System Sheet 2 - TrimaThane B74

Paint, Finishing, Two Pack Polyurethane, Air Drying, Spraying To Specification BS2X34A (formerly DTD 5580A)

Description

This Specification covers the requirements for finishing schemes for aircraft, avionics and other environments, where rigorous performance requirements must be satisfied. Excellent gloss and colour retention, together with outstanding resistance to chemical attack and a high level of corrosion protection for the light alloys used in aircraft construction, are among the outstanding properties of the BS2X34A schemes.

Finishing schemes conforming to BS2X34A are hard and mar-proof, whilst being sufficiently flexible to withstand service conditions. Resistance to weathering, even when the matt finish is used, is of the highest order, and resistance to fuels, lubricants, pyrolysed lubricants, hydraulic fluids, salt water, alkaline cleaning agents and detergents is excellent, and even surpasses schemes complying with Specification DEF STAN 80-161.

Finish

Gloss and Matt.

Complies With

BS 2X 34A:1998.

Product Code

See Table.

Volume Solids

Please consult Trimite.

VOC's

Please consult Trimite.

Colour Range

Limited colour range to Def Stan requirements.

Systems

The finishing scheme shall consist of one or other of the following combinations of Materials, all of which are available from Trimite:

BS2X34A Scheme	System
Scheme I	Primer and Finish B74
Scheme II	Primer, Filler and Finish B74

- These schemes are intended to be used over suitable chemical pretreatments. Etch priming (with TrimaEtch SAP2), acid chromate pickling, chromic acid anodising, and processes such as Alocrom 1200, are commonly used.
- The recommended Epoxy Primer (Trimite IP9064) is approved to BSX33 types A and B. The epoxy primer contains strontium chromate which is classified as a SVHC and requires authorisation and may only be used for coating aerospace related components.
- For non-aerospace related components, TrimaKote AP45 is recommended, which meets the corrosion requirements of DEF STAN 80-184.
- The Epoxy Filler (TrimaKote AF98) is approved to DEF STAN 80-216.

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Film Thickness, Coverage & Overcoating

Coating Type	Dry Film Weight (g/m^2)	Dry Film Thickness (µm)	Coverage (m^2/l)	Minimum Air Drying Time before Overcoating
Etch Primer	20 – 25 g/m^2	10 – 12 µm	6 – 7	2 h
Epoxy Primer to BSX33	25 – 35 g/m^2	13 – 18 µm	11 – 15	4 h
Epoxy Primer to DEF STAN 80-184	25 – 35 g/m^2	13 – 18 µm	11 – 15	8 h
Epoxy Filler	60 – 77 g/m^2	31 – 40 µm	7 – 10	4 h (16 h if wet flatting)
Polyurethane B74 Finish	32 – 48 g/m^2	22 – 33 µm	10 – 15	6 h

The coverage figures shown take account of normal spraying losses.

Force Drying

When it is required to accelerate the drying process, temperatures up to 70°C may be used, but final finishing coats must be allowed to dry at room temperature for at least one hour prior to force drying.

Surface Preparation

- All surfaces should be dry and cleaned as necessary to remove all oil, grease, corrosion or other contamination.
- Surfaces must be cleaned in accordance with DEF STAN 03-2.
- When an etch primer is specified, TrimaEtch **SAP2** (Base Component SAP2 and Acid Component SAR2) is recommended.

Mixing

All BS2X34A materials are supplied in two parts, a Base and a Curing Agent. It is essential that mixing instructions, given in this sheet and also found on the labels, are followed. The correct Thinner must be used.

All materials should be at shop temperature (15°C - 25°C) before mixing. Prior to use, ensure that individual components are of uniform consistency by mechanical shaking or thorough stirring. Mix as detailed in the Table below (see 'Mix Ratio & Thinning'), ensuring that the resultant blend is thoroughly stirred.
All unused blended materials should be discarded after the Pot Life shown below. The pot life will significantly decrease at temperatures above 25°C.

Pot Life at 20°C

SAP2 Etch Primer: 10 – 12 h.
Epoxy Primer & Epoxy Filler: 8 h
B74 Finish: 4 h.

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Mix Ratio & Thinning

Coating Type	Base	Curing Agent	Mix Ratio by Volume	Thinner for spray	Viscosity BS B4 Cup (sec)	Viscosity BS B3 Cup (sec)	Pot Life at 20°C (h)
Etch Primer (Yellow)	98/SAP2	SAR2	1 : 1	SAT2	20 - 25	35 - 45	10 – 12 h
Epoxy Primer BSX33 Types A & B (Yellow)	IP9064-6362	IP9064-CAT	4 : 1	T100	20 - 25	35 - 45	8 h
Epoxy Primer AP45 to DEF STAN 80-184 (Mid-Grey)	41/AP45	J4501	2 : 1	T100	25 - 30	45 - 60	8 h
Epoxy Filler DEF STAN 80-216 (White)	90/AF98	J9802	2 : 1	T100	40 - 45	90 - 100	8 h
B74 Finishes to BS2X34A:							
Gloss	[ref]/B74/9	J7401	2 : 1	BT93	18 - 20	30 - 35	4 h
Matt	[ref]/B74/1	J7701	2 : 1	BT93	18 - 20	30 - 35	4 h

- If applying by roller, please consult Trimite.

