

DE NEEF® MC 300® Data Sheet

Product Description

DE NEEF® MC 300® ULTRAFINE Cement is a blast furnace slag based cement composed of ultrafine particles, designed for injection into loose soils, rock, concrete, and down-hole applications. DE NEEF® MC 300® has a grain size of d_{95} equal to 6.0 microns and a d_{50} of 2.5 microns. The composition is comparable to high sulfate – resistant cements. It is suited for stabilizing or sealing all earthen foundations; especially for permanent structures such as tunnels, dams, deep foundations and oil storage tanks. Because DE NEEF® MC 300® cures into a hardened concrete, it causes no pollution to underground soils or water supplies.

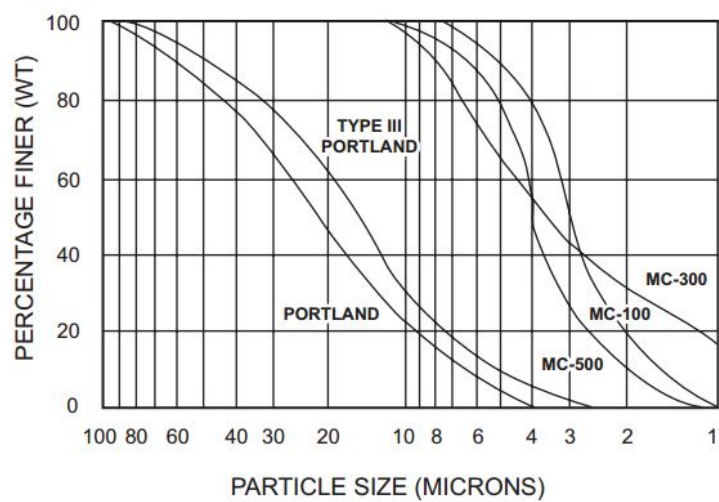
DE NEEF® MC 300® is used with NS-200, a super plasticizer, to prevent clumping of microfine cements. It is generally used at 1-2 wt. % of the dry cement weight.

Product Advantages

- Excellent penetration into fine sands and finely cracked rock
- High cured strength- chemically activated to produce rapid curing to high strength
- Excellent durability- impermeable to ground water and seawater
- Low permeability- 10^{-9} cm/s permeability for neat grout.

Product Applications

- Geotechnical grouting
- Oil well remedial cementing
- Seal off underground streams
- Create cut off walls for dam construction
- Reinforce foundations in dams and buildings
- Reinforce and waterproof tunnel walls and roofs
- Create waterproof basins for reservoirs
- Facilitate all types of excavation
- Stabilize hazardous waste.
- Provide secondary containment for nuclear waste



Installation

A colloidal mixer is necessary for mixing DE NEEF® MC 300®. The order of addition to the tank is: water, NS-200, mix, then add DE NEEF® MC 300®.

Contact a DeNeef technical services representative for application specific installation procedures.

Packaging & Handling

DE NEEF® MC 300®:

55 lb bags
40 bags per pallet.

Store on pallets in dry and cool location.

NS-200: 3.5 gallon pails (35 lb).

Store in original containers at or above 60°F.

One Component Grout Mix

DE NEEF® MC 300® GROUT MIX (55 LB BAG)

Batch Size	5 Bages (275 lbs)	4 Bages (220 lbs)	3 Bages (165 lbs)
Water: Cement	1:1	2:1	3:1
Water	33 gal.	53 gal.	60 gal.
NS-200	0.28 gal.	0.22 gal.	0.16 gal.
MC-300	275 lbs.	220 lbs.	165 lbs.

TOTAL	44 gal.	62 gal.	67 gal.
TOTAL	555 lbs	668 lbs	672 lbs

Set time for above mixes is 3–5 hours

Health and Safety

Freshly mixed cement grout may cause skin injury. Avoid contact with skin where possible and wash exposed skin promptly with water. Use dust mask when breaking bags and mixing. Avoid eye contact, if exposed, rinse immediately with water and seek prompt medical attention. Always use protective clothing, gloves, and goggles during use. Do not ingest. Refer to SDS for detailed safety precautions.

In the event of an EMERGENCY call: CHEMTREC 800-424-9300.

Properties

DRY PROPERTIES		
Grain Size	6.0 d ₉₅	ASTM C204
Grain Size	2.5 d ₅₀	ASTM C204
Bulk Specific Gravity	0.7 g/cm ³	ASTM C150
Absolute Density	2.9 g/cm ³	ASTM C150
Volume	0.041 gal/lb	ASTM C150
Surface Area	1.9 x 10 ⁴ cm ² /g	BET Method
MIXED PROPERTIES		
WATER:CEMENT = 2:1		
NS-200= 2% by weight . T=20°C		
Marsh Funnel	Mix Time*	Run Out
	0 min	29 s/dm ³
	30 min	30 s/dm ³
	60 min	30 s/dm ³
	90 min	30 s/dm ³
Sedimentation	Mix Time*	By Volume
	30 min	0%
	60 min	2%
	90 min	3%
COMPRESSIVE STRENGTH (NEAT GROUT 2:1)**		

3d	3.5 N/mm ²	508 psi
7d	5.0 N/mm ²	725 psi
14d	6.0 N/mm ²	870 psi
28d	6.0 N/mm ²	870 psi

* Suspension mixed continuously at 350 rpm until tested.

** Measured on 4 cm x 4 cm x 16 cm prisms.

Note: The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the above data may be expected.

gcpat.com | North America Customer Service: +1 (877) 423 6491

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

DE NEEF and MC 300 are trademarks, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2018 GCP Applied Technologies Inc. All rights reserved.

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Suite 400, Alpharetta, GA 30009, USA

GCP Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6

This document is only current as of the last updated date stated below and is valid only for use in the United States. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.com. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2025-05-13

gcpat.com/solutions/products/de-neef-waterproofing-injection-solutions/de-neef-mc-300-data-sheet