

## System Sheet 4 - Trimite B77

### Paint, Finishing, Two Pack Polyurethane, Solar Heat Reflecting, Air Drying, Spraying, To Specification DTD 5618

**Description** This Specification covers the requirements for finishing schemes for aircraft, avionics and other environments where rigorous performance requirements must be satisfied. The scheme offers maximum reflection of solar heat radiation in order to reduce surface temperatures of equipment, thus minimising the chance of an electronic malfunction. 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 DTD 5618 scheme.

The finishing scheme conforming to DTD 5618 is 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. Resistance to fuels, lubricants, pyrolyzed 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** DTD 5618.

**Product Code** See Table.

**Volume Solids** Please consult Trimite.

**VOC's** Please consult Trimite.

**Colour Range** Limited colour range to Def Stan requirements.

**Systems**

DTD 5618 Scheme	System
Scheme I	Primer, Filler and Finish B77

- These schemes are intended to be used over suitable chemical pretreatments. Etch priming (with Trimite 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.
- The Epoxy Filler (Trimite AF98) is approved to DEF STAN 80-216.

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#### Film Thickness, Coverage & Overcoating

Coating Type	Dry Film Weight (g/m <sup>2</sup> )	Dry Film Thickness (µm)	Coverage (m <sup>2</sup> /l)	Minimum Air Drying Time before Overcoating
Etch Primer	20 – 25 g/m <sup>2</sup>	10 – 12 µm	6 – 7	2 h
Epoxy Primer	25 – 35 g/m <sup>2</sup>	13 – 18 µm	11 – 15	4 h
Epoxy Filler	62 – 78 g/m <sup>2</sup>	31 – 40 µm	7 – 10	4 h (16 h if wet flattening)
Polyurethane B77 Finish	32 – 48 g/m <sup>2</sup>	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, **Trimite SAP2** (Base Component SAP2 and Acid Component SAR2) is recommended.

#### Mixing

All DTD 5618 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  
B77 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	AT98	20 - 25	35 - 45	8 h
Epoxy Filler DEF STAN 80-216 (White)	90/AF98	J9802	2 : 1	AT98	40 - 45	90 - 100	8 h
<b>B77 Finishes to DTD 5618:</b>							
Gloss	[ref]/B77/9	J7401	2 : 1	BT93	18 - 20	30 - 35	4 h
Matt	[ref]/B77/1	J7701	2 : 1	BT93	18 - 20	30 - 35	4 h

- If applying by roller, please consult Trimite.

#### Application Conditions

DTD 5618 (Trimite B77) 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 spray. 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 flattening with 800 grade paper, 16 h air drying should be allowed. Remove all traces of flattening sludge and moisture before proceeding. Do not allow more than 72 h to elapse before application of finish coats.
- **B77 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 flattening 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 flattening sludge, moisture or grease before applying further coats.  
**B77 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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<b>Repair</b>	The following procedure is recommended: <ol style="list-style-type: none"> <li>1. Thoroughly degrease the area involved and mask off.</li> <li>2. Abrade any rough area to give a smooth sound edge.</li> <li>3. Wet-flat the whole area with 800 grade paper.</li> <li>4. Wipe clean and ensure the surface is completely dry.</li> <li>5. Treat any bare metal with etch primer and follow with the complete system.</li> </ol>
<b>Thinner/Cleaner</b>	Thinner BT93 (for thinning and cleaning).
<b>SG</b>	1.30 ± 0.15 kg/l.
<b>Flash Point</b>	See Table below.
<b>Shelf Life</b>	Minimum of 1 year from date of receipt when correctly stored in unopened containers.
<b>Storage</b>	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.
<b>Health &amp; Safety</b>	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
<b>Etch Primer</b> (Trimite SAP2)	Base Component	98/SAP2	Below 23°C	Below 23°C
	Acid Component	SAR2	Below 23°C	
	Thinner	SAT2	Below 23°C	
<b>Epoxy Primer</b> (BSX Types A & B)	Base Component	IP9064-6362	Below 23°C	Below 23°C
	Curing Agent	IP9064-CAT	23°C – 60°C	
	Thinner	AT98	23°C – 60°C	
<b>Epoxy Filler</b> (Trimite AF98)	Base Component	90/AF98	23°C – 60°C	23°C – 60°C
	Curing Agent	J9802	23°C – 60°C	
	Thinner	AT98	23°C – 60°C	
<b>Polyurethane Gloss Finish</b> (Trimite B77)	Base Component	[ref]/B77/9	Below 23°C	Below 23°C
	Curing Agent	J7401	23°C – 60°C	
	Thinner	BT93	Below 23°C	
<b>Polyurethane Matt Finish</b> (Trimite B77)	Base Component	[ref]/B77/1	Below 23°C	Below 23°C
	Curing Agent	J7701	23°C – 60°C	
	Thinner	BT93	Below 23°C	

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