

Fabric covering of surfaces

Prepare in advance the following tools and materials:

- 1) pre-cut Diatex 1500 fabric. The fabric should be pre-cut using zigzag scissors in order to prevent the edge threads from coming loose and to ensure reliable cementing. All pre-cuts consist of a single piece of fabric except those for the wing and elevator.

***Example of pre-cuts for A-20 see in Appendix 1.**

Table 1. Pre-cuts for A-20 and A-22 aeroplanes

Component	A-20	A-22
	W×L, mm	W×L, mm
Wing	780×L(top); 620×L(bottom)	780×L(top); 620×L(bottom)
Flaperon	720×L	720×L
Rudder	1000×L	1000×L
Elevator	400×L (2 pcs.)	400×L (2 pcs.)

W – pre-cut width;

L – pre-cut length including 30 mm cementing allowance per edge.

- 2) Polyethylene strips, 60 mm wide, of necessary length, depending upon the component to be covered (several strips for every component). E.g.: for a flap the strips may be 200 mm long (rib length).
- 3) “scotch bright” abrasive sponge or sandpaper 360;
- 4) Terostat-8517H primer of Teroson company;
- 5) 08689 polyurethane sealant of 3M company;
- 6) toothed spatula (see fig.1);
- 7) solid roller (see fig. 2);
- 8) iron, soldering iron;
- 9) zigzag scissors;
- 10) ruler, pencil;
- 11) 30×50 mm of felt;
- 12) paper sticking tape, towel;
- 13) 1-29-11 mohair brush of Stanley company;
- 14) Cecofill filler of AFS company;
- 15) self-smoothing polyether putty of U-POL company;
- 16) spatula.

Toothed spatula
2024 T3 S=0.5mm (0.020")

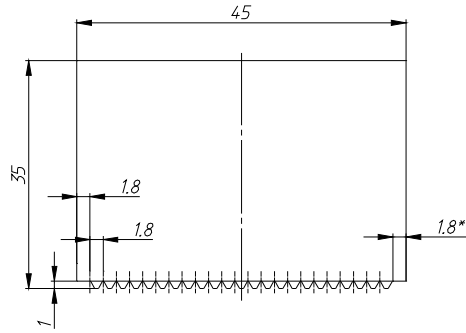
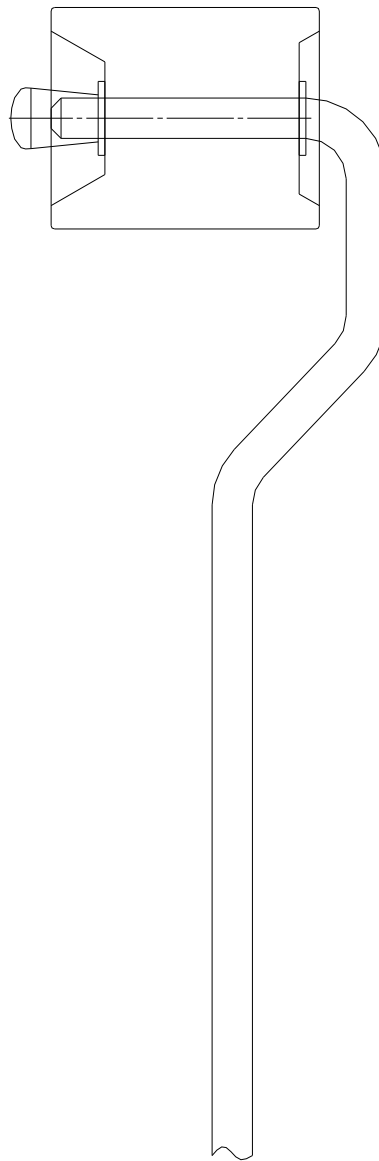


Fig. 1



Roller
Polyamide

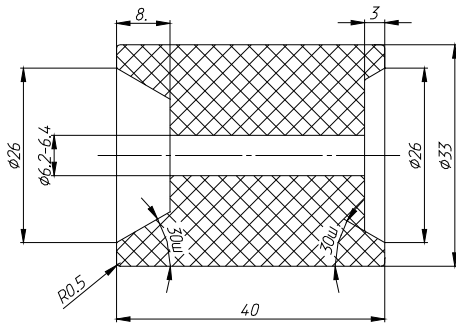


Fig. 2

Example of control surface covering

1. Preparation to priming.

Scrape the surface using “scotch bright” abrasive sponge or sandpaper 360 (see photo 1).



