

**ROADWARE 10 MINUTE CONCRETE MENDER™
STANDARD PRODUCT DATA SHEET****1. Product Name**

ROADWARE 10 Minute Concrete Mender™

2. Manufacturer

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3. Product Description

Roadware 10 Minute Concrete Mender is a high-penetration two-part hybrid urethane that combines with sand to form a tough instant polymer concrete. This nearly water thin formula is designed for Microdoweling™ deep into the host concrete creating extremely high bond strengths, reinforcement of the repair area as well as permanent repairs.

Roadware 10 Minute Concrete Mender produces polymer concrete repairs that absorb the shock and transfers the load of heavy traffic without cracking or dis-bonding. It is highly chemically resistant and can be applied in a wide range of temperatures. It is excellent for industrial floor repairs subject to forklift traffic and harsh conditions.

GENERAL USE

- Repairing hairline cracks or larger, where future movement is not anticipated.
- Repairing spalled control joints.
- Restoring integrity to distressed concrete.
- Connecting broken slabs.
- Repairing moving slabs.
- Repairing spalls and pop-outs in concrete.
- Securing bolts, equipment, or railings into concrete.
- Vertical repairs when combined with specified sand.
- Re-bonding delaminated floors
- Horizontal and vertical crack injection.
- Ramping elevated slabs
- Repairing concrete surface imperfections prior to coating.

SIZES

50 ml dual cartridge unit with 15 gauge needle tip mixer (80100 Grey) (70100 Off-white)
21 fl oz. dual cartridge units (600 ml) with mixer (80300 Grey) (70300 Off-white)
2 gallon kits (7.57 liters) in two parts (80020 Grey) (70020 Off-white)
10 gallon units (45 liters) in two parts (80050 Grey) (70050 Off-white)

COLOR

10 Minute Concrete Mender is composed of an amber colored liquid and a violet colored liquid. The material is black when dispensed and cures to a gray finish. Alternate colors can be achieved by selecting different colors of manufactured sand. 10 Minute Concrete Mender will lighten in color when exposed to ultraviolet rays. This natural occurrence within urethanes will NOT effect the physical properties of the material or the repair. For colorfast repairs that are exposed to sunlight, we recommend coating the repair with paint or a standard concrete topping material.

YIELD

Roadware 10 Minute Concrete Mender™ is combined with manufactured silica sand or equivalent at the point of application. The gradation of the sand and the amount of sand used will determine yield. Listed below is the approximate yield of 1 part mixed polymer to 3 parts 30-40 grit silica sand.

One 300x300 cartridge with sand yields 122 cu in.

One two-gallon kit with sand yields 1540 cu in.

LIMITATIONS

10 Minute Concrete Mender is a rigid material designed for use on interior or exterior concrete surfaces. It is not intended for repairing areas of movement such as exterior cracks and joints subject structural or ground movement. It must be applied to concrete free of surface moisture.

4. Technical Data**PHYSICAL/CHEMICAL PROPERTIES**

Typical test results when tested in accordance with applicable ASTM standards and Roadware developed testing.

Typical Properties:	Value (average)
Hardness @ 72° F. (22° C)	72D
Compressive Strength (Neat)	3883 psi
Compressive Strength (with sand)	6681 psi
Elongation:	4%
Tensile Strength:	3385 psi
Average Modulus	150.7 ksi
Bond Strength, ASTM 882-99:	1984 psi
Viscosity (at application)	<8 cps
V.O.C.(mixed):	5.5 g/l
Surface Tension (Wilhelmy Plate)	0.026 N/m
Solids:	98%
Cured Color	Gray
Gel time @ 72° F (22° C)	6-7 min
Cure time @ 72° F (22° C)	10 min
Ambient temperature range for application	-30°F - 120°F

5. Installation**SURFACE PREPERATION****Preparation:**

Surface Cracks (all depths and widths): Cracks should be free of dirt, oils, dust, latents and old crack repair materials. **ALL SURFACES MUST BE CLEAN AND DRY.** New concrete must be fully cured. A dry diamond blade attached to an electric hand grinder is recommended for preparing cracks and creating a clean surface for bonding. A wire brush or twisted wire wheel on a grinder may be used in some cases. A surface profile meeting ICRI guideline #03732 CSP 3 is recommended.

Surface Spalls and Deflections: Remove all loose materials back to sound concrete with a chisel or light chipper. **DO NOT SQUARE CUT THE REPAIR AREA.** If a square appearance is necessary, lightly score surface and remove material. Use a wire brush or twisted wire wheel to clean the repair area. All surfaces must be free of dirt, oils, dust, latents and old repair materials. For feather edge repairs in high traffic areas, score the repair edge with a dry diamond blade 1/8" deep around the perimeter of the repair. New concrete must be fully cured. A surface profile meeting ICRI guideline #03732 CSP 3 is recommended.

Application Temperature:

Recommended application temperature is between 0° F and 100° F (-18° to 38°C). It is best to keep material at room temperature (60° to 80° F) prior to application. If manufactured sand is to be used with product, it also should be kept at room temperature. Avoid frost laden surfaces as this may adversely affect bonding and curing. 10 Minute Concrete Mender will fully cure in 10 minutes at 72° F (22° C). The temperature of the material and the temperature of the concrete surfaces will affect cure time. Warmer temperatures will decrease cure time and colder temperatures will increase cure time. In extremely cold environments, heat the concrete to remove frost before application. Successful repairs have been installed at temperatures -20°F (-29°C) and below.

