MADE IN ENGLAND

SolarFilm®

LIGHT, TOUGH, SHRINK-ON COVERING MATERIAL FOR FLYING MODELS

LOW HEAT SENSITIVITY MAKES IT EASY AND SAFE TO APPLY

Made from an ultra thin, super light film of extra tough polymer coated with fade-free pigments and a special heat-sensitive adhesive.

QUICK — no time needed for sealing, doping, polishing, masking
CLEAN — no odours, spills or mess.
DURABLE — will not slacken, crack or become brittle for the life of your plane.
TOUGH — resists punctures and scratching.
FLEXIBLE — does not show stress-cracks like conventional finishes.

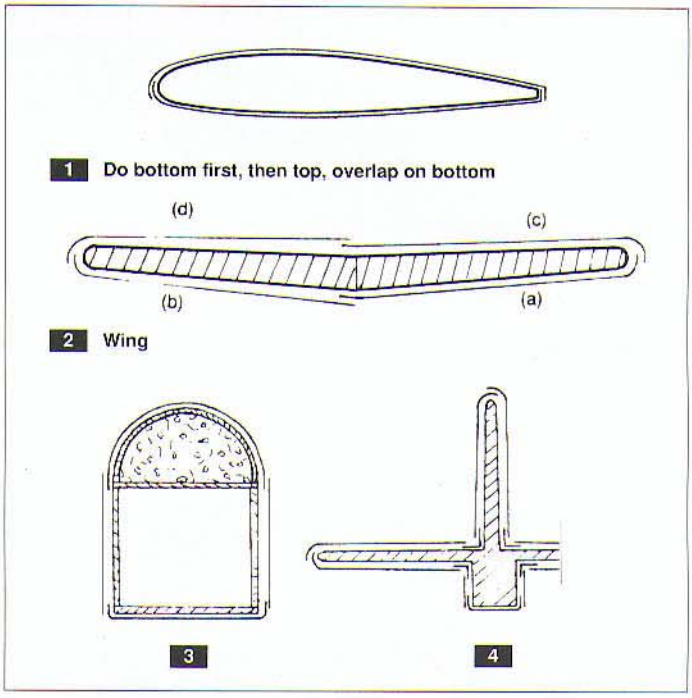
USING SOLARFILM. Covering is done using separate pieces of Solarfilm for each surface of the model. Do not try to cover the whole wing or fuselage by wrapping round a single piece of Solarfilm. WINGS – cover each panel separately, with one piece of Solarfilm for the panel bottom surface, and a separate piece for the panel top surface – see diagram 1. Diagram 2 shows the sequence for a two-panel wing, using four pieces to cover *a)* right hand under surface *b)* left hand under surface, overlapping at centre, *c)* right hand upper surface, *d)* left hand upper surface, overlapping at centre onto *c)*. FUSELAGE – four pieces to cover in order – bottom, sides, and top. Cut the Solarfilm larger than the surface to be covered, remove the clear plastic liner that protects the adhesive side of the Solarfilm. Lay the Solarfilm *(adhesive side down)* on the surface and iron in place.

FUSELAGES are covered using four pieces, top and bottom first, finishing with the sides – see diagram 3.

CORNERS e.g. where a tailplane joins the fuselage or a fin joins the fuselage. The corner is covered using a narrow strip of Solarfilm (1" wide). Then the larger pieces of covering for tailplane and fin are applied, overlapping onto the strips – see diagram 4.

PREPARATION FOR COVERING. A little extra time spent in preparation will pay off in the final appearance of your model. The aim is to have smooth, even surface all over the model. Fill all holes and cracks with filler and sand smooth. Any lumps or unevenness in the surface will show through the covering. Surfaces other than wood (epoxy, fibreglass, plastic etc.) should be sanded smooth. Hard non-porous wood surfaces (plywood, veneer) can be treated with a very thin coat of Balsaloc and allowed to dry.
Finally brush off any sanding residues and wipe with a tissue damped with thinners or alcohol.

FUELPROOFING. Solarfilm is proof against glowfuel. (Diesel fuel and its residues will make Solarfilm wrinkle slightly if left on the surface. Petrol/gasoline will make Solarfilm wrinkle quickly. For models powered with diesel or petrol we recommend our polyester film Solarkote which resists those fuels). BEFORE covering with Solarfilm apply a coat of CLEARCOAT in and around the engine bay, fuel tank bay and the nose back to the wing position. Any other areas that will be subject to fuel or exhaust will benefit from being Clearcoated e.g. leading edge of tailplane and fin, and the wing seat. Allow the Clearcoat to dry for at least 24 hours before applying the Solarfilm. When the Solarfilm is ironed on it makes a completely fueltight seal with the dry Clearcoat. Even if fuel gets under the edge of the Solarfilm or between an overlap joint between two pieces of the Solarfilm, the Clearcoat prevents the fuel from penetrating into the wood. If fuel does get into wood it will saturate the wood, and eventually loosen the covering. Clearcoat is the only satisfactory method of protecting your model from attack by fuel. Traditional fuelproofers (either varnish or two pack types) do not work as well because Solarfilm does not stick to them and they do not stick to Solarfilm well enough to keep fuel out. WARNING! Clearcoat will destroy plastic foams – so on foam wings seal any gaps in the veneer with epoxy before applying Clearcoat. On plastic parts test for bad effects by applying Clearcoat on a small area first.