Photo 1

Scrape only the surfaces to which the primer and sealant will be applied, i.e. 40 mm of the leading edge skin and trailing edge.

*** Do not scrape the surfaces with anodic coating!**

Clean using acetone the entire surface to which the sealant will be applied. Clean the surface with a tissue soaked in acetone first and with a dry tissue immediately after that (see photo 2).



Photo 2

2. Mark the leading edge skin of the component, i.e. draw a pencil line at a distance of 40 mm from the skin edge (see photo 3). This surface is later coated with primer.



Photo 3

3. Apply thin layer of Terostat-8517H primer on the degreased surface using a piece of felt (see photo 4, 5, 5_1).



Photo 4

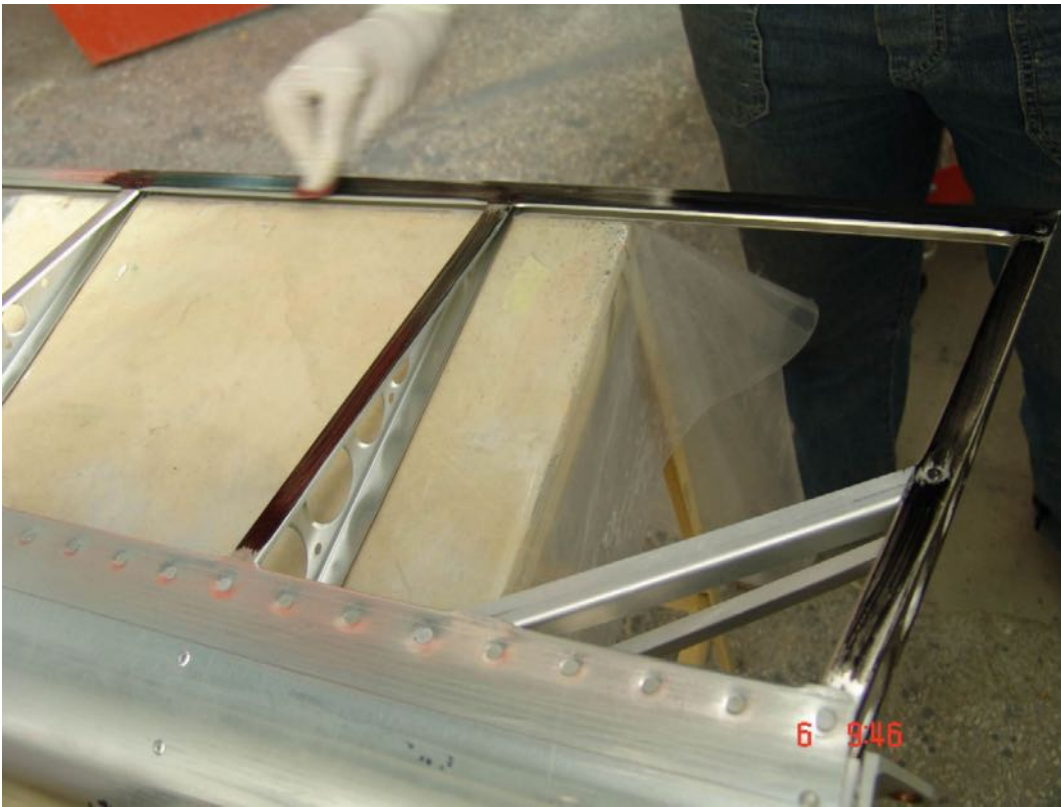


Photo 5

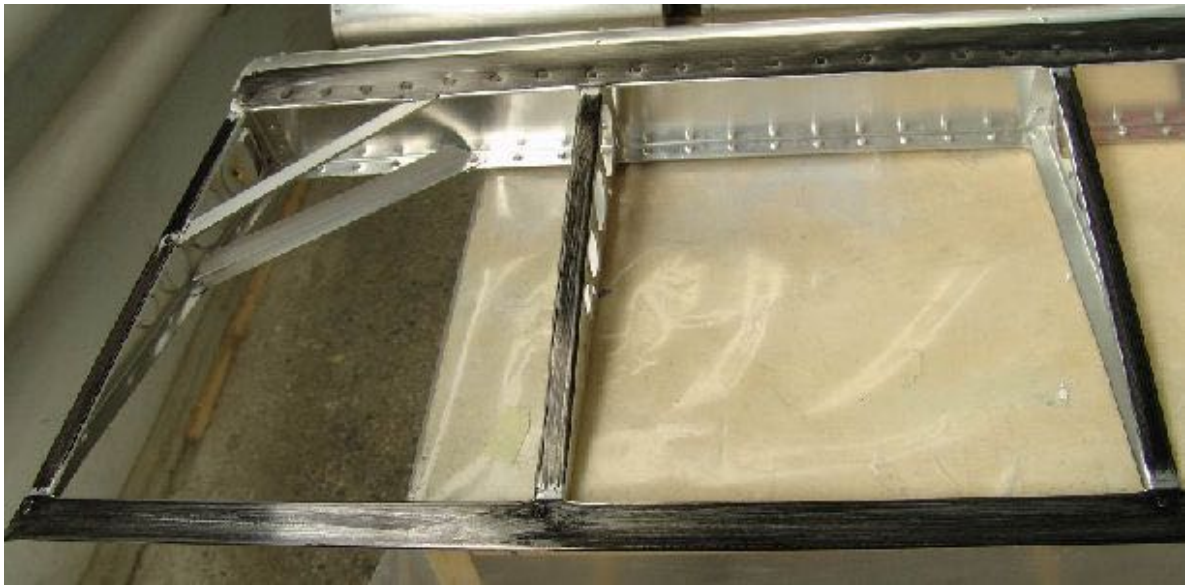


Photo 5_1

4. Remove 10-15 mm of primer at both ends of the ribs as shown on photo 6 and 7. This is done to ensure even laying of the fabric on the component and to avoid wrinkles. The primer dries up approximately 5 minutes.

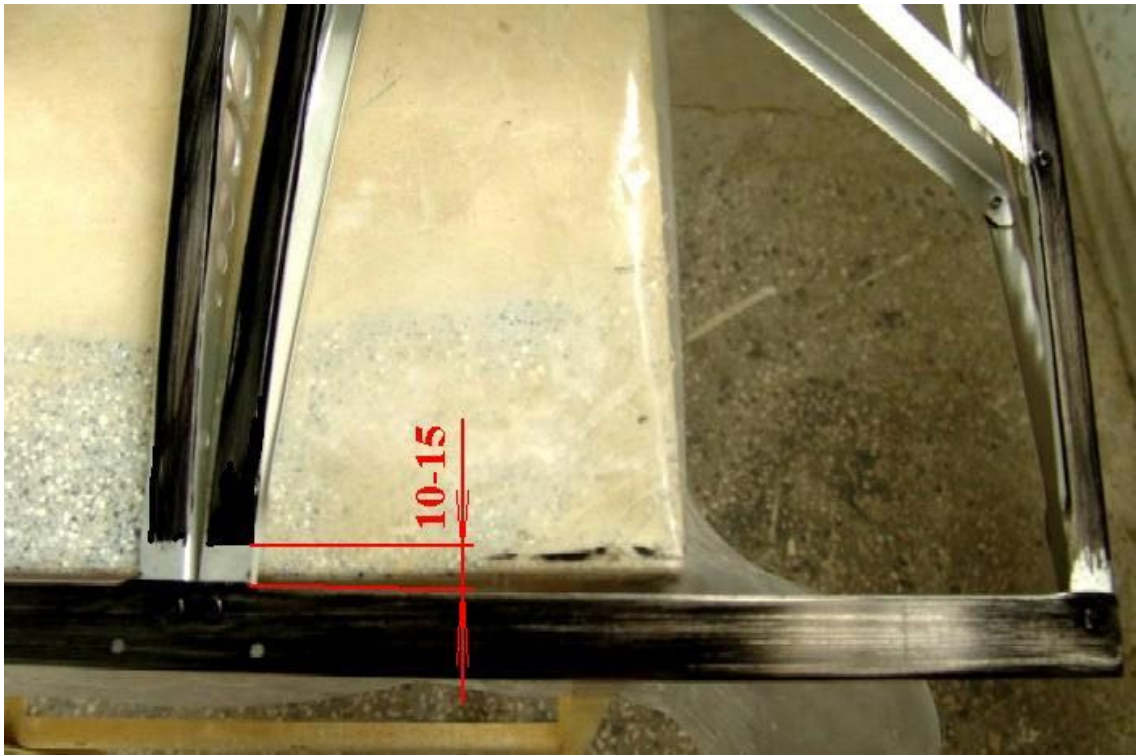


Photo 6



Photo 7

- Put the paper sticking tape on the leading edge skin along the marked line and in the areas of doublers and hinge fittings, to prevent the sealant from getting on the surfaces, not to be covered (see photo 8, 9, 10).



