7,00
Total chloride ion content	≤ 0.1 % by mass

APPLICATION INFORMATION

Recommended dosage	<ul style="list-style-type: none">▪ 0.3–2.0 kg per 100 kg of cement (binder). <p>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. If required consult Sika Yapı Kimyasalları A.Ş. Technical Services Department for advice. Trial mixes should be carried out to ensure optimum dosage and effect.</p> <p>Where the concrete is to be machine finished by utilizing power float or power troweling methods, we recommend that you contact the according to specific job conditions. If required consult Sika Yapı Kimyasalları A.Ş. Technical Services Department for dosage rate guidance.</p>
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SYSTEMS

Compatibility

The Product can be used with all types of EN 197 Cements. For use with other special cements, contact our Sika Yapı Kimyasalları A.Ş. Technical Services Department. It should not be pre-mixed with other admixtures. If other admixtures are to be used, they must be dispensed separately. The Product is not compatible with Sikament® (naphthalene) superplasticizers. In order to optimize special requirements, the use of the following complementary additives is suggested:

- Viscosity modifying agent Sika®Stabilizer® series to produce rheodynamic concrete
- Air entraining agent SikaControl® AER series to improve frost/thaw resistance

When such complimentary admixtures are required it is important that laboratory trials are performed, prior to any supply, to determine the respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete.

In these circumstances we recommend that you consult our Sika Yapı Kimyasalları A.Ş. Technical Services Department for further advice.

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.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

MIXING

The Product is a ready-to-use admixture to be added to the concrete as a separate component. Optimal performance is obtained if the Product is dispensed into the concrete mix right after the addition of the first 80% of the mixing water, i.e. when all solids are wetted out. Avoid adding the admixture to the dry aggregates.

LOCAL RESTRICTIONS

See Legal notes

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.

Sika Tanzania Construction Chemicals

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Product Data Sheet

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