PRODUCT DATA

QUALITY | SERVICE | INTEGRITY
W. R. MEADOWS®
A Family Company Since 1926

DATA SHEET NO. 3900-384

MEADOW-CRETE® GPS

One-Component, Polymer-Modified, General Purpose Structural Repair Mortar

DESCRIPTION

MEADOW-CRETE GPS is a one-component, trowel- or pneumatically-applied (wet process), migrating-corrosion-inhibitor enhanced, polymer-modified, shrinkage-compensated, fiber-reinforced, micro-silica enhanced, cementitious repair mortar for horizontal, vertical, and overhead applications.

USES

The product is ideal for patches from 6.4 mm (¼") to deep horizontal, vertical and overhead structural repairs and resurfacing of concrete, either small or large areas, interior or exterior application. MEADOW-CRETE GPS is suitable for industrial and civil engineering applications.

FEATURES/BENEFITS

- Fiber Reinforced / Increased Tensile & Flexural Strengths
- Polymer Modified / Enhanced Bond
- Micro Silica Enhanced / Low Permeability / Protects Embedded Reinforcing Steel
- Shrinkage Compensated / Added Dynamic Stability
- Highly Engineered / Low Rebound
- Creamy Consistency / Easily Finished
- Excellent Freeze-Thaw Resistance / Long Term Stability
- Wet Spray Process / Low In-Place Cost
- Migrating-Corrosion-Inhibitor Enhanced / Protects Localized and Adjacent Reinforcing Steel

PACKAGING

22.7 kg (50 lb.) bag yields 0.0125 m^3 (0.44 $ft.^3$). Yield based on 3.30 L (3.5 qt.) of water per 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.

SHELF LIFE

One year when stored on pallets in a dry, cool area.

SPECIFICATIONS/STANDARDS

- Approved by the Ministére des Transports du Québec

TECHNICAL DATA

The following physical properties were determined using the maximum water to powder ratio of 3.54 L (3.75 U.S. quarts) per 22.7 kg (50 lb.) bag at 24°C (75°F)

Set Time per ASTM C191	
Initial	4 hours
Final	6 hours
Working Time	2 hours
Flow per ASTM C928[1]	56%
Compressive Strength per ASTM C109[1]	@ 1 day 17 MPa (2,500 psi) @ 7 days 41 MPa (6,000 psi) @ 28 days 46.5 MPa (6,750 psi)
Bond Strength per ASTM C882[1,2]	@ 1 day 5 MPa (700 psi) @ 28 days 17.5 MPa (2,550 psi)
Modulus of Elasticity per ASTM C 469[1]	16.8 GPa (2.44 x 10^6 psi)
Length Change per ASTM C 157[1] Drying Shrinkage	0.083% (830 µ strain)
Flexural Strength per ASTM 348[1]	@ 1 day 4.5 MPa (675 psi) @ 28 days 10 MPa (1,450 psi)
Freeze-Thaw Resistance per ASTM C666 (Procedure A)[1]	At 300 Cycles 112% RDM[3]

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

[1]Independent Reports are available upon request.
[2]Modified – No Bonding Agent used. Pre-dampening of properly prepared substrate.
[3]RDM – Relative Dynamic Modulus.

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APPLICATION

Surface Preparation … Prepare concrete substrate in accordance with ICRI Technical Guideline #310.2-1997: Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays. Also, prepare concrete repair area in accordance with ICRI Technical Guideline 310.1R-2008: Guide for Surace Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion.

Mechanically roughen or high pressure water-jet the existing concrete substrate to a minimum concrete surface profile of CSP-6 or higher, depending on substrate condition. Remove all unsound concrete and provide a profiled, porous surface. The substrate must be structurally sound, dust-free, and free of grease, oil, dirt, curing compounds, release agents, or any other surface or penetrated contaminants that will adversely affect bond. Sanding or wire-brushing are not approved surface preparation methods. Saw cut perimeter of repair zone to a depth of 6.35 mm (¼" mm). Completely expose all reinforcing steel, ensuring a minimum clearance of 19.05 mm (¾") behind the reinforcing steel. Substrate must be saturated surface dry (SSD) and free of standing water.

Mixing … Mix only complete bags. Using a horizontal, paddle-type mortar mixer, pour 3.30 - 3.54 L (3.5 –3.75 quarts) per bag in mixer. Slowly add MEADOW-CRETE GPS. Mix for 3 - 5 minutes or until homogeneous and lump-free. Do not over mix. For small repairs, mix in a clean vessel [18.9 L (5 gal.)] using a variable-speed drill with a paddle mixer at 400 - 600 rpm. Mix only complete bags. Do not mix more material than can be placed and finished in 30 minutes at 25° C.

Extension … Horizontal applications greater than 50.8 mm (2") should be extended with 5.68 kg (12.5 lb.) of 9.5 mm (3/8") washed, dried aggregate, such as pea gravel or other hard rock. The extender aggregate must be added to the mixer prior to the addition of MEADOW-CRETE GPS.

Machine Placement … Use low-pressure, wet spray equipment. Follow industry standard nozzle procedures for removal of rebound, spray angle, compaction behind reinforcing steel and appropriate reinforcing steel cover, etc. Cut surface face to desired configuration. Finish with a wood or steel or sponge float. Do not re-temper or over-work.

Hand Placement … Compact MEADOW-CRETE GPS into properly prepared SSD substrate prior to bulk placement. Finish surface with a wood or steel trowel or sponge float. MEADOW-CRETE GPS may be applied up to 76.2 mm (3") horizontally and vertically and 50.8 mm (2") overhead, dependent on patch size and configuration. Do not re-temper or over-work.

Curing … Cure MEADOW-CRETE GPS immediately following application using a suitable water-based curing compound from W. R. MEADOWS, or in accordance with ACI 308. W.R. MEADOWS recommends 1220-WHITE or 1100 for curing (Do not use solvent-based curing compounds). When conditions exist for rapid early water loss, the use of EVAPRE, an evaporation retarder from W. R. MEADOWS is also recommended,

LIMITATIONS/PRECAUTIONS

MEADOW-CRETE GPS is recommended for concrete repairs only. Not intended to be used as a self-leveling underlayment or topping; MEADOW-CRETE GPS is designed as a trowel-down repair mortar. Do not apply when concrete surface and air temperatures are below 4° C, above 32° C, or when rain is imminent. Protect from freezing for a minimum of 48 hours. Do not bridge moving cracks. Extend existing control and expansion joints through MEADOW-CRETE GPS. For large areas with no control, expansion, or construction joints, refer to ACI guidelines. Do not exceed a length-to-width ratio of 2:1 for the repair area. Do not add any admixtures. Follow ACI 305-R89: Standard on Hot Weather Concreting or ACI 306 R88: Standard on Cold Weather Concreting when applicable. Exceeding liquid requirements will 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 6 mm (1/4"). Do not featheredge. Protect from conditions that may cause early water loss: high winds, low humidity, high temperature, direct sunlight. Early water loss is exasperated in thin applications. Use of extender aggregate will alter physical properties. Failure to follow industry standard practices may result in decreased material performance. Proper application is the responsibility of the user. Field visits by W. R. MEADOWS personnel are for the purpose of making technical recommendations only and are not to supervise or provide quality control on the jobsite.

SAFETY AND TOXICITY

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 Safety Data Sheet for complete Health and Safety Information.

MASTERFORMAT NUMBER AND TITLE

03 01 30.71 - Rehabilitation of Cast-In-Place Concrete

For most recent data sheet, sustainability Information, and SDS, visit www.wrmeadows.com.

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