Photo 8



Photo 9



Photo 10

6. Apply 08689 sealant of 3M company on the surface coated with primer and spread it evenly with a toothed spatula as shown in photo 11, 12, 13.

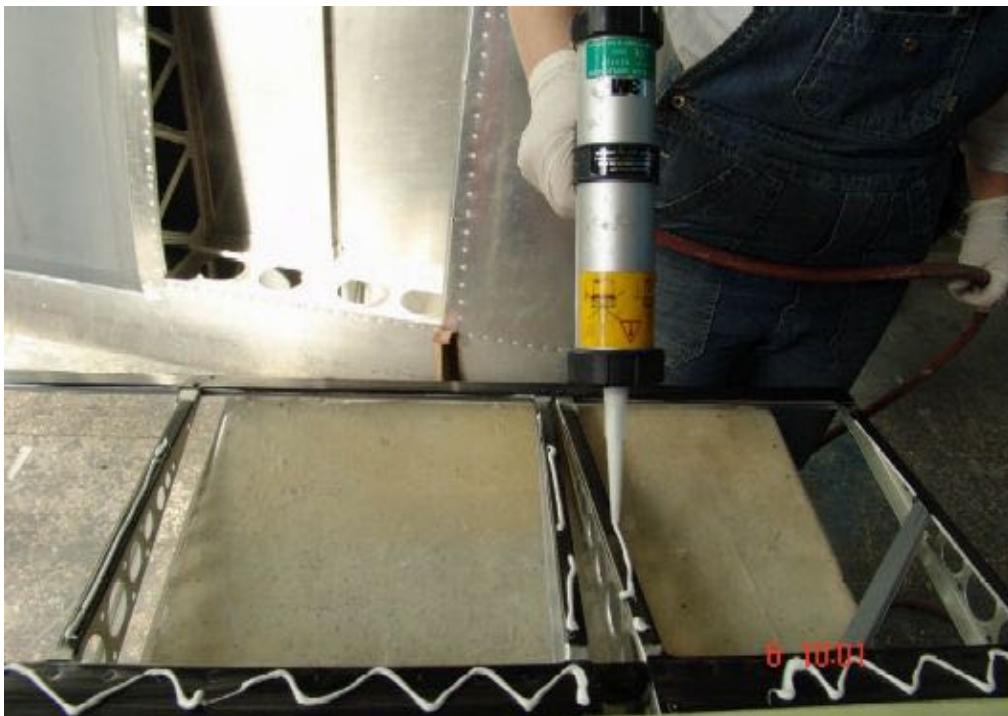


Photo 11

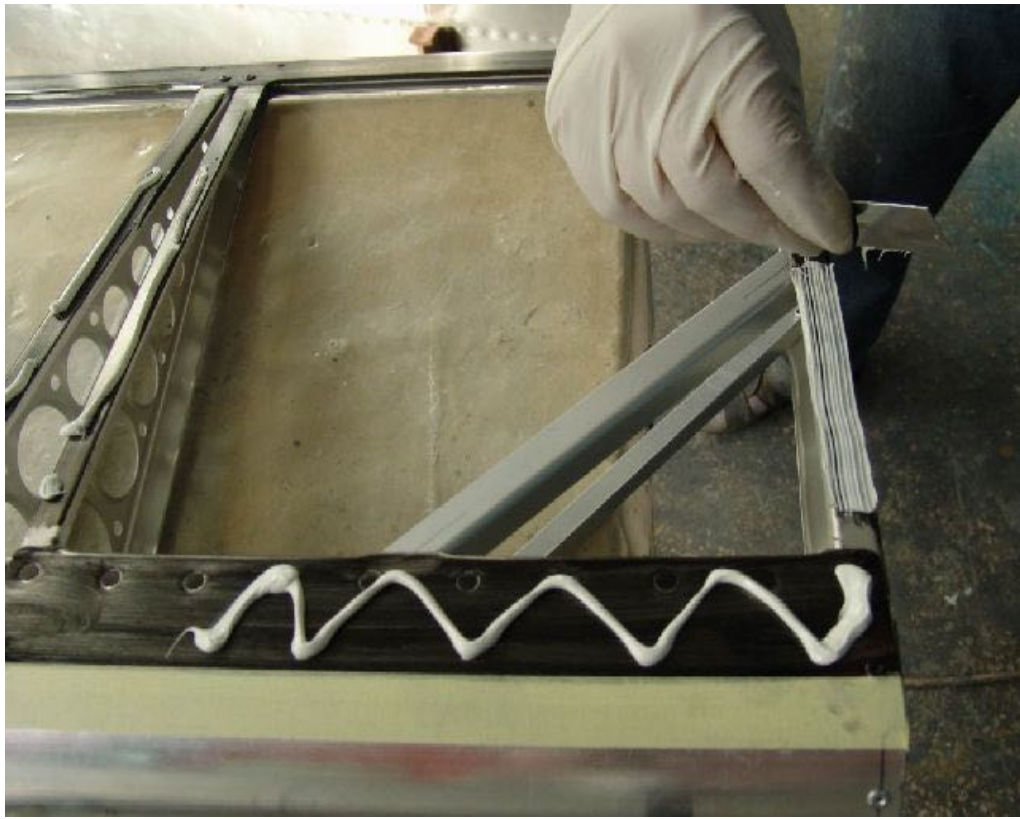


Photo 12

It is recommended to apply the sealant in small portions, e.g. on 2 or 3 ribs, in order to cement the fabric in time before the sealant hardens (in 5 to 10 minutes depending upon humidity and ambient temperature).

