

## Endura Coating Guide Fabric Covered Aircraft



## COATING FABRIC COVERED AIRCRAFT

Endura Flexible Coatings have been used on fabric covered aircraft for over 35 years. The Endura finish gives a high gloss, chemically resistant and flexible coating that will last for many years. Unlike other fabric aircraft coatings, Endura does not contain plasticizers to make the finish flexible. Plasticizers will migrate out of the film over time and leave the surface brittle. On older finished airplanes that are cracked and covered with ringworm, the plasticizer is leaving the dope finish and rendering it brittle. Endura uses inherent flexible resins instead of a plasticizer and therefore the coating will remain flexible throughout the fabric's life.

Endura Flexible Coatings are not approved for use on bare fabric on a type-certified airplane. It can be used over approved primers such as Dope or Stitts. Many ultra-lite and home-builders use Endura products on bare fabric with great results. This literature contains instructions for coating bare fabric for this use only and is not recommended for any type-certified airplane.

### Preparation of the Surface for Fabric Covering

#### Steel Tube Construction:

Sandblast tubing and prime with EP-2C Primer/Sealer FC. Following product data sheets. Topcoat application is optional but recommended for maximizing the life of the airframe. Allow the coating to fully cure before gluing fabric because the glue could lift a fresh coating. To check if the surface has cured adequately, do a wipe test with methyl ethyl ketone (MEK) on a small section of the surface. A softened coating is not cured thoroughly.

#### Aluminum Construction:

Treat with Endura Aluminum Cleaner and then Alodine 1200S following product data sheets. Prime with Endura EP-2C Primer/Sealer FC, or EP-PA Epoxy Primer. Follow product data sheets. Allow primer to fully cure before gluing fabric.

#### Wooden Construction:

Any wood on the airframe should be sealed with several coats of Endura MC-1C Clear Gloss and allowed to cure before applying fabric.

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### EP-2C Primer/Sealer FC

Endura EP-2C Primer/Sealer FC is a versatile product for use as a sealer over polyester aircraft fabric, fiberglass, fiberglass reinforced plastics, existing finishes and polyester fillers. EP-2C Primer/Sealer FC may also be used as a primer over sandblasted steel, bare steel, stainless steel, zinc-coated steel and properly prepared non-ferrous metals (aluminum etc.).

#### Recommended Film Thickness As A Sealer

Wet : 2.0 - 3.0 mils  
Dry : 0.7 - 1.0 mils

#### Recommended Film Thickness As A Primer

Wet : 4.0 - 7.0 mils  
Dry : 1.5 - 2.5 mils

For use as a Sealer: (0.7-1.0 mil DFT)

EP-2C Primer/Sealer FC can be topcoated after a drying period as short as 30 minutes.

For use as a Primer: (1.5-2.5 mils DFT)

EP-2C Primer/Sealer FC can be topcoated after a flash-off period of 8-12 hours or overnight.

**When 2 coats of EP-2C Primer/Sealer FC are applied; a minimum flash-off period of 8 hours is required before topcoating. Otherwise problems can be expected.**

Endura EP-2C Primer/Sealer FC can be topcoated without sanding for up to 24 hours at 70° F.

### Primer/Sealer Application

New polyester fabric should be cleaned before priming to remove any residue that could contribute to pinholes or craters. A fast solvent such as methyl ethyl ketone (MEK) or Isopropanol is recommended for cleaning. The surface is ready for priming after a light wipe with a tack rag to remove any lint or dust.

Polyester fabric has a tendency to pinhole and fisheye if it is not primed properly. To seal and encapsulate the fabric, the primer needs to be brushed into and through the weave of the material. Using a good quality bristle brush, EP-2C Primer/Sealer FC should be brushed into the fabric. Mix equal amounts of Endura EP-2C Primer/Sealer FC Component "A" and EP-2C Primer/Sealer Component "B". If thinning is necessary use Endura EX-2C Thinner. The sealer should be applied thick enough to penetrate the fabric weave but not in excessive amounts so as to cause drips and runs on the back side of the material.

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As soon as the brush coat application is complete and while it is still wet a second layer should be sprayed on. The primer should be sprayed at a pressure of 45-50 psi. This second spray coat, done soon after the brush coat, will help smooth out any brush marks. If any pinholes or craters are noticed while spraying, fill them with a small brush and then re-spray over the repair. Pinholes cannot be repaired by spraying on more product. Only by forcing the primer into the holes with a small brush will the pinhole be eliminated.

Endura EP-2C Primer/Sealer FC can be topcoated without sanding up to 24 hours after application. For best results when sanding, 220-320 wet/dry paper is recommended. If the primer dries for more than 24 hours, it must be sanded or scuffed with a nylon scuff pad.

### Topcoating

Apply Endura EX-2C SFC Topcoat following the [EX-2C SFC Topcoat \(fabric\) Product Data Sheet](#). Striping and trim colours can be applied after approximately 8-16 hours of drying. These times will vary greatly with temperature and humidity. A test should be done on a small area to check if the masking tape marks the fresh paint.

A good quality masking tape (like 3M Fine Line) should be used to avoid bleeding under the tape edge. The area to be painted should be lightly scuffed with a nylon scuff pad. Masking tape should be removed as soon as the painting is completed allowing the paint edge to flow out slightly, leaving a smoother edge on the line.

#### Notes:

The dry time of Endura EP-2C Primer/Sealer FC and Endura EX-2C SFC Topcoat can be reduced with the addition of Endura Super Catalyst II. Excessive use of Super Catalyst II can cause premature weathering of the topcoat, loss of gloss and chalking.

Use only up to 30 ml.(1 fl.oz.) of Super Catalyst II per mixed litre (quart) of EX-2C SFC Topcoat or EP-2C Primer/Sealer FC.

The addition of Endura Super Catalyst II reduces the time allowed for additional coating applications without sanding. It will also reduce the product pot life.

The "GERSON" brand of tack rags are recommended for Endura finishes. Fisheye and cratering problems have resulted from using other types of tack rags.

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### **Application of EX-2C SFC Topcoat (fabric) Over Approved Primers and Topcoats on Type-Certified Aircraft**

#### DOPE and STITTS

Endura EX-2C SFC Topcoat (fabric) is very compatible with both Dope and Stitts processes and products. It adheres very well to either the Dope or Stitts primed surface. The primed surface must be clean and well sanded before the application of the topcoat.

Follow the approved primer manufacturers' directions.