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Standard Wing Skin Repair Scheme

The basic layup of the wing skin in the area of the reported damage is

1 layer pre-preg glass cloth
5mm thick PVC foam, (density 80 kg/cubic metre)
1 layer pre-preg glass cloth

To carry out repairs on the wing it is acceptable to use 92125 glass cloth in place of the pre-preg laminate and laminate using Ampreg 20, room temperature cured epoxy resin system.

Single Skin Repair

If the damage has not penetrated the foam core and the inner skin, a single skin repair can be carried out.

Remove the damaged external skin, and examine the foam core for signs of damage. If required splice in new section of foam or locally fill with Q cell (see attached figure 1). Replace the external skin with one layer 92125 cloth, ensure the fibre direction is positioned at 45 degrees and matches the original cloth direction. A finishing layer of fine glass cloth can be added and apply a layer of polythene or peel ply over the repair to ensure a smooth finish.

Sandwich Skin Repair

If the damage has penetrated the internal skin follow the repair scheme as described in figure 2. A finishing layer of fine glass cloth can be added and apply a layer of polythene or peel ply over the repair to ensure a smooth finish.



TYPICAL DAMAGE

Fig 1A



DAMAGED STRUCTURE CUT BACK

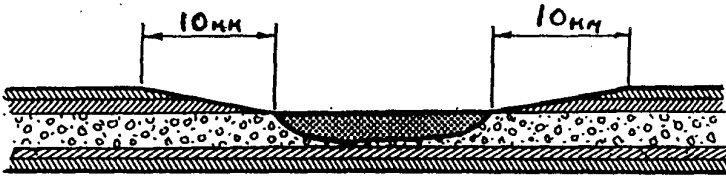
Fig 1B



DAMAGED CORE REPLACED WITH MICROBALLOON FILLER

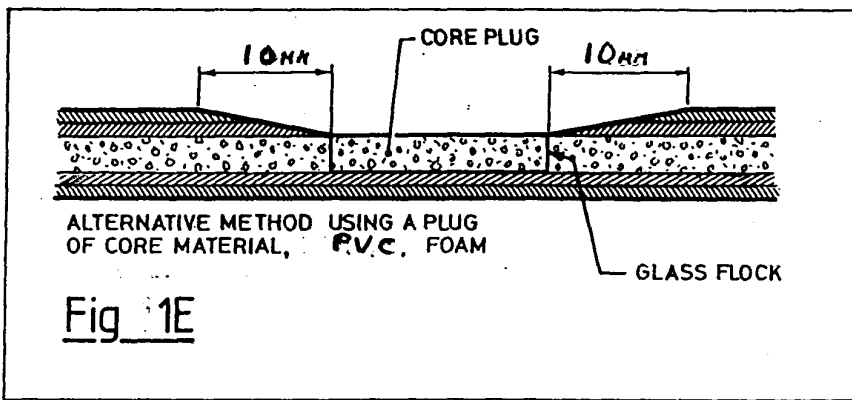
Fig 1C

Fig 1 Sandwich structure repair - damage to one skin only (1 of 2)