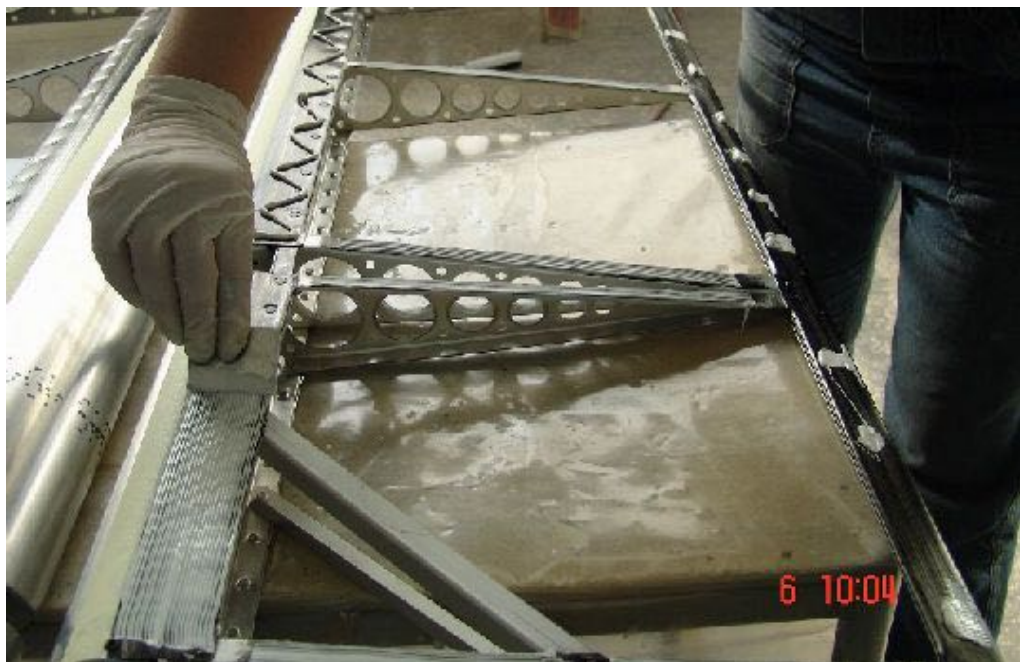


Photo 13

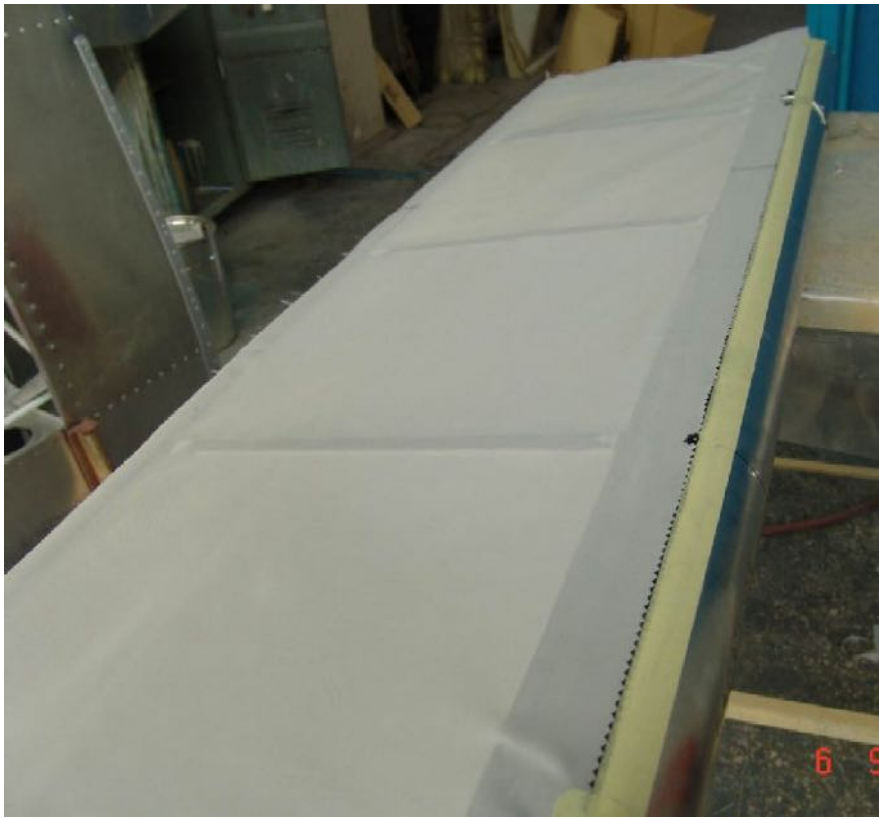


Photo 14

7. Put the Diatex 1500 fabric pre-cut in advance with zigzag scissors on the portion with applied sealant (see photo 14, 15).



Photo 15

All the surfaces except for elevator and the wing are covered with a single piece of the fabric. The pre-cut for elevator consists of two pieces of fabric.

