

### Description

Barrier-ACR100 is a trowel grade, rapid repair **cement mortar** which adheres exceptionally well to both Asphalt-based and Portland cement-based substrates, forming a strong chemical and monolithic bond. This material has 30-45 minutes of working time, and cures quickly allowing return to service in 2-3 hours. Application temperatures extend from 30 F up to 100 F. ACR100 cures to over 2000 psi compressive strength in 1-2 hours of placement, and over 4000 psi in 24 hours.

### Features & Benefits

- Fast setting cure time with return to service in < 3 hours
- Good working time of 30-45 minutes
- Pre-loaded with aggregates for immediate use out of the bag
- Provides chemical and mechanical bond to Portland concrete **and Asphalt**, creating monolithic bond within 2 hours
- Compressive strength over 4000 psi within 24 hours and over 7500 psi at full cure
- Acceptable for indoor and outdoor applications, including direct sunlight
- Can be color-tinted in the field by mixing pre-measured dry tint pack

### Applications as a patching cement

- Asphalt or concrete repair system for potholes, trench cuts, and depressions
- Ramp forming material over cement and/or asphalt substrates
- To repair potholes and trench cuts

### Product Details

Packaging	47 lbs. protective bags (40 per pallet); Super Sacks			
Color	Light Grey; can be field tinted for color			
Shelf Life	12 months in unopened bags and humidity-controlled storage			
Set Time Guidelines		40°F	72°F	90°F
	Working Time	45+ minutes	30-45 minutes	20 minutes
	Return to Service	3-4 hours	2-3 hours	2 hours
Mix Ratio by Volume	3 Quarts potable water per 47# bag			
Cure Time	Return to service in 2 - 3 hours; full cure 28 days			
Bulk Density (ASTM C138)	125 lbs./cu.ft.			
Application Temperature	Should be applied between 30°F and 100°F (see installation notes below)			
ASTM C109 / C39	Compressive Strength: 1 hour after placement: 2000psi; 24 hours: >4000psi; 28D: > 7500psi			
ASTM C78	Flexural Strength over 1100 psi at full cure			
ASTM C882	Slant Shear Bond Strength – failure occurs in the asphalt/concrete substrate, not at the bond line			
ASTM C157	Length change <0.07% at 28 days			
ASTM C413	Water Absorption 2.5%			
ASTM C666A	Rapid Freeze-Thaw Resistance is 100% at 300 cycles - TBD			
ASTM C1583	Bond Strength or Tensile Strength (Pull-off Method) Result: failure in substrate.			

### Substrate Preparation

Target area substrate must be free of loose debris, dirt, dust, or anything that would act as a bond breaker at the interface. Thoroughly clean profiled area by air or water-blasting. All surfaces must be saturated surface dry (SSD) but with no standing water, immediately prior to application. Target area can be saw cut smooth or broken/irregular surface.

### Mixing Instructions

First, place specified volume of clean water per bag X-number of bags to be mixed at one time, into portable rotating cement mixer. After water added to mixer, add ½ the volume of ACR100 and mix into a watery slurry. Bagged product is already pre-loaded with aggregates, no need to add additional. Immediately add the remaining volume of ACR100 and continue mixing for 3-4 minutes. **IMPORTANT** to achieve full mixing time in order for ACR100 to meet its specified performance.

## Installation

Immediately after mixing, pour the contents of the mixer into the application area to be repaired. Using a metal trowel, consolidate the wet cement into the area, ensuring good contact is made between the repair cement and the target area surfaces. Extra time should be taken with areas with irregular edges to be sure full wet-out occurs. Finish trowel the surface level with the grade of the surrounding surface, and do not allow the repair cement to cure above the level of the surrounding area. The product can be poured on top of itself and will bond.

For colder ambient temperatures, use warm water to help achieve desired set times, similarly use chilled water at higher ambient temperatures. If the bagged material has been stored in the cold, additional mixing time (~ 2 minutes) should also be done.

Foot traffic will be allowed after approximately 1 hour from installation, and vehicle traffic return to service within 2-3 hours, calculated at 72F. The 2-3-hour compressive strength will reach approximately 2000psi, with full cure compressive strength over 7500psi in 28 days.

## Clean Up

S3 Barrier-ACR100 while still wet, can be cleaned up with a scouring pad and warm soapy water (no solvents required). If allowed to set, then mechanical cleaning is required. Dispose of excess material in accordance with local, state, and federal regulations.

## Storage

S3 Barrier-ACR100 should be stored in sealed bags, between temperatures 50-90°F. Do not allow to get wet and do not store subject to high humidity conditions.

## Safety Precautions

### HEALTH CONSIDERATIONS

As with all building materials, good hygienic habits must be observed, and the wearing of appropriate PPE to include clothing, gloves, and dust mask is advised. Before using any S3 Barrier Solutions, LLC. product, please read and follow the product Safety Data Sheet (SDS).

Use this product only as directed. Keep out of the reach of Children.

### FOR YOUR PROTECTION

The data, statements and recommendations set forth in this product information sheet are based on research and development work which has been carefully conducted by S3 Barrier Solutions, LLC. and we believe such data, statements and recommendations will serve as reliable guidelines. This product is subject to numerous uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any use. Users are advised to test the product in advance to make certain it is suitable for their installation conditions and uses.

## Disclaimer

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## Warranty

The data, statements and recommendations set forth in this product information sheet are based on testing, research and other development work which has been carefully conducted by us, and we believe such data, statements and recommendations will serve as reliable guidelines. However, this product is subject to numerous uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and particular use or uses.

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