

PRODUCT DATA SHEET

Sika® CNI

CORROSION INHIBITING ADMIXTURE

PRODUCT DESCRIPTION

Sika® CNI is a calcium nitrite-based admixture designed to inhibit the corrosion of steel in reinforced concrete. Sika® CNI contains a minimum of 30% calcium nitrite by mass and meets the requirements of ASTM C1582, Corrosion Inhibiting Admixture and ASTM C494 / AASHTO M194 Type C.

USES

In the high alkalinity of concrete, reinforcing steel builds up a natural passivation layer. This layer protects the steel from corrosion. This passive ferric oxide layer however can be damaged by the presence of chlorides and combined with the presence of moisture and oxygen which will lead to corrosion of the steel.

Sika® CNI will help oxidize the steel to form ferric oxide, which resists chloride attack. This reduces the areas of ferrous oxide ions that are susceptible to attack by chlorides. Ferrous oxide creates a ferrous oxide complex (rust), if attacked by chlorides. In the presence of these chlorides, rust continues to generate in these areas (corrosion pits) and ultimately leads to staining, cracking and spalling of the concrete.

Sika® CNI fortifies the ferric oxide passivating layer prior to the penetration of chlorides. The nitrite ions in Sika® CNI will convert ferrous oxide to more resistant ferric oxide, thereby protecting the steel reinforcement from corroding.

Sika® CNI is also an effective accelerator where high early strength concrete is desired and the use of calcium chloride is prohibited.

CHARACTERISTICS / ADVANTAGES

Sika® CNI is recommended for conventional steel reinforcement as well as prestressed or post-tensioned concrete that will be exposed to chlorides from marine environments or deicing salts. Sika® CNI will extend the service life of structures by effectively inhibiting corrosion, in areas such as parking garage decks and support structures, bridge decks, marine structures and many others.

Sika® CNI is a corrosion-inhibiting admixture that provides protection against corrosion in reinforced concrete structures. Sika® CNI:

- Extends the service life of reinforced concrete structures.
- Is recommended for use in all types of reinforced concrete, precast and/or prestressed concrete as well as ready mix applications.

Sika® CNI can be used as an accelerating admixture that provides:

- Accelerated setting time across a wide range of temperatures.
- Increased early and ultimate compressive and flexural strengths

Sika® CNI does not contain intentionally added chlorides.

PRODUCT INFORMATION

Packaging	Available in 55 gallon (208 liter) drums, 275 gallon (1040 liters) totes and bulk delivery.
Appearance / Color	Greenish Liquid
Shelf Life	Shelf life when stored in dry warehouse conditions between 50 °F and 80 °F (10–27 °C) is one year.
Storage Conditions	Sika® CNI should be stored above 40 °F (5 °C). If frozen, thaw and agitate thoroughly to return to a normal state. Protect from direct sunlight.
Specific gravity	Approx. 1.300

APPLICATION INFORMATION

Recommended Dosage	<p>The recommended dosage rate for corrosion inhibiting applications will vary between 2 - 6 gallons per cubic yard (10-30 L /m³) of concrete, depending on the severity of the corrosion environment.</p> <p>The typical dosage rate for set accelerating applications will vary between 10-120 fl. oz. / 100 lbs. (650-7820 ml / 100 kg.) of cement.</p> <p>In order to prevent slump loss, a set retarding admixture, hydration controlling admixture or workability retaining admixture may be required, especially in warm weather applications.</p> <p>In absence of a specified dosage rate, or to the extent specialized materials (such as microsilica) are specified, extreme ambient project conditions are encountered, or other unusual project conditions require special consideration outside the recommended dosage, please contact your local regional Sika office or Sika technical service department at 1-800-933-7452 prior to using the Sika admixture.</p>
Mixing	<p>Measure the required quantity by automated dispenser or manually. Add Sika® CNI directly into the freshly mixed concrete at the end of the batching cycle. When used in combination with other admixtures, care must be taken to dispense each admixture separately into the mix, and mix thoroughly. Do not mix with dry cement.</p> <p>Mix water adjustment is necessary to account for the water in Sika® CNI to maintain the required water/cementitious ratio. The batch water must be adjusted by reducing 7.0 lbs. (0.839 kg) of water per gal. (Liter) of Sika® CNI.</p> <p>Compatibility : Sika® CNI can be used in combination with other Sika admixtures and can be successfully used in mix designs utilizing supplementary cementitious materials. Sika® CNI may slightly reduce the air content and a higher dosage of the air entrainment agent may be required.</p>

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at <https://usa.sika.com/en/group/SikaCorp/termsandconditions.html> or by calling 1-800-933-7452.

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