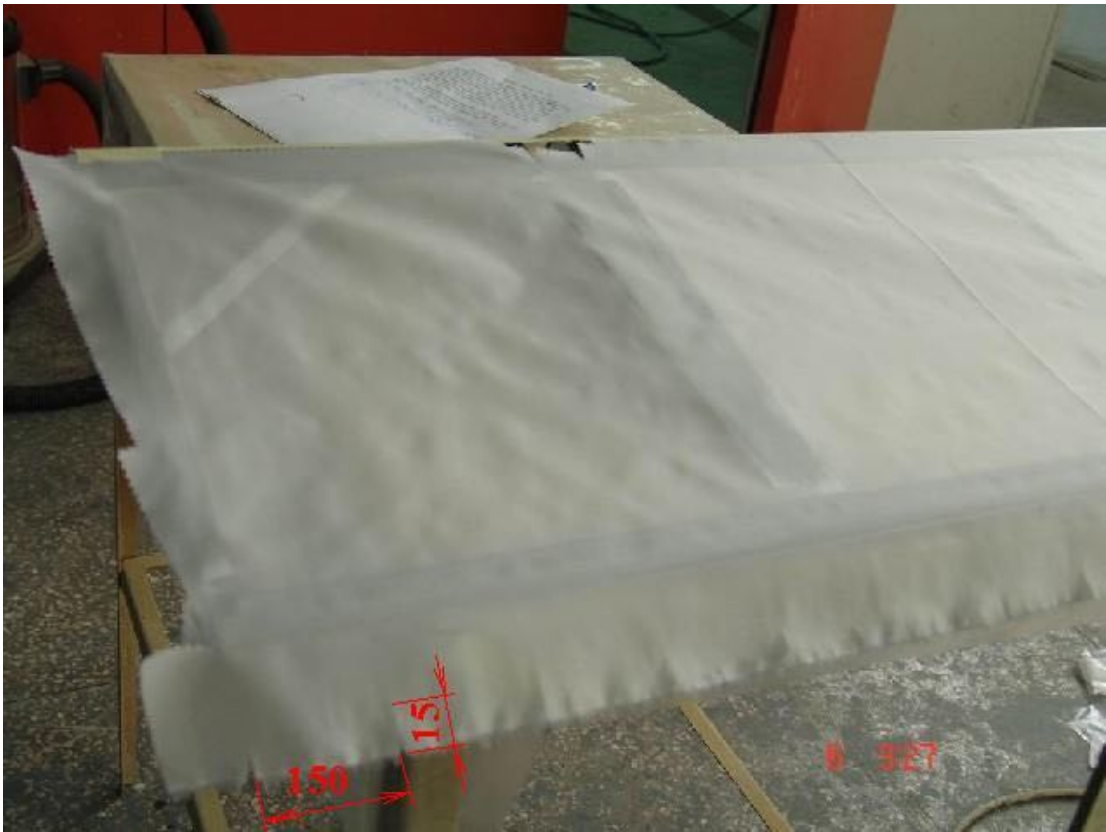


Photo 16

To prevent shrinking of the fabric edge and ensure its even laying make 15 mm cuts at 100-150 mm intervals along entire length (see photo 16).

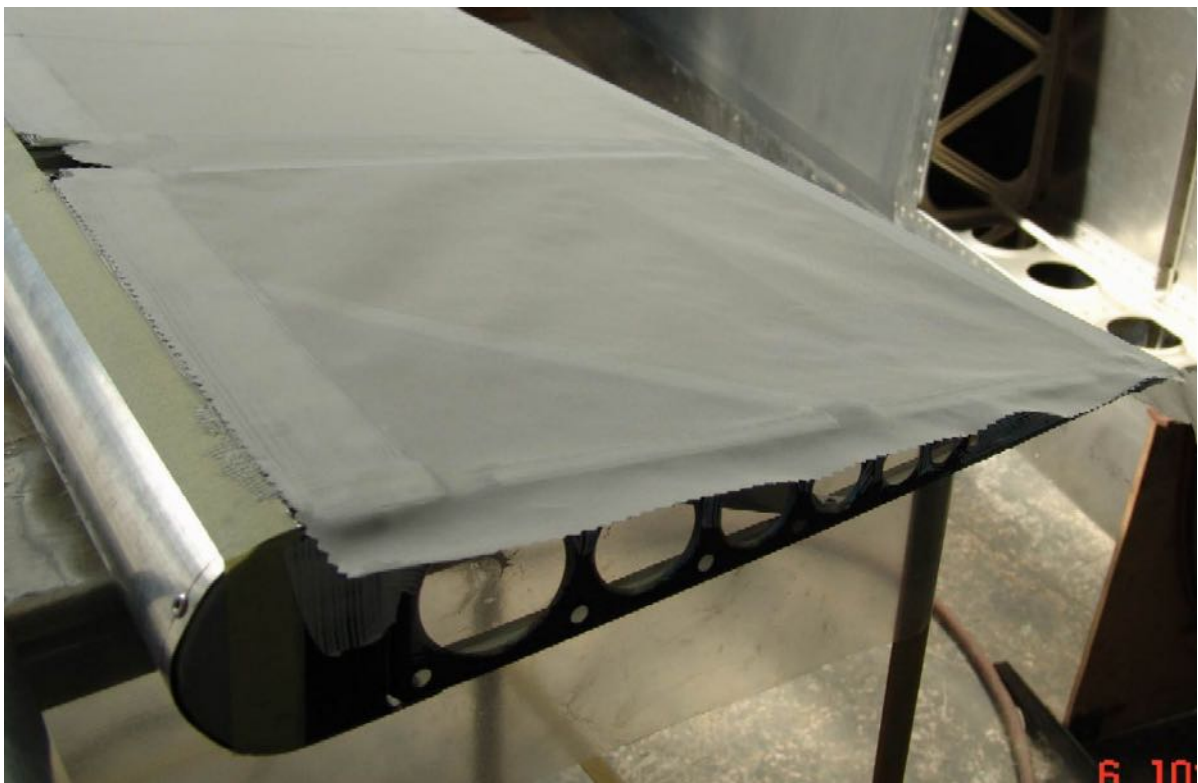


Photo 17

The edge of the pre-cut fabric must overlap the end rib edges by half of their width, as shown in photo 17, 21, 22.



Photo 18 (for all components except for elevator and wing the fabric is pre-cut to overlap both sides)



Photo 19

The laid fabric is pressed with a solid roller through polyethylene strips (see photo 19, 20, 21, 22).



Photo 20



Photo 21



Photo 22



Photo 23

8. After covering the lower surface of a component remove the sticking tape and press the fabric edges along entire perimeter (photo 23, 24) to smooth out the unevenness in height and to achieve a better joint of fabric to the skin.