SPECIALTY ADMIXTURES

Master Format #: 03 30 00 03 40 00 03 70 00

EUCON™ BCN

CORROSION INHIBITING ADMIXTURE

EUCLID CHEMICAL

PRODUCT INFORMATION

PACKAGING

Available in bulk, 275 gal (1041 L) totes, and 55 gal (208 L) drums

SHELF LIFE

2 years in original, unopened container

SPECIFICATION/COMPLIANCES

ASTM C1582

ASTM C494 Type C & E

AASHTO M194 Type C

Corps of Engineers Classification CRD C87 Type C

TECHNICAL INFORMATION

Specific Gravity: ~ 1.27 to 1.33
Unit Weight: ~ 10.4 to 11.3 lb/gal
Freezing Point: 0°F (-18°C)
Slump: little effect on the slump

DESCRIPTION

EUCON BCN is a corrosion inhibiting admixture containing a minimum of 30% Calcium Nitrite, which is added to the concrete during the batching process. Eucon BCN is designed to inhibit the corrosion of steel reinforcement in concrete by chemically reacting with the reinforcing steel and prestressed strands in concrete, creating a ferric oxide passivating layer which resists chloride attack. Eucon BCN complies with ASTM C 1582 and ASTM C 494, Types C and E. Eucon BCN contains no added chlorides or chemicals known to promote the corrosion of steel.

PRODUCT CHARACTERISTICS

FEATURES & BENEFITS

- Slows the rate of corrosion
- Extends service life of reinforced concrete structures
- Provides set acceleration, reducing the need for additional accelerating admixtures in cold weather
- Compatible with other commonly used Euclid Chemical admixtures
- Dosage rate is directly related to expected chloride exposure
- Increases protection for reinforced steel and prestressed strands in ready mix and precast/prestressed concrete
- Calcium Nitrite is a proven technology with over 40 years of in-place service to the construction industry

PRIMARY APPLICATIONS

- Exterior steel reinforced concrete
- Structural concrete
- Parking structures
- Precast / Prestressed concrete
- Post tensioned concrete
- Marine environments
- Exposed Balconies
- Bridge Components

PRECAUTIONS/LIMITATIONS

- Store at temperatures above 0°F (-18°C). When EUCON BCN freezes, its corrosion inhibition is completely restored by thawing and thorough agitation.
- Do not dispense directly onto dry cement.
- Quality concrete is necessary to slow the ingress of chloride into the concrete. According to ACI 318, the "Building Codes Requirements for Reinforced Concrete" requires certain design constraints, such as maximum water to cement ratio and providing adequate cover over the reinforcing steel. All pertinent codes and guides should be consulted prior to final approval of mix design.
- In all cases, consult the Safety Data Sheet before use.

DIRECTIONS FOR USE

Mix Designs

It is strongly recommended that trial mixes are done prior to the first placement of each project, to allow the concrete producer to determine the proper order of addition and required dosage rates of additional admixtures in the mix design. EUCON BCN may be added with the concrete batch water. It should not be mixed with any admixture prior to being introduced into the concrete mixer. Mix designs are supplied upon request. It is necessary to adjust the mix water to account for the water in EUCON BCN. Subtract 7.0 pounds or 0.85 gallons of water per gallon of EUCON BCN.

Dosages for Corrosion Inhibitor

The recommended addition rates range for Eucon BCN is from 2 - 6 gal/yd^3 (10 - 30 L/m^3). The Chloride to Nitrite ratio is important. The project specification will indicate or specify the amount of chloride ion protection necessary. The dosage rate of EUCON BCN is directly related to the level of chloride protection and can be chosen from Table 1. EUCON BCN will accelerate concrete setting times at all recommended dosages. To counteract acceleration, use a retarder or hydration stabilizer such as EUCON RETARDER 75, EUCON RETARDER 100, EUCON STASIS or EUCON DS, see Table 2.

If no chloride ion protection level is specified, or when offsetting the potential effects of chloride bearing concrete ingredients consult contact your local Euclid Chemical technical representative. For further information refer to technical bulletin AD-17-1, "Offsetting Potential Corrosive Effects of Chlorides using Eucon BCN".

Dosages for Set Acceleration

If used as an accelerator the EUCON BCN dosage range is 10 - 90 oz/100 lbs (650 - 5870 mL per 100 kg) of cementitious materials.

Table 1
Chloride Protection Limits

EUCON BCN, gal/yd^3 (L/m^3)	Chloride content, lbs/yd^3 (kg/m^3)
2.0 (10.0)	6.0 (3.6)
2.5 (12.5)	8.0 (4.8)
3.0 (15.0)	9.9 (5.9)
3.5 (17.5)	11.5 (6.8)
4.0 (20.0)	13.0 (7.7)
4.5 (22.5)	14.1 (8.4)
5.0 (25.0)	15.0 (8.9)
6.0 (30.0)	16.0 (9.5)

Table 2
Dosage of EUCON CIA with Retarder 100

EUCON BCN, gal/yd^3 (L/m^3)	Retarder 100 @ 70°F oz/100 lbs (mL/100kg) (cementitious)
3.0 to 4.0 (15.0 - 20.0)	3.0 to 5.0 (195 - 325)
4.0 to 5.5 (20.0 - 27.5)	4.0 to 7.0 (260 - 455)
5.5 to 6.0 (27.5 - 30.0)	5.0 to 8.0 (325 - 520)

**Dosage rates will vary depending on other retarding admixtures.*