

An Acrylic Admixture for Portland Cement Mixes

Description

AC-100 is a premium formulation of acrylic polymers designed to be used as an admixture for Portland cement mixes. It improves adhesion and physical properties such as compressive strength and flexural strength. AC-100 is a white, milky liquid and may replace some or all of the water normally used to prepare cement/sand mixes.

Uses

- With Portland cement plaster, stucco and fiber-modified plasters to increase bond strength, reduce cracking and improve impact strength and durability.
- With Portland cement plaster as a repair and patching mortar for vertical walls.
- With Portland cement plaster as a leveling mortar with a maximum thickness of 3/4 in (19 mm) on vertical walls.
- As a bonding agent over concrete and masonry surfaces to improve adhesion and reduce suction.

Packaging

Available in 5 gal (19 L) pails.

Properties

Air cure. When exposed to rapid drying conditions from sun, wind, heat or low humidity, cover application with plastic sheeting.

Testing

Tests were run on 2 to 1 sand to cement mortars mixed with undiluted AC-100 and also with unmodified 2 to 1 sand to cement mortars. All mortars were cured for 28 days at 77 °F (25 °C) and 50% R.H. Below is a table of the results:

TEST	UNMODIFIED MORTAR	MODIFIED WITH AC-100
Tensile Strength ASTM C 190	480 psi	978 psi
Compressive Strength ASTM C 109	5840 psi	7590 psi
Impact Strength Gardner Impact Tester; IG-1115	5 in/lbs	22.5 in/lbs

Application Procedure

Job Conditions – Air and surface temperature for the use of AC-100 must be 40 °F (4 °C) or higher and must remain so for a minimum of 24 hours.

Surface Preparation – The substrate must be structurally sound; clean; free from oil, grease, dirt, salts, form release agents, etc. The substrate should be dampened prior to application of the modified mortar.

Mixing – For Portland cement plasters and stucco, blend water and AC-100 in a clean container in the proportions described in the section “Recommended Mixtures.” Add the AC-100 blend to the dry product gradually over a 2 to 3 minute mixing period until a uniform consistency appropriate for the application is obtained.

Recommended Mixtures –

- For one-coat stucco and Portland cement plasters, preblend 1 part of AC-100 with 2 to 3 parts water by volume. This is approximately 2 quarts (1.9 L) of AC-100 per 80 lbs (36 kg) of dry mix. Adjust the amount added as necessary to achieve the proper working consistency. Avoid overly fluid compositions. Mechanical mixing may cause excessive foaming. Do not overmix.
- For patching, bonding and restoration grouts, blend 1 part water to 2 parts AC-100 by volume and add sufficient amounts to the mix to achieve the desired application consistency.
- For bonding, AC-100 is applied at full strength.

Application of Stucco and Portland Cement Plaster

– Apply modified mixture as you would apply the unmodified mixture. Due to the addition of AC-100, the mixture will set up more quickly; therefore, finish trowel sooner than with unmodified compositions. Apply water mist as necessary over application to improve trowelability. Clean tools frequently, and use light pressure.

Application – Bonding Agent –

Apply AC-100 evenly by brush, roller or spray application. Apply the finish coat within several hours after application.

Clean Up – Clean tools with soapy water while mixture is still wet.

Maintenance – All Dryvit products are designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning may be required. See Dryvit publication DS152 on cleaning and recoating.

Shelf Life and Storage

Shelf life is 2 years in unopened container.

AC-100 must be stored at a minimum of 40 °F (4 °C) and a maximum of 100 °F (38 °C) in tightly sealed containers protected from weather and out of direct sunlight.

Cautions and Limitations

- Avoid applying AC-100 in direct sunlight. Always work on the shady side of the wall or protect the area with appropriate shading material.
- Do not use with air entrained or expansive cements.
- Hydrated lime additions may cause excessive foaming.
- To avoid tearing or early setting, apply mixtures as soon as possible after mixing and do not over-trowel.

Technical and Field Services

Available on request.