



Atlas Minerals & Chemicals, Inc.



# DATA SHEET

A-22DS (6-04)  
Supersedes A-22DS (4-02<sup>2</sup>)

## MARI-CRETE®

### DESCRIPTION

MARI-CRETE is a fast-setting, one component Portland cement based concrete mix used for quick repairs of cement structures of all kinds. It sets in 6 minutes after merely adding fresh or salt water, achieving high strengths rapidly. It can be applied both above and below water, providing a fast and efficient method of restoring and replacing damaged, cracked and spalled concrete structures without the necessity and expense of using forms. It bonds to old and new concrete, brick, stone, masonry and steel. MARI-CRETE is completely hand-moldable to conform to any desired shape or contour.

### SUGGESTED USES

Designed for speedy repairs throughout industry, municipalities and utilities, where damaged concrete requires restoring, or areas where the use of high strength concrete is indicated. MARI-CRETE is ideal for construction cement boxes and for many other uses in the commercial marine and associated dock and pier structures, such as sea walls and pilings. Other applications include repairing bridge and railway overpasses, abutments, highways, guard

### PHYSICAL PROPERTIES

MARI-CRETE rapidly achieves high physical strengths. The following table shows typical compressive and tensile strengths reached after periods of curing in the three most common applications:

| Curing Time*<br>(Ambient Temperature) | Compressive Strength |               |             | Tensile Strength |               |             |
|---------------------------------------|----------------------|---------------|-------------|------------------|---------------|-------------|
|                                       | Dry Air              | High Humidity | Under Water | Dry Air          | High Humidity | Under Water |
| 4 hours                               | 170 psi.             | 195 psi.      | 120 psi.    | 30 psi.          | 35 psi.       | 20 psi.     |
| 8 hours                               | 565 psi.             | 690 psi.      | 505 psi.    | 100 psi.         | 80 psi.       | 45 psi.     |
| 1 day                                 | 2,870 psi.           | 3,300 psi.    | 2,950 psi.  | 130 psi.         | 290 psi.      | 310 psi.    |
| 2 days                                | 3,660 psi.           | 3,740 psi.    | 3,785 psi.  | 180 psi.         | 320 psi.      | 350 psi.    |
| 7 days                                | 4,240 psi.           | 4,430 psi.    | 5,100 psi.  | 400 psi.         | 410 psi.      | 485 psi.    |
| 12 days                               | 5,010 psi.           | 5,250 psi.    | 5,930 psi.  | 425 psi.         | 450 psi.      | 505 psi.    |
| 28 days                               | 5,650 psi.           | 6,210 psi.    | 5,995 psi.  | 440 psi.         | 450 psi.      | 505 psi.    |

\*Curing times are controlled by temperatures: Cooler temperatures will lengthen the curing time, while higher temperatures will shorten the curing time. For example; at 40°F, set time for MARI-CRETE is 24 minutes; while at 80°F, set time is 6 minutes. These setting times have a direct relationship in the length of the curing cycle.

**Note:** The addition of any materials will drastically alter the physical properties of MARI-CRETE and affect its performance.

**NOTE:** ATLAS makes it a practice to continuously update and enhance our CCM (Corrosion Resistant Construction Materials) products. For the most recent version of any Data Sheet, please visit our Web site at [www.atlasmin.com](http://www.atlasmin.com).

### FREEZE & THAW PERFORMANCE

| PROPERTY                                    | TEST METHOD | TYPICAL VALUE |
|---|-------------|---------------|
| Durability Factor, 300 cyc.                 | ASTM C290   | 90            |
| Compressive Strength (After Test), 300 cyc. | ASTM C290   | 8,000 psi.    |

rails, curbing, loading docks for truck and rail cars. Municipalities can effect low cost and quick restoration to streets, expressways, bridges, etc. since traffic interruption is at a minimum. Sewers, dams, drains, swimming pools (above and below water) and gutters are all quickly repairable.

### PACKAGING – MARI-CRETE

Available in 50 lb. (22.7 kg.) bags

### OTHER CHARACTERISTICS

- Contains no calcium chloride.
- Density (ASTM C905): 128 lb. / cu. ft. (2.05 g./cc.) 50 lb., when mixed with water, will cover an area approximately 5 sq. ft. (0.46 m<sup>2</sup>) at 1" (2.5 cm.) thickness
- No apparent heat of hydration generated
- Shelf life, minimum 1 year when stored in dry area

## APPLICATION PROCEDURES

Use contents of bag as received, adding water only, as directed.

1. **CLEAN SURFACE** to be repaired, removing loose particles, oil, etc. Chip out old concrete to obtain 1/4" minimum cross section, avoid feather edging.
2. **ADD MARI-CRETE** to clean, fresh or salt water in bucket, wheelbarrow or mixer. Use about 5-quarts of water to a 50 lb. bag. For less than bag quantities, use a mix ratio of 10 lb. MARI-CRETE to 1-quart water. Add more water sparingly, if needed.
3. **KNEAD** into putty consistency with no slump characteristics. **DO NOT** mix longer than 30 to 60 seconds. Limit batch to 100 lb. when using a rotary mixer, removing mix in 60 seconds. **DO NOT** retemper.
4. **Areas above water:** Moisten area to be repaired. Apply and finish within 2 to 3 minutes with hand or trowel. Final finish can be done up to 5 minutes after application. For best results, cover repair overnight with a plastic sheet or wet burlap or apply a standard concrete curing compound to the surface to prevent too rapid evaporation of water.
5. **Areas under water:** Remove loose particles, marine growth, etc. Mix small batches using clean water (fresh or salt). Press firmly into position.

**Note:** MARI-CRETE is formulated to perform as a patching compound. For resurfacing of floor areas, consult ATLAS for a recommendation on resurfacers.

## CLEAN-UP AND DISPOSAL

Equipment should be cleaned with soap and warm water before the materials referred to in this Data Sheet begin to set. Fully hardened material will have to be removed by mechanical means.

Dispose of residues and wastes in accordance with the directions in the Safety Data Sheets and government regulations.

## STORAGE AND SHELF LIFE

Store all materials in a cool, dry environment. Keep all materials out of direct sunlight. Ideal storage temperature is 75°F (24°C). Protect from freezing. In unopened original containers, the materials referred to in this Data Sheet have a shelf life of approximately one year.

## PRECAUTIONS

The materials referred to in this Data Sheet are for Industrial Use Only. They contain materials that present handling and potential health hazards. Consult Safety Data Sheets and the container labels for complete precautionary information.

## TECHNICAL SERVICES

ATLAS maintains a staff of Technical Service Representatives who are available to assist you with the use of ATLAS products. In the event of difficulties with the application of ATLAS materials, the installation should be stopped immediately and ATLAS' Technical Service Department consulted for assistance.

## WARRANTY

ATLAS warrants that its products will be free from defects in workmanship and materials under normal use for a period of one (1) year from the date of shipment by ATLAS (provided the products are installed before the expiration of the shelf life). **THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR THE PURPOSE FOR THIS PRODUCT WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ATLAS' LIABILITY FOR ALLEGED BREACH OF THIS WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT (BUT NOT INCLUDING REMOVAL OF THE DEFECTIVE PRODUCT OR INSTALLATION OF REPLACEMENT PRODUCTS). ATLAS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES DURING THE WARRANTY PERIOD OR THEREAFTER. ATLAS' WARRANTY IS VOIDED IF PAYMENT FOR PRODUCT IS NOT RECEIVED IN FULL.**