MIXING

Cartridges: 10 Minute Concrete Mender is a two-component material and must be thoroughly mixed at a ratio of 1 part "A" to 1 part "B" by volume. Mixing and metering of 10 Minute Concrete Mender is achieved with self-mixing cartridges provided by Roadware, Inc. Material is ejected from prepackaged cartridges through a supplied static mixing nozzle with a dual component caulking gun such as the Roadware 5300 Application Tool, Mixed material is applied directly into the repair area immediately after mixing.

Bulk: Due to the rapid setting nature of the product, pot-mixing of the components is not recommended for crack and joint repairs less than 3/4" in width. 10 Minute Concrete Mender supplied in 10-gallon kits may be bucket mixed in quart batches and applied immediately to the repair area. Combined one pint of Part A with one pint of Part B. Mix with a drill mixer or hand mixing stick for 30 seconds or until well blended. Add 2 quarts of manufactured sand and mix for an additional 10 seconds. Pour the entire batch into the repair area immediately. SEE BULK MIXING INSTRUCTIONS INCLUDED WITH MATERIAL. 10 Minute Concrete Mender may be dispensed through a one-to-one ratio pump specifically designed to handle extremely low viscosity materials while maintaining exact ratios. The system must not allow the two components to combine until they reach the point of delivery. Contact Roadware for information on acceptable pumping equipment. All pumping equipment must be approved by Roadware, Inc. prior to application

APPLICATION

Surface Cracks (all depths and widths): Assemble cartridge according to directions. Remember to use the flow restrictor included with each cartridge set. Holding the application gun upward, place cartridge set into gun. Gently squeeze trigger to bleed-off air and start material flowing into mixers. Point mixer into waste container and squeeze trigger to start mixing process. DO NOT POINT MIXER UPWARD AFTER MATERIAL IS FLOWING. This may cause material to flow back into the tubes and cause clogging.

Pre-wet repair area with mixed Concrete Mender without sand. Fill with 30-40 grit manufactured sand and additional material to grade. Be sure to saturate all of the sand completely. Additional sand may be added to the repair as necessary. Saturated sand may be moved into place with a margin trowel or scraper. Work with one small section at a time. Do not stop flowing material for a period of more than 2 minutes. If material sets inside mixer, remove cartridge from gun and replace mixer. Fill all repair areas to grade. When material cures (turns gray) in about 10 minutes, remove excess material with a sharp scraper for a smooth and flat finish. Finished repairs may be "cleaned up" by sanding or buffing within a few hours of application.

Spalls: Pre-wet repair area with mixed Concrete Mender without sand. Fill with no more than one-inch of 30-40 grit manufactured silica sand and additional material. Add additional layers to grade if needed. Be sure to saturate all of the sand completely. Additional sand may be added to the repair as necessary. Saturated sand may be moved into place with a small squeegee or scraper. Work with one small section at a time. Do not stop flowing material for a period of more than 2

minutes. If material sets inside mixer, remove cartridge from gun and replace mixer. A trowel or scraper may be used to move saturated sand into place and to create a level surface. If required, surface friction may be maintained by adding additional manufactured to the surface as the material cures. Allow to cure (approximately 10 minutes). Finished repairs may be "cleaned up" by sanding or buffing within a few hours of application.

Delaminations: Use the Roadware Easy Injection System with cartridge mixer 1006-STR.
Preparation: Determine the expected depth of the voids in the concrete. Roadware easy injection works best for voids one inch deep or greater. Drill a pattern of 3/8 inch diameter holes into delaminated area approximately 1/4 inch deeper than the void in the concrete. Remove drill dust with an OSHA approved vacuum that will contain silica dust. A hole pattern can be established based on the size of the delaminated area and the void in the concrete. Best practice is to start with a 6-inch grid of holes, make the repairs and test for results after the Concrete Mender cures for 2-3 hours. Additional holes between the original holes may be necessary. Install Concrete Mender using the 1006-STR mixer. Apply product to several holes at a time alternating between holes, allowing the material to set as you go. Filled holes may be finished by adding small amount of sand or left to cure flush with the surface. In some cases, sounding the concrete with a metal chain or bar may not give an accurate representation of an effective repair. Concrete Mender's structural bonding and high tensile strength will create a pinning effect within the concrete even if the voids are not 100% filled.

6. Availability

Roadware 10 Minute Concrete Mender is available from authorized Roadware distributors and dealers throughout the United States. Contact Roadware Incorporated for the nearest distributor or dealer.

7. Warranty

Roadware Inc. will warrant each Roadware Concrete Repair or Protective Coating Product against defects in material and workmanship for a period not to exceed one year from the shelf-life of each unopened drum or case of product. Roadware's sole warranty is that Roadware Products will meet current sales specifications. Every reasonable precaution is taken in the manufacture of all Roadware products and compilation of data that they shall comply with the manufacturer's exacting standards. As however, the effectiveness of each product depends on the applicator's judgment of a proper condition, and since conditions and methods of use are beyond the manufacturer's control, no application warranty of any type is made, expressed or implied whether used in accordance with directions or not. Roadware shall not be held liable for repairs or portions thereof that are necessitated by damage which has resulted from structural failures, settling, shifting, distortions, splitting or cracking of the substrate. The forgoing warranties are in lieu of all other warranties expressed or implied including the implied warranty of merchantability and fitness or application for a particular use. Roadware Inc., shall in no event be liable for incidental, consequential or other, direct or indirect damages.

8. Maintenance

None Required

9. Technical Services

Roadware maintains trained distributors and factory representatives on a national level. Contact a local distributor for technical assistance or call Roadware Incorporated for direct factory technical assistance. 800-522-7623

10. Filing Systems

Additional product information is available from Roadware Incorporated and from Roadware's web site at www.concretemender.com.