Application Conditions

BS2X34A (TrimaThane B74) paints should only be applied in paint shops where the temperature is between 15°C and 25°C and the relative humidity between 30% and 75%. Surfaces to be painted should be allowed to reach shop temperatures.

Application Details

- When mixed for use (with the appropriate thinners in the proportions recommended) the Primer and Finish are suitable for application by roller or spray equipment. The Filler will normally be applied by spray, unless otherwise stipulated by the terms of the contract or order.
- **Primer:** optimum properties are achieved if overcoating takes place within 72 h of primer application. Should this time be exceeded, it is advisable to wet flat the surface with 800 grade paper and apply a light ‘refresher’ coat of primer, which should then be allowed to dry thoroughly before application of filler or finish.
- **Filler:** apply one coat to the correctly primed surface and allow to air dry. If further coats of filler are required, 4 h must elapse between coats. After application of the last filler coat, and before wet flatting with 800 grade paper, 16 h air drying should be allowed. Remove all traces of flatting sludge and moisture before proceeding. Do not allow more than 72 h to elapse before application of finish coats.
- **B74 Finish:** apply one coat of finish to the correctly prepared surface and allow to air dry for a minimum of 6 h. Where further coats of finish are to be applied, wet flatting with 800 grade paper is recommended. Care should be exercised to avoid removal of previous coats. Where bare metal areas are exposed it will be necessary to repair these by treatment with a conversion coating or 2 pack etch primer followed by priming with Two Pack Epoxy Primer. The surface must be perfectly clean and free from flatting sludge, moisture or grease before applying further coats.
  B74 Finish contains isocyanates – the mixed product and the curing agent contain isocyanates (the base does not). Refer to base and curing agent Safety Data Sheets before use.

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Repair

The following procedure is recommended:
1. Thoroughly degrease the area involved and mask off.
2. Abrade any rough area to give a smooth sound edge.
3. Wet-flat the whole area with 800 grade paper.
4. Wipe clean and ensure the surface is completely dry.
5. Treat any bare metal with etch primer and follow with the complete system.

Thinner/Cleaner

Thinner BT93 (for cleaning).

SG

1.30 ± 0.15 kg/l.

Flash Point

See Table below.

Shelf Life

Min. 1 year from date of delivery when correctly stored in unopened containers.

Storage

The products should be stored in cool, dry, frost-free conditions, in sealed containers. Most paint materials will apply optimally when at 15° - 20°C.

Health & Safety

Refer to the product's Safety Data Sheet and safety advice on the product label before use.
Details of flammability, for both individual items and the appropriate blends ready for application, are shown in the Table below.

Coating Type	Component	Reference	Component Flashpoint	Mixed Product Flashpoint
Etch Primer	Base Component	98/SAP2	Below 23°C	Below 23°C
(TrimaEtch SAP2)	Acid Component	SAR2	Below 23°C	
	Thinner	SAT2	Below 23°C	
Epoxy Primer	Base Component	IP9064-6362	Below 23°C	Below 23°C
(BSX Types A & B)	Curing Agent	IP9064-CAT	23°C – 60°C	
	Thinner	T100	23°C – 60°C	
Epoxy Primer (Mid-Grey)	Base Component	41/AP45	23°C – 60°C	23°C – 60°C
(Def Stan 80-184 – TrimaKote AP45)	Curing Agent	J4501	23°C – 60°C	
	Thinner	T100	23°C – 60°C	
Epoxy Filler	Base Component	90/AF98	23°C – 60°C	23°C – 60°C
(TrimaKote AF98)	Curing Agent	J9802	23°C – 60°C	
	Thinner	T100	23°C – 60°C	
Polyurethane Gloss Finish	Base Component	[ref]/B74/9	Below 23°C	Below 23°C
(TrimaThane B74)	Curing Agent	J7401	23°C – 60°C	
	Thinner	BT93	Below 23°C	
Polyurethane Matt Finish	Base Component	[ref]/B74/1	Below 23°C	Below 23°C
(TrimaThane B74)	Curing Agent	J7701	23°C – 60°C	
	Thinner	BT93	Below 23°C	

Date of Issue

Nov 2026.

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