

MasterEmaco[®] S 6000

Rapid setting methacrylate repair material

FORMERLY DEGADECK[®] POLYMER CONCRETE**PACKAGING**

PART A: 4.5 gal (17 kg) pail or
54 gal (190 kg) drum
PART B: 37 lb (16.7 kg) bags

YIELD0.33 ft³ per unit

MASTEREMACO S 6000 UNIT:

PART A: 0.5 gal (1.9 L)
PART B: One 37 lb (16.7 kg) bag

See Mixing Section for aggregate extensions

STORAGE

Store in unopened containers in cool, clean, dry conditions out of direct sunlight. Maximum storage temperature is 86° F (30° C).

SHELF LIFE

2 years when properly stored

VOC CONTENT

0 g/L less water and exempt solvents

DESCRIPTION

MasterEmaco S 6000 is a solvent free, 100% reactive methacrylate liquid component and a specially blended filler component, which includes MasterTop SRS 100HD. MasterEmaco S 6000 can be extended up to 100% with select aggregates for deeper repairs. Typical cure time is one hour at temperatures ranging from 14 to 104° F (–10 to 40° C).

PRODUCT HIGHLIGHTS

- Fast curing allows fast return of traffic flow on highway and bridge projects
- Can be applied at a large range of temperatures, 14 to 104° F (–10 to 40° C), for extended application season
- Extendable with aggregate for variable depth placement consistencies
- Two-component for ease of installation
- High strength and excellent bonding capabilities to a variety of concrete substrates
- Durable to withstand freeze-thaw damage
- UV resistance protects product performance from sun exposure

SUBSTRATES

- Concrete

APPLICATIONS

- Exterior
- Horizontal & formed vertical
- Bridge decks
- Parking structures
- Runways
- Civil engineering applications
- Anchor bolts
- Potholes
- Joint nosing repairs
- Bearing pads
- Spalled concrete repairs

HOW TO APPLY**SURFACE PREPARATION**

1. The substrate must be clean, dry and structurally sound. Completely remove all substances detrimental to bonding, such as dirt, oils, fats, waxes, chemical contaminants, and weak, loose, or unsound concrete.
2. Use routine methods like sandblasting, chipping, and wire brushing; do not acid etch. Obtain a minimum CSP 5 as described by the International Concrete Repair Institute. Do not use a method of surface preparation that will fracture the concrete. Verify the absence of microcracking or bruising in accordance with ICRI Guideline No. 310.2.

Technical Data

Composition

MasterEmaco S 6000 Part B is a non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder.

MasterEmaco S 6000 Part A is a reactive binder based on Methacrylate monomers used with Part B to form a polymer concrete.

Compliances

- MasterEmaco S 6000 is classified under DOT regulations as Resin Solution, UN 1866, Class 3, PG II.
- Master Builders Solutions resins are manufactured to ISO 9001 standards.

Typical Properties

| COMPONENT | RESULTS | |
|---|---------|-------------|
| | PART A | PART B |
| Appearance | Liquid | Grey powder |
| Specific gravity, g/cm³ | 0.93 | — |
| Bulk density, approx, lb/ft³ (kg/m³) | — | 78.5 (1.26) |
| Viscosity, cP (MPa-sec) | 1 | — |
| Flash point, ° F (° C) | 48 (9) | — |

Test Data

| PROPERTY | RESULTS | TEST METHOD |
|--|--|-------------|
| Compressive strength, psi (MPa) | 7,000 (48.2) | ASTM C 579 |
| Tensile strength, psi (MPa) | 1,150 (7.9) | ASTM C 307 |
| Flexural strength, psi (MPa) | 5,900 (40.7) | ASTM C 580 |
| Compressive modulus of elasticity, psi (MPa) | 0.6 × 10 ⁶ (4.1 × 10 ³) | ASTM C 469 |
| Coefficient of thermal expansion, /° F (/° C) | 38 × 10 ⁻⁶ (68 × 10 ⁻⁶) | ASTM C 531 |
| Linear shrinkage, % | 0.08 | ASTM C 531 |
| Water absorption, % / 24 hrs | 0.09 | ASTM D 570 |

Aggregate Extension

| REPAIR THICKNESS IN (MM) | EXTENSION % BY WEIGHT | AGGREGATE GRAIN SIZE | LBS OF AGGREGATE | SQUARE FEET | CUBIC FEET |
|--------------------------|-----------------------|----------------------|------------------|-------------|------------|
| 1/8 (3.2) | — | — | — | 29.3 | 0.30 |
| 1/4 (6.4) | — | — | — | 14.6 | 0.30 |
| 1/2 (12.7) | 10 | 1/16" to 1/8" | 4 | 7.9 | 0.33 |
| 3/4 (19) | 25 | 1/16" to 1/8" | 10 | 5.9 | 0.37 |
| 1 (25.4) | 50 | 3/16" to 3/8" | 20 | 5.4 | 0.45 |
| 1 1/2 (38) | 75 | 3/16" to 3/8" | 30 | 4.2 | 0.52 |
| 2 (50.8) | 100 | 1/4" to 3/4" | 40 | 3.5 | 0.59 |

