



# Aircraft Finishes

# **Randolph**

**PRODUCTS CO.**

Manufacturers of Quality Finishes

## Procedures Manual

Preparation of Metal  
Primers

## Fabric Covered Aircraft

Rand-O-Poly System - Polyurethane  
Butyrate Dope System

## Metal Aircraft

Ranthane  
Randacryl  
Enamel

## Ultra-Lights & Kit Planes

\*including Composite Aircraft  
& Fiberglass Components

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# FINISHING ON DACRON/POLYESTER (CECONITE OR SUPERFLITE)

## Materials required:

F-8294	Rand-O-Bond (Fabric Cement)
G-6302	Rand-O-Proof (Primer for polyester fabric)
286	Nitrate Thinner
W-8350	Non-Tautening Butyrate Dope
9703	Butyrate Thinner
Y-9910	Universal Retarder
G-6303	Rand-O-Fill (Aluminum Butyrate)
	White Base Coat Butyrate Dope
	Butyrate colors of your choice

**FAA Approved Synthetic Dacron/Polyester Fabrics for Randolph Nitrate/Butyrate Dope Systems Check with local FAA facility for other suppliers of fabrics that may be approved for specific applications.**

Ceconite #101 3.7oz.	STC SA 1351 WE
Ceconite #102 2.8oz.	STC SA 2666WE
Ceconite #HT-104 1.8oz.	STC SA 4503 NM
Cooper Superflite #102 2.7oz.	PMA approved

## Cementing the Fabric to Structure

Prior to cementing the fabric to the structure. Since dacron polyester fabrics are of exceptional long life, proper corrosion impedance methods are extremely important. All steel tubular members and internal steel parts should be primed with Randolph Epibond (W-2248) or Rand-O-Plate (B-6433) Epoxy Primer. Both of these Flight Proven® durable and Dope Proof Epoxy Primers are mixed 1 to 1 with the activation component mixing liquid (W-2249). Also, fuselage cockpit areas of the tubular steel can then be sprayed with Randolph color matched (by part number) Ranthane Polyurethane to match interior or exterior colors. Protection of the interior walls of the steel tube fuselage should be considered. Randolph Tube Oil (#315) is designed for this purpose and will not gel. Complete information on fabric attachment may be obtained from AC-43-13, EA-AC-65-15A or from *Aircraft Fabric Covering* available from International Aviation Publishers. It is also recommended that a copy of the Ceconite or Superflite procedure manual be obtained from either the manufacturer of the product or a distributor.

- Pre-coat the structural parts of the airframe several times with F-8294 Rand-O-Bond thinned to best working consistency with #286 Nitrate Thinner, this ensures the best adhesion of the fabric.
- Place the fabric or envelope on the airframe.
- Cement all closures with F-8294 Rand-O-Bond, thinned with #286 Nitrate Thinner.

- Make sure all seams and attached points of the fabric, as well as substrate structure, are thoroughly wet with Rand-O-Bond while working.
- To smooth cement and work out any air bubbles, wet your fingers with #286 Nitrate Thinner and rub the surface.
- Coat all joints with a second coat using the above procedure.

## Shrinking

- Use either an electric iron set at low heat (240°F or wool setting), or an industrial heat gun.
- Apply heat until the fabric is near flight tautness.

## Notes:

**Tauten to the point that a coin dropped from about a foot above the fabric will bounce.**

**Do not use excessive heat as the fibers may melt and destroy the fabric strength. (400° F. max.)**

**Excessive heat will glaze the surface and interfere with the penetration of the primer coat.**

**Make sure that fabric over underlying metal areas is fully shrunk as the metal tends to absorb heat, resulting in improper shrinkage of the fabric.**

## Primer

- Thin G-6302 Rand-O-Proof Non-Tautening Nitrate Primer to spray viscosity with #286 Nitrate Thinner using at least equal parts.
- Spray or brush one coat of G-6302 Rand-O-Proof (Care should be taken to insure complete encapsulation or penetration to the back side of the fabric without drip-through).

## Rib-Stitching

### or Approved Mechanical Attachment

- Wet the reinforcing tape (cotton tape only) with either F-8294 Rand-O-Bond or G-6302 Rand-O-Proof Primer thinned to proper working viscosity.
- Brush a coat of either of the G-6302 Primer or #286 thinner over substrate prior to laying on the wet tape. This will assure adhesion and help prevent bubbles in the surface tape.
- Place the reinforcing tape completely around the rib or over the attachment point.
- Attach the fabric to the ribs or other structure as specified by the original manufacturer.
- Wet your fingers with #286 Nitrate Thinner and smooth the surface, working out any air bubbles.