

BONSAL® SURE-RAP RIP RAP



Sand and cement mixture for erosion control

BONSAL® Rip Rap is a sand and cement mixture for erosion control.

FEATURES / BENEFITS

- Quality Controlled
- Takes on the contour of Surroundings
- Polyester Scrim Reinforced Kraft Bag
- Biodegradable Bag
- Eliminates Forms and Finishing
- Efficient Transport and Handling
- Attractive Appearance
- Uniform Appearance

USES

- Anchoring Underwater Cable
- Highways
- Embankments
- Beaches
- Sea Walls
- Control Erosion associated with:
 - highways
 - landfills
 - lakes
 - canals
 - culverts

SAFETY PROCEDURES

Read and understand the Material Safety Data Sheet (MSDS) before using this product. Read CAUTION OR WARNING information on the package and in the product literature.

PREPARATION

The foundation on which the bottom layer of Sure-Rap Rip Rap is placed should be solid and free from loose material. No special site preparation is ordinarily needed. When additional stability is needed this can be accomplished by driving pins or steel rods through bags. In constructing a wall, bags should be placed in a running bond pattern. While the material absorbs moisture from the ground and air, wetting the bags after placing is recommended.

MIXING

No mixing needed. Moisture penetrates bag through perforations to harden.

PLACEMENT

For a vertical wall with Sure-Rap Rip Rap place one bag on top of another, and end to end, multiply the wall area

by 1.50 Example: If area to cover is 5'x20' or 100 square feet, then multiply 100 by 1.50 to get 144 bags. This gives a completed wall 5'x20'x13" thick. If the bags are laid side by side, multiply by 2.4 This method gives you a wall approximately 21" thick.

To deduct area of drain pipes through the wall, multiply square of pipe diameter by .785. Example: 4 foot diameter drain pipe 4'x4'x.785 equals 12.56 square feet.

Diameter of Pipe	Square Feet
2'	3.1
3'	7.1
4'	12.6
5'	19.6
6'	28.3
8'	50.2
9'	63.6
10'	78.5

Bag requirements for a flat or sloped area with bags placed side by side and end to end, multiply the area by .50. Example: if you area to cover is 30' x 30' x 30' or 900 square feet, multiply 900 by .66 to get 600 bags.

CURING

No special curing needed.

TECHNICAL DATA

The material can be packaged to meet federal, state, and municipal government specifications. Normally a 5 to 1 or 3 to 1 sand/cement ratio by weight is specified.

LIMITATIONS

- DO NOT use as a structural component.
- DO NOT use for building foundations.
- DO NOT use for structural or free standing walls.
- DO NOT use for chemical containment areas.

YIELD

1 80lb. bag fills a space approximately 0.75 cu. ft. 36 bags per cu. yd.

PACKAGING

80lb. (36.2 kg) Polyester Scrim Reinforced Kraft Bag

BONSAL® SURE-RAP RIP RAP



Sand and cement mixture for erosion control

SHELF LIFE

One year from date of manufacture.

DISPOSAL

Comply with all applicable local, state and federal regulations for disposal of unusable or contaminated materials. Dispose of packaging/containers according to local, state and federal regulations.

PRECAUTIONS

WARNING: MAY BURN OR IRRITATE EYES AND SKIN

Avoid contact with eyes and skin. This product contains hydraulic cement. When mixed with water it results in a solution that is highly alkaline and may burn or irritate the eyes or skin. Wear safety glasses or goggles, protective clothing, shoes and gloves. Do not take internally. Avoid breathing dust. This product contains crystalline silica. Prolonged exposure to crystalline silica dust is known to cause lung cancer or delayed lung injury, including silicosis. Take measures to eliminate or control dust. For prolonged exposure to dust wear a respirator approved for protection against crystalline silica dust. Crystalline silica has been classified by the state of California, IARC and NTP as a carcinogen.

First aid. If swallowed drink one or two glasses of water to dilute. Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical attention. In case of eye contact, flush eyes thoroughly with clean water for a minimum of 15 minutes and get prompt medical attention; for skin contact wash with soap and water.

Warning: If you scrape, sand or remove old paint, you may release lead dust. Lead is toxic. Exposure to lead dust can cause serious illness such as brain damage, especially in children. Wear a NIOSH approved

respirator. Clean up carefully with a HEPA vacuum and a wet mop. Find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. Warning Label 1: Hydraulic cement products, Rev. Feb 2004

WARRANTY

LIMITED 1 YEAR PRODUCT WARRANTY FROM DATE OF MANUFACTURE: Bonsal American warrants that this product and the materials used therein meet or exceed the applicable standards listed and enforced at the time of manufacture.

Bonsal American will replace any product or part which proves defective due to quality of ingredients used or due to the manufacturing process itself. This Warranty shall apply only if the product is used in strict accordance with applicable specifications and instructions provided by Bonsal American for its use, and Bonsal American shall not be liable otherwise.

Replacement of any defective product, or, at Bonsal American's option, refund of the purchase of any defective product shall be the buyer's sole remedy under this Warranty, and Bonsal American shall in no event be liable for any damages in excess of the purchase price of the defective product. BONSAL AMERICAN SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES

This Warranty constitutes the sole warranty given by Bonsal American in connection with this product, and Bonsal American has authorized no person to make or give any other warranties or representation, oral or written on its behalf.

IN PARTICULAR, THERE ARE NO IMPLIED WARRANTIES, INCLUDING WITHOUT EXCEPTION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No modification of this Warranty in favor of any buyer shall be valid unless given in writing and signed by an officer of Bonsal American.