

Waterproofing Canvas

By Don Casey - Revised by BoatUS editors in April 2012



Traditional cotton canvas is waterproof in the same manner that traditional wooden boats are waterproof. The cotton fibers--like the wooden planks--swell when they get wet. This seals the weave.

But because cotton canvas loves mildew and hates bird droppings, it is not used aboard pleasure boats much anymore. It has been replaced in most applications with either a vinyl-coated polyester or woven acrylic.

The vinyl-coated fabric is waterproof for the life of the fabric, but unlike traditional canvas, it doesn't breathe. Unless it is well ventilated, condensation wets the underside of the fabric, eventually leading to mildew. Vinyl-coated fabrics are a good choice for Bimini tops, but unsuitable for enclosures such as sail covers or boat covers.

Acrylic canvas, like cotton canvas, is a tight-weave fabric. It is waterproof yet breathes; it stands up to ultraviolet radiation (sun exposure) better than any other fabric; it snubs mildew; it resists staining; it is colorfast and comes in every color imaginable; and it looks marvelous. Not surprisingly, acrylic canvas--Sunbrella being the best known--is the most popular marine fabric by a wide margin.

Acrylic canvas does have one negative characteristic, other than high cost. It gets its water repellency from a chemical treatment, not from swelling fibers, and eventually that treatment loses some of its effectiveness. Generally speaking, acrylic canvas in continuous use may start to leak after about three years. Scrubbing or the use of detergents to clean the canvas may hasten the failure of the coating. Fortunately, reproofing the canvas is easy.

The right treatment

Do not use a waterproofing treatment that contains silicone on acrylic canvas. This is important. Silicone is incompatible with the original treatment. The factory waterproofing chemical, which is a fluorocarbon, will repel the silicone, resulting in patchy coverage. The silicone is also likely to compromise the stain-resistance of the fabric.

The best treatment for acrylic canvas is a fluoropolymer-based product. This type of treatment is compatible with the original finish, and it gives excellent and long-lasting results.

Waterproofers that have a petroleum-based vehicle have demonstrated better performance on acrylic canvas than water-based treatments. You can identify a petroleum-based product by its strong odor.

Getting ready

Since you are going to be renewing the waterproofing anyway, now is the time to give the canvas a good cleaning. Hose the fabric and, if needed, scrub it with a soft brush and a mild detergent, such as Ivory. Stubborn stains can be treated by soaking for 15 minutes in gallon of warm water containing 1/4 cup of Ivory and 1/2 cup of chlorine bleach. Do not use hot water. Do not use a harsh detergent. Do not machine wash the canvas. And never, ever, put acrylic canvas in a dryer.

Rinse the canvas well and let it air dry completely before continuing.

Cautions

Because spirit-based treatments give off noxious odors, the treatment should only be done where there is good ventilation, preferably outdoors.

A spirit-based treatment will damage plastic windows and plastic zippers, so you must take steps to prevent the treatment from getting onto these. If you are treating, for example, a canvas dodger, remove the plastic windows or protect them with foil, and take care not to spray the zipper halves that remain on the dodger.

Some water repellents can also damage gelcoat, and all will make hard surfaces dangerously slick. The best course is to remove the canvas from the boat to treat it, but if that is impractical, then be sure to protect all surfaces that could be subjected to overspray.

It is usually a good idea to spot test the treatment to make sure it doesn't cause a color change.

Spray it on

The application instructions for the particular product you choose will be on the container, but most call for spraying on two light coats, the second applied perpendicular to the first. This "plaid" pattern tends to yield more uniform coverage.

Let the treatment dry completely before reinstalling the canvas. Again, the container will provide the drying time. The odor will dissipate completely. After drying, the treated canvas should once again be completely waterproof. The treatment does not affect the fabric's other qualities, including breathability.

Reapplication

How often you will need to reapply a waterproofing product to acrylic canvas depends on the kind of use the fabric gets, but even in harsh conditions, the treatment should be effective for at least a year..

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