SOLARLAC paint matches the Solarfilm colours listed below:

White (S)	Red (S)	Dark Blue (H24)
Yellow (S)	Dark Red (S)	Silver (S)
Dark Yellow (H49)	Dark Green (H33)	Black (S)
Orange (S)	Tropic Blue (S)	Heather (S)
Ocean Blue (S)	Lux Blue (S)	Violet (S)

Other Solarfilm colours can be matched by mixing the recipes below:

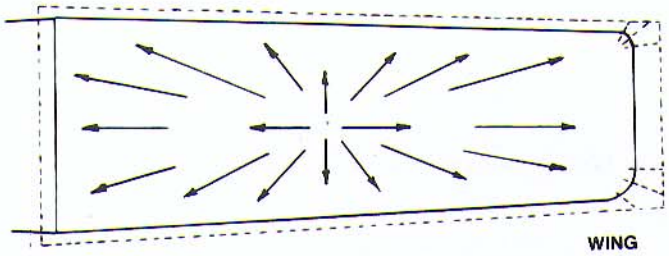
Light Orange (F)	=	2 Orange (S), 1 Yellow (S)
Light Green (F)	=	2 Dark Green (H33), 1 White (S)
Blackberry	=	5 Violet, 1 Red (S)
Medium Blue (R)	=	3 Dark Blue (H24), 1 White (S)

Note – all the colours are available in SOLARTRIM – a self adhesive film which can be applied on top of Solarfilm for decoration.
Paints do not adhere very well to Solarfilm so decoration is best with Solartrim.

APPLICATION OF SOLARFILM. Plan your covering so that the small difficult areas (complex shapes, inside corners etc.) are covered first, and finish with the larger easier parts. For a beautiful, long-lasting finish slightly different methods of applying Solarfilm are used to suit the type of surface to be covered.

IRON TEMPERATURE – *MUST* be correct for successful covering with Solarfilm. Too low and the Solarfilm will not stick. Too high and the Solarfilm will wrinkle up and bubble later on in the life of the model. To test the temperature of your iron, cut some 2" squares of Solarfilm (without the clear liner), placing a square on the sole of the iron (adhesive side up) to see how the heat affects the film. When the heat just makes the square dimple slowly – the iron is at LOW. Check by ironing a strip of film onto smooth balsa – it should stick and when cool will pull a few fibres off the balsa when it is peeled off. Mark this LOW setting on the iron thermostat. Turn the iron up slightly and a fresh square should wrinkle up quickly – see diagram 5. Mark this as HIGH. If you have a modellers thermometer LOW is 100°C and HIGH is 120°C.

OPEN FRAMEWORK wings (spars and ribs) and fuselages (framework of strips and cross members). Cut the Solarfilm 1" oversize all round, peel off the plastic liner and lay the film adhesive side down on the framework. Set the iron at LOW and SPOT TACK at a few places round the edges, with light pressure from the toe of the iron – see diagram 6. Pull the Solarfilm gently to get a snug fit. If the film gathers into large wrinkles, untack with the iron, pull gently to remove the wrinkles and retack. Next SEAL EDGES all round the framework or wing, resting the sole of the iron flat on the edge of the framework and using a rocking movement around the edge of the frame. Next, increase the iron heat to HIGH and SHRINK the Solarfilm gliding the iron very lightly over the surface from the edges towards the centre. Work slowly and let the heat tighten the film. Finally, trim the surplus film from round the edges with a sharp blade. Iron down the trimmed edges firmly.



7 **Solid surface wing**

COMPLEX SHAPES e.g. wingtips. Use Solarfilm at least 3" oversize all round the part to be covered. Set the iron heat to HIGH and seal the Solarfilm along the highest part of the curvature – along the black line in diagram 8. Then grip the edge of the Solarfilm and pull it over the shape until wrinkles form. Heat the wrinkles and pull in the direction of the arrow in diagram 8. As the hot film stretches the wrinkles will disappear, and the film can then be ironed down onto the surface. Work to and fro along the tip, heating and stretching small areas until the tip is completely covered. Never press down on a wrinkle with the iron – it would make the wrinkle permanent.

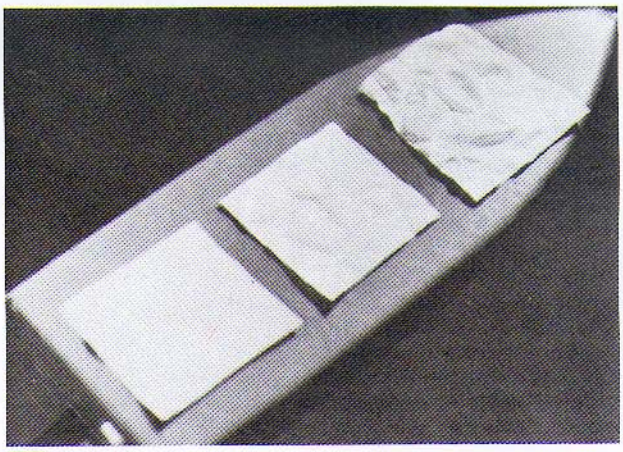
OVERLAPS e.g. at leading and trailing edges of a wing or corners of a fuselage. With the first piece of Solarfilm in place, apply a very thin coat of PRYMOL on the area of the first piece that will be covered by the second piece. Allow to dry for a few minutes. Then iron on the second piece. The PRYMOL ensures a strong overlap joint between the two pieces. Apply the PRYMOL with a soft brush or a cotton wool pad and use only enough to wet the surface.

