MasterEmaco® N 423RS
Fast-setting concrete-repair mortar for horizontal, vertical, and overhead use
FORMERLY EMACO® FS

DESCRIPTION
MasterEmaco N 423RS is a fast-setting polymer-modified cementitious repair mortar for horizontal, vertical, or overhead surfaces.

PRODUCT HIGHLIGHTS
- Polymer modification improves adhesion and provides increased freeze/thaw stability
- Non-sag consistency able to be placed in 1” (25 mm) thick lifts
- Fast setting
- Only requires the addition of potable water
- Can be mixed with MasterEmaco A 400 to increase high-performance properties

HOW TO APPLY
SURFACE PREPARATION
1. Substrate must be structurally sound and fully cured (28 days).
2. Saw cut the perimeter of the area being repaired into a square with a minimum depth of 1/4” (6 mm).
3. The surface to be repaired must be clean, free of laitance and saturated surface-dry (SSD) following ICRI Guideline no. 310.2 to permit proper bond.

REINFORCING STEEL
1. Remove all oxidation and scale from the exposed reinforcing steel in accordance with ICRI Technical Guideline No. 310.1R.
2. For additional protection from future corrosion, coat the prepared reinforcing steel with MasterProtect P 8100 AP.

APPLICATIONS
- Interior and exterior
- Vertical and overhead
- Horizontal
- Above and below grade
- Spalls or holes in concrete
- Deteriorated edges

SUBSTRATES
- Concrete
- Masonry

PACKAGING
50 lb (22.6 kg) polyethylene-lined bags

YIELD
0.4 ft³/50 lb bag (0.011 m³/22.6 kg)

STORAGE
Store in unopened containers in a cool, clean, dry area

SHELF LIFE
9 months when properly stored

VOC CONTENT
0 g/L less water and exempt solvents

TECHNICAL DATA GUIDE
Master Builders Solutions by BASF
www.master-builders-solutions.basf.us
Technical Data
Composition
MasterEmaco N 423 RS is composed of silica (quartz) and Portland cement.

Typical Properties

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting time, min, at 70° F (21° C)</td>
<td>10</td>
</tr>
<tr>
<td>Liquid requirements</td>
<td>Approximately 3 qts/50 lb bag (2.8 L/22.7 kg bag)</td>
</tr>
</tbody>
</table>

Test Data

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>RESULTS</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive strength, psi (MPa),</td>
<td></td>
<td>ASTM C 109</td>
</tr>
<tr>
<td>2 hours</td>
<td>700 (4.8)</td>
<td></td>
</tr>
<tr>
<td>24 hours</td>
<td>3,100 (21.4)</td>
<td></td>
</tr>
<tr>
<td>7 days</td>
<td>5,200 (35.8)</td>
<td></td>
</tr>
<tr>
<td>28 days</td>
<td>6,500 (44.8)</td>
<td></td>
</tr>
<tr>
<td>Volume change, %</td>
<td></td>
<td>ASTM C 1090</td>
</tr>
<tr>
<td>7 days</td>
<td>+0.012 (no shrinkage)</td>
<td></td>
</tr>
<tr>
<td>28 days</td>
<td>+0.017 (no over shrinkage)</td>
<td></td>
</tr>
</tbody>
</table>

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.
MIXING
1. Precondition material to 70°F ±5°F (21°C ±3°C) before mixing.
2. Mechanically mix at slow speed with a 3/4" drill and mixing paddle.
3. Add approximately 3 quarts (2.84 L) of potable water or approximately 3 quarts of MasterEmaco A 400 to the mixing container. Add the MasterEmaco N 423RS dry powder. Mix to a uniform, stiff plastic-like consistency. Do not mix for more than 1 minute.
4. Placement time is 10 minutes at 70°F (21°C) and 50% relative humidity. Do not retemper mixes with additional liquid. Carefully measure amounts used in mechanical mixers and clean out the drum frequently to avoid build up.

APPLICATION
1. Dampen the surface with potable water; it must be saturated surface-dry (SSD) with no standing water.
2. With a gloved hand, scrub a small quantity of mixed material into the SSD substrate. Thoroughly key in and work the material throughout the cavity to promote bond. Do not apply more of the bond coat than can be covered with mortar before the bond coat dries.
3. Apply material in lifts of 1/4–1" (6–25 mm). Avoid featheredging. For optimum mechanical bond on successive lifts, thoroughly score each lift and allow to reach initial set before the next layer is applied. Placement time is 10 minutes at 70°F (21°C) and 50% relative humidity.
4. For repairs greater than 1" (25 mm) in depth, successive lifts are mandatory, or preferably, add approximately 3 quarts of MasterEmaco A 400 to the mixing container. Add the MasterEmaco N 423RS dry powder. Mix to a uniform, stiff plastic-like consistency. Do not mix for more than 1 minute.

CURING
Cure with an approved water based curing compound compliant with ASTM C 309 or preferably ASTM C 1315. If the repair area will receive a coating, wet curing is recommended.

CLEAN UP
Clean tools and equipment with clean water immediately after use. Cured material must be removed mechanically.

FOR BEST PERFORMANCE
- Maximum lift recommended is 1" (25 mm) for neat material
- Do not use as an overlay
- Do not bridge moving cracks or joints.
- Do not exceed a length-to-width ratio of 2 to 1 for the repair area.
- Mixing MasterEmaco A 400 is required in thinner applications to avoid cracking.
- Do not overwork material
- Do not add plasticizers, accelerators, retarders, or other additives.
- Bonding agents are recommended for large areas as well as permanently damp areas.
- Protect from freezing for 24 hours after application.
- For professional use only; not for sale to or use by the general public.

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 and product label information for this product. Performance of the product described herein should be verified by testing and carried out by qualified experts.

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