FLOORING SYSTEMS

TECHNICAL DATA SHEET

RIO-CUTTER

Concrete Slab Cutter

PRODUCT DESCRIPTION

RIO-CUTTER fortifies concrete slabs with a concentrated proprietary formula that penetrates to increase surface density and hardness. RIO-CUTTER can be applied at the time of placement as well as to older fully cured slabs to eliminate dusting and reduce porosity. RIO FLOORING RIO-CUTTER is especially effective to protect concrete floors subjected to steel wheel and forklift traffic.

RIO-CUTTER densifier is made of amorphous collodial silica which we manufacture in house under the trade name “NanoPOUR” in fact, we do not know of any other densifier manufacturer that actually manufactures their own silica nano particles from raw materials. This allows us to do more things with densifiers than competition. a good example of this is the fact our densifier can be frozen, thawed and applied without causing any damage to the material. Our proprietary formula also increases hydration rates while lowering porosity. RIO-CUTTER also increases the primary strength component (C-S-H) Calcium Silicate Hydrate gel and (C-S-H) mechanical properties.

RIO FLOORING RIO-CUTTER is a zero voc formula that is also non-toxic and non-flammable. RIO-CUTTER reduces efflorescence, dusting and (ASR) Alkali-silica-reaction. RIO-CUTTER does not require scrubbing in or hazardous residue disposal and will not leave discoloring mineral salt deposits.

TYPICAL PROPERTIES	
Physical State:	Liquid
Appearance:	Opaque White
Odor:	None
Specific Gravity:	1.15 - 1.19 @ 77 °F / 25 °C
Density:	9.6 – 11.0 lb/gal
Solubility In Water:	Complete; pH (100 %) 2.6 - 3.2
Viscosity:	15 cps @ 77 °F / 25 °C
Freezing Point	32 °F / 0 °C
Voc Content:	0.00 % EPA Method 24

Note: These physical properties are typical values for this product and are subject to change.

BENEFITS

- Ideal for Concrete Polishing
- Auto Scrubber or Pump Sprayer Application
- Fortified with NanoPOUR™ Densifier Technology
- Low Ph - Collodial Silica Formulation
- Freeze/Thaw/Use Resistant Chemistry
- Concentrated 3:1 Formula
- Reduces Porosity
- Eliminates Dusting
- Extends the Service Life of the Slab
- Excellent Performance on Cementitous Overlays
- Cannot be over applied and will not leave mineral salt discoloration
- No VOC’s, Non-Hazardous and non-Flammable
- Compatible with All RIO Systems

PACKAGING & COVERAGE

- 5 Gallon Pail / 19 Liters
- 55 Gallon Drum / 208 Liters
- 275 Gallon Tote / 1021 Liters

Note: *This is a concentrated product and will yield 4 times the volume when mixed 3:1 with clean potable water*

Coverage Rates:

1. Auto scrubber application method: RIO-CUTTER’s proprietary formula was designed to be applied to high & medium density concrete as well as high porosity and hard concrete.

   Application rate: 375 square feet per gallon with auto scrubber set at full flow.

   - 15 Gallon tank fill will densify 5,675 SF of concrete slab
   - 30 gallon tank fill will densify 11,350 SF of concrete slab
2. Pump Sprayer Application Method
   - 375 - 400 SF per gallon.

LIMITATIONS

- RIO-CUTTER densifiers harden and densify concrete, but do not seal or prevent staining. to seal and protect we recommend top coating with RIO-GUARD (ISG) Integrated Stain Guard
- Do not clean with acidic or abrasive cleaning products. We recommend cleaning with RIO-CLEAN.
- Treated surface will be slippery so please use extreme caution when walking.

INSTALLATION STEPS

PREPARATION

While the Auto Scrubber application method does mitigate overspray, it's still best practice to cover all area, surface and objects with plastic sheeting. Please be aware of capillary absorption if wood or drywall is present and protect as needed. We recommend using RIO FLOORING RIO-CLEAN to clean and prepare the slab for the densification process. slab must be clean and free from oils, dust and other surface contaminants. Do not use acidic detergents when cleaning before or after application.

1. Measure square footage of project area (Square feet / Square Meter)
2. Mix the appropriate amount of RIO-CUTTER for the job size based on 375 square feet per gallon.