COLOUR SCHEMES are easy with Solarfilm and other Solarfilm finishing products as follows:

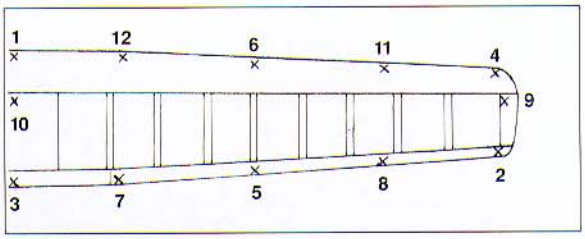
Panelling in different colours of Solarfilm e.g. rear part of wing to mainspar in one colour, then front part of wing back to mainspar in a different colour. Arrange the overlaps at panel edges to face 'downwind' when the model is flying.

Trimming by applying shaped pieces of Solartrim on top of the main covering. Solartrim is a self adhesive colour sheet which can be cut out to make stripes, designs, insignia, letters etc. which adhere securely to Solarfilm just by being pressed into position on the smooth, glossy surface – heat is not needed

Painting SOLARLAC paint (matched to the Solarfilm colour) is ideal for those parts and small areas that are difficult to cover with Solarfilm – cowlings, struts, wheelpants, fairings.

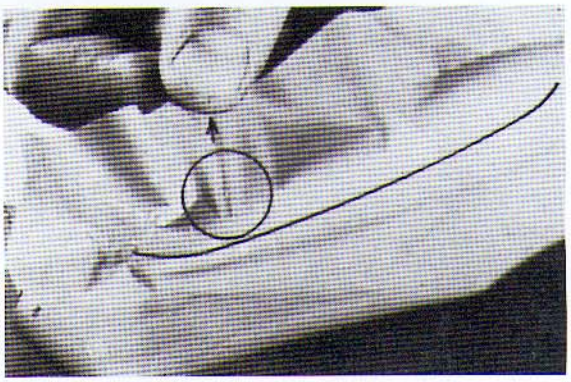


5 **Iron temperatures:**
at LOW **film dimples very slowly**
at MEDIUM **film puckers slowly**
at HIGH **film wrinkles quickly**



6 **'Spot' Tack in the numbered order – Open Frame Wing**

SOLID SURFACES – sheet balsa, veneered foam wings etc. Cut the Solarfilm oversize by at least 1" and place it on the surface to be covered. Set the iron heat to LOW. Start at the centre and iron outwards, see diagram 7. Use light pressure to smooth the film down, at the same time gripping the Solarfilm at the edge and pulling it outwards to stretch out any wrinkles and make it lie flat on the surface – then iron that part down. Continue working outwards from the centre as though along the spokes of a wheel, until the entire surface is covered. Then increase the iron heat to HIGH and reheat each part of the Solarfilm in turn, rubbing it down with a soft cloth whilst it is cooling, so that the Solarfilm is firmly stuck to the surface at all points. Do not use the Open Frame method to cover a solid surface.



8 **Moulding to shape – remove wrinkles (circled)**

Other Solarfilm finishing products are:

CLEARCOAT – clear resin solution for use on wood *before* applying iron-on coverings – toughens and fuelproofs. Also used as a clear finish on Solartex. Not for use as a fuelproofer on paints.

SOLARLAC – fuelproof paint matched to Solarfilm and Solarspan colours. Recipes available for mixing matt and camouflage colours.

SOLARTEX – extra strong, easy-to-use, iron-on fabric covering material, 18 colours including black and silver.

SOLARTRIM – self adhesive, press-on colour trim sheets for cutting your own trim designs, insignia, lettering, stripes etc. Matched to Solarfilm and Solarspan colours.

BALSALOC – resin emulsion that dries to a clear heat-seal coating – used on plywood, foam and other 'hard-to-stick-to' surfaces before applying iron-on covering materials.

LITESPAN – iron-on material in place of tissue and dope – looks exactly like doped tissue but is much stronger. Totally fuelproof and waterproof. Super lightweight at one ounce per square yard.

GLOSSTEX – iron-on fabric with a coat of high gloss paint. Apply just like Solartex for a superb high gloss fuelproof finish.

SOLARKOTE – iron-on polyester film. The strength and heat resistance of polyester. Resists petrol diesel and glow fuels.

PRYMOL – an etch primer for many plastic and metal surfaces. Use to improve the adhesion of iron-on materials, paints and adhesives to the plastic or metal surface.