

Technical Datasheet

X-Mix X45 S

Set Retarding / High Range Water-Reducing /Super plasticizing Admixture.

Product Description

X-Mix X45 S is a high effective super plasticizer with a set retarding effect for producing free flowing concrete with high slump free of bleeding and segregation in hot climates, manufactured from blend of high grade synthetic polymers.

Advantages

- Increased workability retention without increase water content
- Improves compressive strength at all ages.
- Improves workability.
- Enhances durability.
- Improves cohesion of mixes with poorly graded sands.
- Improves permeability.
- Improves compaction.
- Improves surface finish.
- Minimizes bleed and segregation.
- Non-toxic.
- Chloride free.

Uses

X-Mix X45 S is suitable for use in the following condition:

- Pre-stressed concrete.
- pumped concrete.
- Ready-mixed concrete.
- High quality and watertight concrete.
- Retain workability during hot weather and in delays of transportation.
- Casting in hot climates.

Packaging

20 liter jenkins, 210 liter drums, 1000 liters Bulk Tanks.

Shelf Life

X-Mix X45 S has a minimum shelf life of 12 months under shaded area. Must be protected from direct sunlight and frost.

Dispensing

X-Mix X45 S should be added to the concrete while being mixed using a suitable dispenser. Add to the concrete with the mixing water to obtain best results.

Product Properties

Consistency	Liquid
Color	Dark brown
Specific Gravity according to ASTM D 2111 (g/cm³) @25° C	1.160±0.02
p^H	>6
Main action	Water reduction & Retarding of initial hydration; retention of workability.
Collateral action	Retarding of initial setting time, workability retention
Classification according to EN 934-2	Set retarding/high range water reducing/ super plasticizing admixtures, T 11.1 / 11.2
Classification according to ASTM C494	Type G
Classification according to ASTM C1017	Type II
Water reduction	≥12 % according to EN 934-2 to almost 23%
Chlorides soluble in water according to EN 480-10 (%)	≤ 0.1 (absent according to EN 934-1)
Alkali content (Na₂O equivalent) according to EN 480-12 (%)	< 55 g
Nitrate content	Nil

Specification Compliance

- EN 934-2 T 11.1 / 11.2.
- ASTM C 494: Type G.
- EN 480-10.
- EN 480-12.
- ASTM D 2111.

Dosage

Determining the right dosage is crucial and should be done through trial mixes. For standard concrete, try 0.9-1.8 Kg per 100 kilograms of cement or binder. For high-performance and microsilica concrete, aim for 1.8-3 Kg. For more information, contact NCC X-CALIBUR's Technical Services Department.

Dosages beyond these ranges may be explored to meet unique mix requirements. It's important to conduct thorough trial mixes and laboratory assessments to ensure the desired results.

Overdosing

When accidental overdosing occurs will result in:

- Increase in workability.
- Initial and final set retarding.
- Increase in air-entrainment.

APPLICATION PROCEDURE

Add X-Mix X45 S into the mixer after the other ingredients (water, cement, aggregates). X-Mix X45 S is most effective if added when cement and aggregate granules are already wet, and least effective when the admixture is mixed with dry solids which partially absorb it (especially if porous). It is advisable to begin adding the admixture with an automatic dispenser after adding at least, half of the batching water required.

Compatibility

X-Mix X45 S is compatible with a wide range of admixtures used in the same concrete mix. All admixtures should be added to the concrete separately and must not be mixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

Clean Up

Clean up spillages of by absorbing onto sand and transferring to suitable containers. Any residue should be washed down with large quantities of water. The disposal of excess or waste material should be carried out in accordance with local regulations.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.ncc.com.eg.

Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Specialists (ATSs) are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.ncc.com.eg for a full list of NCC X-Calibur ATSs.

Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.ncc.com.eg to ensure you have the latest version.

Warranties

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price.

NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Chemistry Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Chemistry Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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