

CCI NEOCRYSTAL L

High Performance Dual Mechanism Liquid Crystalline Waterproofing Admixture

Description

CCI NeoCrystal L, a high-performance dual mechanism liquid crystalline waterproofing admixture. It is an integral waterproofing admixture for concrete and designed for use in below and above grade applications. **CCI NeoCrystal L** consists of various active, proprietary chemicals. One of these chemicals reacts with the hydration products of cement to generate additional calcium silicate hydrates (CSH) to impart higher impermeability and additional strength to the concrete. These active chemicals also react with the moisture in fresh concrete to form insoluble crystalline deposits throughout the pores and capillary tracts of the concrete.

These crystalline products effectively reduce the permeability, capillary absorption and the penetration of water and other liquids. Thus, the concrete treated with **CCI NeoCrystal L** reduces concrete permeability through the formation of additional CSH and crystalline deposits in capillary channels. If the treated concrete should crack, the active chemicals react with water and moisture to form insoluble crystalline deposits to seal cracks. It can heal and seal cracks up to 0.4 mm to create waterproof structures.

Uses

CCI NeoCrystal L can be used in all structural concrete which are constantly or intermittently in contact with water such as sea walls, tunnels, basements, structural and pre- cast concrete. The following are the typical applications and structures to be waterproofed:

- ✓ Sewage and water treatment plants
- ✓ Liquid retaining structures
- ✓ Water reservoirs and tanks for potable water
- ✓ Swimming pools
- ✓ Foundations, basements, lift pits, podiums, balconies and roofs
- ✓ Parking structures
- ✓ Precast, pre-stressed and post-tensioned concrete
- ✓ Culverts
- ✓ Tunnel and subway systems
- ✓ Shotcrete
- ✓ Concrete subjected to wet, harsh and aggressive environments.

Features and Benefits

- ✓ Liquid Crystalline material
- ✓ Integral addition
- ✓ Reduces concrete permeability
- ✓ Allows concrete to breathe
- ✓ Non-toxic
- ✓ Becomes an integral part of the concrete
- ✓ Reduces penetration of water and other liquids
- ✓ Can seal cracks up to 0.4 mm
- ✓ Resists positive and negative side hydrostatic pressure
- ✓ Protects against sewage and industrial wastes
- ✓ Less expensive than traditional waterproofing methods
- ✓ Added to the concrete at time of batching and therefore is not subject to climatic constraints

Specifications

Appearance	Dark Brown Liquid
Physical state	Liquid form
Specific Gravity	1.195 ± 0.02
pH	12.3 ± 1
Dry material content, %	30 ± 1

Mixing

CCI NeoCrystal L admixture is batched at the concrete production plant in a manner similar to that for liquid-based admixtures or similar liquids. It may be batched in either a central or truck mixer. Follow the procedures outlined in ASTM C94/C94M, Standard Specification for Ready- Mixed Concrete, for general batching and mixing instructions for concrete if adding to a truck mixer. Provide at least 5 minutes of mixing after the addition of **CCI NeoCrystal L** admixture to ensure thorough and uniform distribution of the admixture in the concrete mixture.

CCI NeoCrystal L admixture can be used with Portland cement approved under ASTM and EN specifications. It is compatible with most concrete admixtures, including all CCI Chemical admixtures. **CCI NeoCrystal L** admixture is recommended for use with high-range water reducing admixtures, for maximum workability while maintaining a low water-to- cementitious materials ratio. **CCI NeoCrystal L** is also compatible with slag and pozzolans such as fly ash, GGBS and silica fume.

Application Procedure

As a guide, a dosage of 1% of cementitious content is recommended. Dosage up to 2% can be used in special requirements. For additional information on **CCI NeoCrystal L** or on its use in developing concrete mixes with special performance characteristics, contact our CCI Technical representative).

Cleaning and Disposal

Spillages of **CCI NeoCrystal L** should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Hose down remnants with large quantities of water. The disposal of excess or waste material should be carried out in accordance with local legislation under the guidance.

Setting Time

CCI NeoCrystal L admixture has little to no effect on concrete setting time within the recommended dosage range. However, it is recommended to test this in case any additives or blended cementitious combinations are used in concrete.

Workability

CCI NeoCrystal L has little or no effect on the workability of concrete. Prior site trials are advised to assess the effect, and any increase or decrease in the workability can be adjusted by adjusting the admixture dosage or amount of water in use. It is strongly recommended that concrete should be properly cured particularly in hot, windy and dry climates.

Corrosivity- Non-Chloride, Noncorrosive

CCI NeoCrystal L will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of **CCI NeoCrystal L**. In all concrete applications, **CCI NeoCrystal L** will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

Dosage and Shelf Life

CCI NeoCrystal L must be stored where temperatures do not drop below +5°C. The shelf life is 12 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice contact our CCI Technical representative).

Packaging

20 kg buckets and 200 kg barrels.

Precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable items.

Safety

Before use, refer to the Material Safety Data Sheet (MSDS). The MSDS is available on www.ccichemicals.in or contact us at info@ccichemicals.in.

Registered Office	Regional Office	Chennai Plant	Mumbai Plant
Office No. 210 Shah Heritage Commercial CHS Plot No. 9, Sector 48, Seawood Navi Mumbai – 400 706 Maharashtra, India Mobile: +91 93247 27785 E-mail: kashinath.bera@ccichemicals.in	'LAKSHMAN MANERE' Old No. 17/2, New No. 42/2, R Block 6 th Main Road, Anna Nagar West Chennai – 600 040 Tamilnadu, India Mobile: +91 98400 73183 E-mail: durai.murugan@ccichemicals.in	No. 1, Perumal Koil Street Azhinjivakkam Sriperumpudhur Thiruvallur – 602 105 Tamilnadu, India	Plot No. A-51 Taloja Industrial Area MIDC, Taloja Navi Mumbai – 410 208 Maharashtra, India