MIXING

Dilution
Mix Ratio for both auto scrubber and pump sprayer application: 3:1

1. Open package concentrate
2. Mix 3 parts clean potable water to 1 part RIO-CUTTER densifier
3. Mix can either be within the auto scrubber or pump sprayer
    - 15 gallon auto scrubber tank - 3.75 Gallons RIO- CUTTER
    - 30 gallon auto scrubber tank - 7.5 Gallons RIO- CUTTER
    - Pump Sprayer ratios depend on pump sprayer size

Note: *To facilitate mixing and agitation, place RIO-CUTTER into the mixing vessel first and then fill with clean potable water.*

APPLICATION

Equipment: Apply RIO-CUTTER using a mechanical auto scrubber or pump sprayer. For pump sprayer application, use either a fan tip or cone tip to ensure even spraying.

Auto Scrubber Application Process - RIO-CUTTER: Empty Auto Scrubber tanks and mix RIO-CUTTER, adding one part RIO-CUTTER to 3 parts water. Coverage rate is 375 sq. ft./ gal. Apply RIO-CUTTER solution at full flow scrubbing with 400 grit red fiber pads at full down pressure and squeegee up. Scrub in a north/south, east/west pattern. Once completed, turn off the flow setting and continue scrubbing RIO-CUTTER solution to work it in for 45 minutes. Allow the surface to dry at least two hours after srubbing. Note: For projects less than 1500 sq. ft., pail mix hardener solution and pour onto slab, spreading with a flat squeege before scrubbing. WATER RINSE WITH SCRUBBER Empty scrubber tanks, rinse and fill with clean water. Travel at a medium walking pace in a north/south, east/west pattern with rinse water at full flow. Scrub with 800 grit white diamond pads at full down pressure and squeegee down. Edges and corners should be cleaned with a mop and wet vac to remove hardener residue. Allow floor to dry completely. for optional shine burnish the entire floor with a quality high speed heat style burnishing pad.

Pump Sprayer application Process - RIO-CUTTER: Pour RIO-CUTTER concentrate into a pump sprayer and fill with clean potable water at a ratio of 3:1. Keep sprayer pressurized per the manufacturers specifications to allow even distribution to the concrete surface. Spray RIO-CUTTER Densifier while holding the spray tip 12 -24 inches above the surface. move the wand in a figure 8 motion to achieve even distribution. spray enough to form an even sheen and avoid puddling. Apply additional RIO-CUTTER as needed. Allow surface to dry completely.

Diamond Grinding and Polishing: RIO-CUTTER densifier is typically applied after the initial cutting stages and prior to the higher levels of diamond polishing. in most cases its used after 200 grit application, remove RIO-CUTTER residue with next grinding step.

MAINTENANCE

Storage and Shelf Life: We recommend storing RIO-CUTTER densifiers in original containers with the lid fastened tightly. RIO-CUTTER has a shelf life of 24 months from the date of manufacture. Please keep RIO-CUTTER in a dry place within ambient conditions of 40-100 degrees Fahrenheit. **Note:** *Freezing will not impact RIO-CUTTER's performance. just thaw and use.*

HEALTH AND SAFETY

WARNING: FOR PROFESSIONAL USE ONLY. Before using product, read product SAFETY DATA SHEET (SDS) and instructions on packaging. ALKALINE CONCENTRATE: Contact can damage eyes, skin, and other body tissues. HANDLE WITH CARE. Eye and skin irritant. Digestive tract irritant; DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. Spray mist is respiratory tract irritant. Use only with adequate ventilation. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, clothing. Observe appropriate safety and jobsite controls. Wear appropriate protection including eye protection and chemical resistant gloves. Ensure fresh air-flow during application and until dry. If you experience headaches, dizziness, eye watering, or if air monitoring shows vapor/mist levels above applicable limits, wear a properly fitted P100/organic vapor respirator (NIOSH TC-84A approved),

used according to manufacturer's directions, during application and drying. SLIP/FALL DANGER: During application of RIO FLOORING Products and until dry, treated surface will be slippery.

First Aid

Ingestion: Not expected to be toxic. Never give an unconscious person anything to ingest. If swallowed, immediately give two glasses of water, seek medical attention if ill effects develop. Inhalation: May cause irritation. Remove to fresh air and provide oxygen. If not breathing, give artificial respiration. Seek medical attention if irritation persists. Eye Contact: Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation persists. Skin Contact: May cause irritation. Wash affected area with soap and water. Remove contaminated clothing and shoes. Seek medical attention if irritation persists.

NOTICE TO BUYER: DISCLAIMER OF WARRANTIES AND LIMITATIONS ON OUR LIABILITY

We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Any use or application other than recommended herein is the sole responsibility of the user. Listed physical properties are typical and should not be construed as specifications. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, REGARDING SUCH OTHER INFORMATION, THE DATA ON WHICH IT IS BASED, OR THE RESULTS YOU WILL OBTAIN FROM ITS USE. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT. We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.

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