- The concrete surface must be dry with a maximum 5% moisture content. Damp and wet surfaces may be dried with artificial heat if the concrete will remain dry when the heat source is removed (i.e., the concrete must not be saturated with moisture).
- Conduct adhesion tests with the polymer system to ensure proper preparation and good bond strength. Adhesion tests should exhibit failure in the concrete, not at the interface. Concrete failure must be greater than 200 psi (1.4 MPa).
- Patch perimeter must be sawcut to ¼" as materials cannot be feather-edged.
- MasterEmaco S 6000 requires the use of MasterEmaco P 6001.

PRIMING

Prime all surfaces with MasterEmaco P 6001 at 100 ft²/gal. Mix 1 gallon of MasterEmaco P 6001 with appropriate amount of MasterTop SRS 100HD (see MasterEmaco P 6001 data sheet for Mixing instructions) and apply immediately. Allow to fully cure prior to placing MasterEmaco S 6000.

MIXING

- Mix MasterEmaco S 6000 in 5 gallon pails with a mixing blade or in concrete drum mixers. Measure out no more than ½ gallon of Part A per 37 lb bag of Part B.
- Add Part A to container followed by Part B and mix thoroughly for 30–60 seconds to obtain a mortar consistency. When extending, add aggregate as required (contact BASF Technical Service for proper aggregate extension technique).
- MasterEmaco S 6000 can be used in any thickness over ½" (12.7 mm) when extended with selected washed and dried aggregate. Aggregate is added after Part A and Part B are blended.

APPLICATION

- Finish the patch or repair using standard concrete finishing methods. For larger, deeper and vertical repairs, polyethylene or plastic laminate-lined forms may be required.
- For small, shallow repairs, use a trowel to spread and smooth the MasterEmaco S 6000. Keep the trowel flat and do NOT overwork the mortar, as improper surface cure will result. The product completely cures and is traffic ready within one hour.

- The minimum application thickness for MasterEmaco S 6000 is ⅛" (3.18 mm). Applications over ½" (12.7 mm) thick must be extended. Washed and dried pea gravel or coarse aggregate is used to extend the mortar mix. The largest aggregate size should not exceed ⅓ the depth of the patch (contact BASF Technical Service for proper aggregate extension technique). Never use any extender aggregate less than ¼" (1.6 mm) with MasterEmaco S 6000.

ANCHOR BOLTS

Holes must be primed prior to addition of polymer mortar. Bolts must be rust-free and preferably galvanized. Other types of metal plating should be tested for compatibility with MasterEmaco P 6001 and MasterEmaco S 6000 prior to use.

JOINT HEADERS

MasterEmaco S 6000 is well-suited for header repairs to armored joints, strip joint systems and other similar applications. For retrofit of existing headers, remove all existing header material and any damaged and spalled concrete. Edges should be sawcut to ¼" (6.4 mm). All surfaces must be properly primed and allowed to cure prior to accepting the polymer concrete. For new construction, the concrete should be cut back 4–8" from the joint and 2–4" depth depending on design requirements.

CLEAN UP

Clean tools as needed with inhibited MMA, acetone, ethyl acetate or similar solvents.

FOR BEST PERFORMANCE

- MasterEmaco S 6000: Non-cementitious, water-free composite material in which fine and coarse aggregates are bound together in a dense matrix with a polymer binder. Polymer concretes are used for repairing spalled, eroded and deteriorated concrete surfaces. They are specified in environments that demand rapid cure, low maintenance and high functional performance.
- Do not recoat while material is still hot to touch.
- Do not "slick off" material with straight MMA or solvents. This will interfere with the curing process.
- Material must be re-primed prior to over-coating with other MasterEmaco S 6000

- MasterEmaco S 6000 is not intended for use over bituminous-based substrates.
- Do not overwork the product. It will interfere with the curing process.
- Elevated temperatures will accelerate cure time.
- MasterTop SRS 100HD is already pre-blended into MasterEmaco S 6000 Part B.
- MasterEmaco S 6000 resins cure via an addition polymerization mechanism using the MasterTop SRS 100HD. Free radicals are formed and used to convert the liquid resin into a three-dimensional polymer network. This reaction proceeds easily below 50° F (10° C). Also, during the reaction, all hardener is consumed and the polymer is fully formed within a one-hour period. There is no potential for an excess of unreacted components or extended cure that is typical of other systems. When used correctly, cure is thorough and consistent.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of product data sheet and SDS are being used; visit master-builders-solutions.basf.us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbcst@basf.com or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only,
call ChemTrec® 1(800)424-9300.**

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