

Mapeshield CI 320 [NA]

Migrating Corrosion Inhibitor

NORTH AMERICA [NA]

DESCRIPTION

Mapeshield™ CI 320 [NA] is a water-based, chemical admixture that is utilized to reduce the effects of corrosive ions from attacking reinforcing steel in concrete. *Mapeshield CI 320* [NA] works on both anodic and cathodic corrosion and creates an ionic change that would typically cause corrosion to the embedded reinforcing steel.

FEATURES AND BENEFITS

- Prolongs the service life of structures and the need for corrosion-based repairs
- Reduces the potential of de-icing salts to corrode reinforcing steel
- Neutral effect on plastic and hardened properties of concrete, including a reduction in linear drying shrinkage

APPLICABLE STANDARDS

- Complies with ASTM C1582/C1582M-11(2017), Standard Specification for Admixtures to Inhibit Chloride-Induced Corrosion of Reinforcing Steel in Concrete

WHERE TO USE

Mapeshield CI 320 [NA] can be used in ready-mixed, precast, prestress or post-tensioned concrete mixture designs that need the added protection of a corrosion-inhibiting admixture:

- Piers, columns, beams and flatwork
- Corrosive environments where excessive airborne carbonation or chlorides are present
- Sea walls, ports and other marine structures
- Stadiums, parking garages, bridges, balconies and foundation walls

DOSAGE

Mapeshield CI 320 [NA] is typically dosed between 0.5 and 2.0 U.S. gals. per yard³ (2.48 and 10.0 L per m³). However, dosage rates may vary due to amount of expected corrosion potential.

MIXING

Mapeshield CI 320 [NA] should be added directly to the mix water. Alternatively, Mapeshield CI 320 [NA] can also be used with portable dispenser equipment. Thoroughly mix concrete to a homogenous mix.

FINISHING

Finish concrete as required by contract requirements in accordance with local, state/provincial and industry standards. The use of an evaporation retardant, such as Mapecrete[®] Film, may be used when placing in hot, dry climates or where direct sun and high wind speeds are present.

COMPATIBILITY WITH OTHER PRODUCTS

Mapeshield CI 320 [NA] is compatible with other admixtures to produce high-quality concrete, especially with:

- MAPEI chemical admixtures in the *Dynamon*[®], *Mapeair*, *Mapecrete*, *Mapecure*[™], *Mapefast*, *Mapefluid* and *Mapeplast* product families.

PACKAGING

Mapeshield CI 320 [NA] is available in 55-U.S.-gal. (208-L) drums and 275-U.S.-gal. (1 041-L) totes.

Product Data

Solids content	~28.0%
Density	9.68 lbs. per U.S. gal. (1.160 kg per L)

Technical Data*

Typical results for Mapeshield CI 320 [NA] with a dosage of 2 gal/yd³ (10 L/m³) per ASTM C1582

Mapeshield CI 320 [NA] vs. Control		ASTM C1582 Requirement	Compliance with ASTM C1582
Set time – ASTM C403			
Initial (hr:min)	0:25 later	3:30 earlier to 3:30 later	Pass
Final (hr:min)	0:35 later	3:30 earlier to 3:30 later	Pass
Compressive strength – ASTM C39			
3 days	92%	≥ 80%	Pass
7 days	96%	≥ 80%	Pass
28 days	97%	≥ 80%	Pass
6 months	91%	≥ 80%	Pass
Flexural strength – ASTM C78			
3 days	94%	≥ 80%	Pass
7 days	95%	≥ 80%	Pass
28 days	96%	≥ 80%	Pass
Length change – ASTM C157			
14 days	0.000"	0.010" max. increase over control	Pass
Freeze/thaw – ASTM C666			
300 cycles	> 90	80 min. durability factor	
Polarization Resistance, ASTM G180-21 per ASTM C1582			
	Average Control, Mean (1/Rp)	Average Test Mix, Mean (1/Rp)	Requirement (Result)
Mapeshield CI 320 [NA], 2 gal/yd ³ (10 L/m ³)	105.10	0.27	≤ 1/8 (0.625) of Control 1/Rp (Pass)
Polarization Resistance, ASTM G180, Log ₁₀ (1/Rp)			
	Average Control, Log ₁₀ (1/Rp)	Average Test Mix, Log ₁₀ (1/Rp)	Difference (Result)
Mapeshield CI 320 [NA], 1 gal/yd ³ (5 L/m ³)	1.94	0.81	-1.13 (Pass)
Mapeshield CI 320 [NA], 2 gal/yd ³ (10 L/m ³)		0.26	-1.68 (Pass)

* Results obtained in laboratory conditions of 72°F (22°C) with 50% relative humidity. Field results may vary due to temperature and humidity.

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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For the most current product data and BEST-BACKEDSM warranty information,
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