



## DATA SHEET NO. 3900-379

### MEADOW-CRETE® FNP™ One Component, Flowable, Form & Pour Structural Repair Mortar

#### DESCRIPTION

MEADOW-CRETE FNP is a one-component, flowable, shrinkage-compensated, corrosion inhibitor enhanced repair mortar for structural applications. MEADOW-CRETE FNP can be formed and poured or formed and pumped, utilizing a suitable grout pump. It has low permeability, protects embedded reinforcing steel and provides a lower in-place cost.

#### USES

The product is ideal for the reinstatement or repair of beams, columns, and balcony edges, or for partial depth or full depth placement. MEADOW-CRETE FNP is suitable for industrial, residential, and civil engineering applications.

#### FEATURES/BENEFITS

- Migrating corrosion inhibitor enhanced/Protects localized and adjacent reinforcing steel.
- Very flowable/Can be poured or pumped.
- May be extended/Lower in cost placement.
- Low permeability/Protects embedded reinforcing steel.
- Shrinkage compensated/Added dynamic stability.
- Highly engineered/Non segregating, re-dispersible.

#### PACKAGING AND YIELD

22.7 kg (50 lb.) bag yields 11.32 litres (0.40 ft.<sup>3</sup>).

The yield listed above is based on 3.07 litres (3.25 U.S. quarts) of water per 22.7 kg. (50 lb.) bag and will vary based on substrate profile, aggregate, variations in mix water amounts, and waste/rebound. Field trials should be performed to determine yields based on jobsite conditions.

#### STORAGE AND SHELF LIFE

Store on pallets in a cool, dry location. Do not store products outdoors. Shelf life of properly stored product is one year from date of manufacture in unopened, original packaging.

#### TECHNICAL DATA

The following data was determined using the maximum water to powder ratio of 3.07 litres (3.25 quarts) per 22.7 kg (50 lb.) bag at 23.5° C (75° F).

Set Time per ASTM C 191

Initial	4 hours
Final	6 hours

Working Time	30 minutes
Flow Per ASTM C 191 <sup>1</sup>	Flowable
Compressive Strength per ASTM C 109 <sup>1</sup>	
@ 1 day	15.5 MPa (2,250 psi.)
@ 7 days	52.0 MPa (7,500 psi)
@ 28 days	55.0 MPa (8,000 psi.)
Bond Strength Per ASTM C 882 <sup>12</sup>	
@ 1 day	4.5 MPa (650 psi)
@ 28 days	27 MPa (3,400 psi)
Modulus of Elasticity Per ASTM C 469 <sup>1</sup>	28.5 GPa (4.13 x 10 <sup>6</sup> psi)
Length Change Per ASTM C 157 <sup>1</sup> Drying Shrinkage	
@ 28 days	-0.040% (400 µ strain)
Length Change Per ASTM C 157 <sup>1</sup> (Modified)	
Specimens stored at 23°C ±1° C (73°F ±3° F) and 50 ±4% RH, continuously.	
Drying Shrinkage @ 28 days	-0.091% (910 µ strain)
Flexural Strength Per ASTM 348 <sup>1</sup>	
@ 1 day	4.5 MPa (650 psi)
@ 28 days	13 MPa (1,850 psi)
Freeze-Thaw Resistance Per ASTM C 666 (Procedure A) <sup>1</sup>	
@ 300 Cycles	97% RDM <sup>3</sup>

All technical data is typical information, but may vary due to testing methods, conditions, and procedures.

<sup>1</sup>Independent reports are available on request.

<sup>2</sup>Modified – No bonding agent used. Pre-dampening of properly prepared substrate.

<sup>3</sup>RDM – Relative Dynamic Modulus

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## FOR BEST PERFORMANCE:

MEADOW-CRETE FNP is recommended for concrete repairs only.

Not intended to be used as a self-leveling underlayment or topping.

Do not apply below 4° C (40° F) or above 32° C (90° F) or when rain is imminent.

Protect from freezing for a minimum of 24 hours.

Do not bridge moving cracks. Extend existing control and expansion joints through MEADOW-CRETE FNP.

For large areas with no control, expansion or construction joints, refer to ACI guidelines.

Do not add any admixtures.

Exceeding liquid requirements shall result in reduced physical properties.

Realize that set time will decrease as the product, air, substrate and mixing liquid temperature increases and will increase as the temperature decreases.