PREPARATION OF SPLICE ANGLE

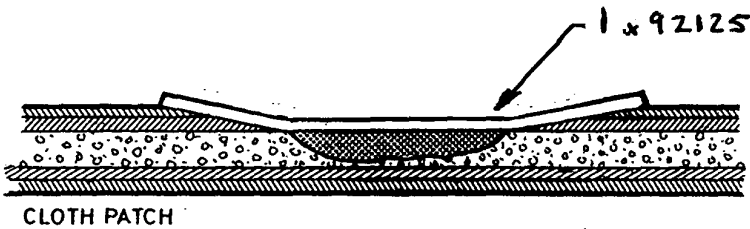
Fig 1D



ALTERNATIVE METHOD USING A PLUG OF CORE MATERIAL, PVC. FOAM

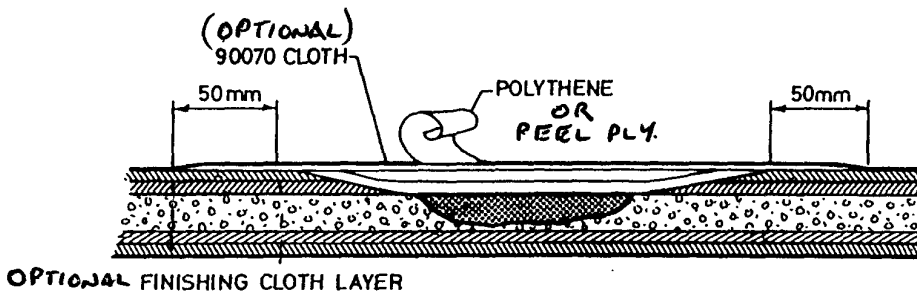
GLASS FLOCK

Fig 1E



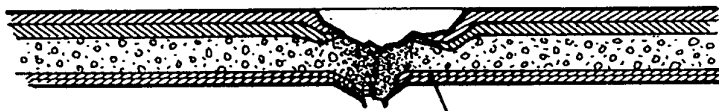
CLOTH PATCH

Fig 1F



OPTIONAL FINISHING CLOTH LAYER

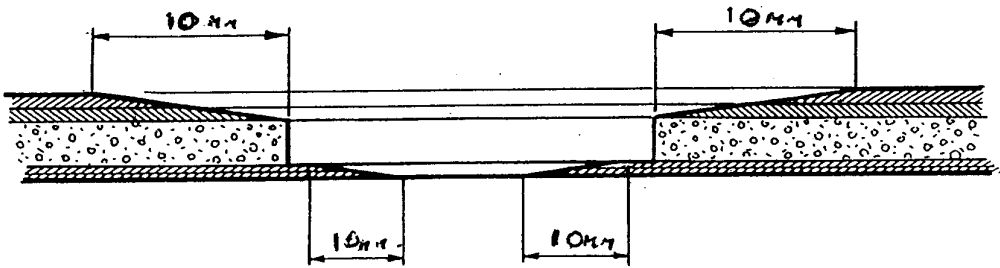
Fig 1G



TYPICAL DAMAGE

INNER SKIN

Fig 2A



PREPARATION OF HOLE EDGES

Fig 2B

Fig 2 Sandwich structure repair minor damage to both skins (1 of 3)

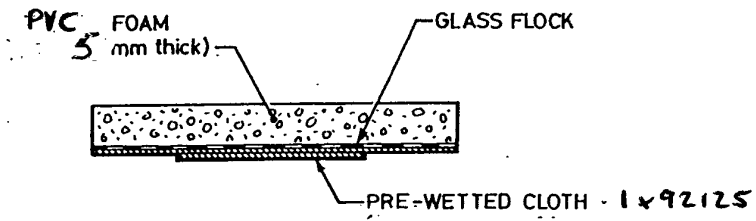
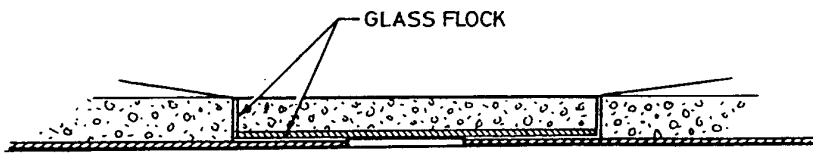
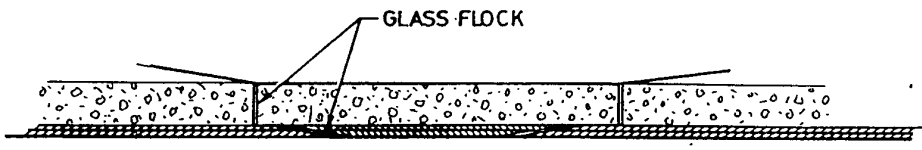


Fig 2C



(a) Thin inner skin



(b) Staged inner skin

Fig 2D

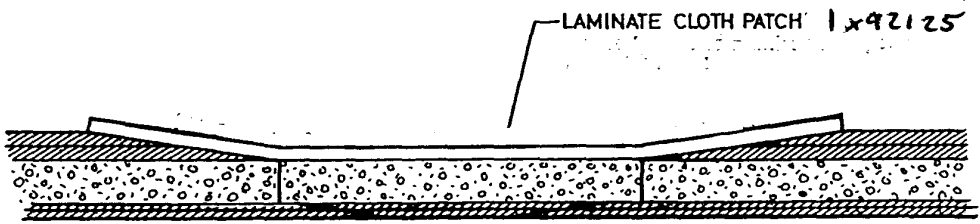


Fig 2E

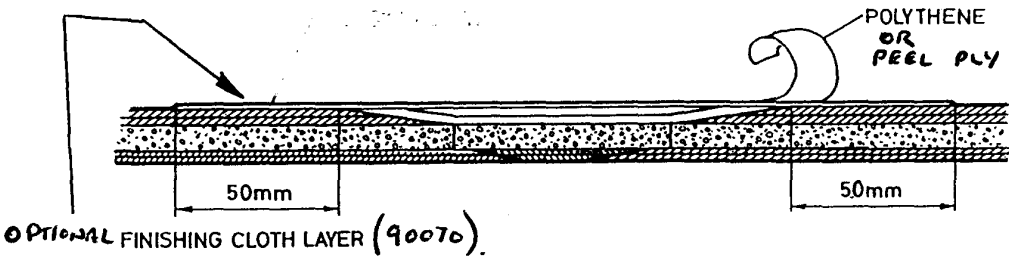


Fig 2F

Fig 2. Sandwich structure repair minor damage to both skins (3 of 3)