Repair areas should be saw cut and slightly undercut to a minimum depth of 12 mm (1/2"). Do not featheredge.

Protect from conditions that may cause early water loss; high winds, low humidity, high temperature, direct sunlight. Early water loss is aggravated in thin applications.

Realize that the use of extender aggregate will alter physical properties.

Failure to follow industry standard practices may result in decreased material performance.

## APPLICATION

**Surface Preparation ...** Perform surface preparation in accordance with ICRI Technical Guidelines No. 03730. Mechanically abrade existing substrate to remove all unsound concrete, but do not use excessive force, which may cause micro-fracturing. Substrate must be structurally sound and free of any contaminants that will adversely affect bond. Prepared surface must be dust-free and have a sufficient profile to ensure adequate mechanical lock. Saw cut perimeter of repair zone to a depth of 12 mm (1/2") to avoid featheredging.

Completely expose all reinforcing steel, ensuring a minimum clearance of 19 mm (3/4") behind reinforcing steel. Perform reinforcing steel preparation in accordance with ICRI Technical Guidelines No. 03730. Presoak repair zone prior to application of MEADOW-CRETE FNP to a saturated, surface dry (SSD) condition and free of standing water.

**Mixing ...** Mix only complete bags. Using a mortar type mixer, pour 2.84 litres (3.00 U.S. quarts) per 22.7 kg (50 lb.) bag. Slowly add MEADOW-CRETE FNP while mixing. Adjust mix consistency using up to an additional 0.47 litres (0.50 U.S. quarts) of water, as required. Mix for 3-5 minutes or until homogenous and lump-free. Do not over mix.

**Forming ...** Support formwork as to ensure a tight seal with repair zone. Formwork should be rigid, structurally stable, sealed, and coated with a suitable release agent (such as DUOGARD from W. R. MEADOWS). Forming should be accomplished in accordance with ACI 347-88. Proper vent and drainage ports should be installed as required to ensure no entrapment of air voids. Pre-soak repair zone for 24 hours, prior to placement to a saturated, surface dry (SSD) condition.

**Placement ...** Pour or pump properly mixed product immediately following proper mixing to ensure adequate flow. Pumping should be accomplished in accordance with ACI 304-R-85. Do not re-temper or over-work product. Follow ACI 305-

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**WARRANTY:** W. R. Meadows of Canada warrants that, at the time and place we make shipment, our materials will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM OF TRADE OR OTHERWISE. As the exclusive remedy for breach of this Warranty, we will replace defective materials, provided, however, that the buyer examine the materials when received and promptly notify us in writing of any defect before the materials are used or incorporated into a structure. Three (3) months after W. R. Meadows of Canada has shipped the materials, all our Warranty and other duties with respect to the quality of the materials delivered shall conclusively be presumed to have been satisfied, all liability therefore terminates and no action for breach of any such duties may thereafter be commenced. W. R. Meadows of Canada shall in no event be liable for consequential damages. Unless otherwise agreed to in writing, no warranty is made with respect to materials not manufactured by W. R. Meadows of Canada. We cannot warrant or in any way guarantee any particular method of use or application or the performance of materials under any particular condition. Neither this Warranty nor our liability may be extended or amended by our salesmen, distributors or representatives, or by our distributor's representatives, or by any sales information or drawings.

R89 "Standard on Hot Weather Concreting" or ACI 306-R88 "Standard on Cold Weather Concreting," when applicable.

**Curing ...** Cure MEADOW-CRETE FNP immediately following application using a suitable curing compound from W. R. MEADOWS, or in accordance with ACI 308. W. R. MEADOWS recommends 1220-WHITE or 1100-CLEAR for curing. When conditions exist for rapid early water loss, the use of EVAPRE™, an evaporation retarder from W. R. MEADOWS, is also recommended.

## HEALTH AND SAFETY

Avoid inhalation of dust. Avoid direct contact with this product. Utilize gloves and safety glasses to minimize direct contact. If contact occurs, wash affected areas with mild soap and water. Keep product out of reach of children. For industrial use only. Refer to Material Safety Data Sheet for complete health and safety information.

## MASTERFORMAT NUMBER AND TITLE

03 01 30.71 – Rehabilitation of Cast-in-Place Concrete

## LEED INFORMATION

May help contribute to LEED credits:

- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials

For most current data sheet, further LEED information, and MSDS, visit [www.wrmeadows.com](http://www.wrmeadows.com).



2011-08-11