

September, 1969

Aerospace Material Specification
ACRYLIC FINISHING SCHEME FOR GENERAL PURPOSE
USE ON AIRCRAFT

NOTE. This specification is one of a series issued by the Ministry of Technology, either to meet a limited requirement not covered by any existing British Standard specification, or to serve as a basis for inspection of materials the properties and uses of which are not sufficiently developed to warrant submission to the British Standard Institution for standardisation.

1. Scope and intended application

This specification covers the requirements for a rapid drying finishing scheme suitable for general purpose use mainly on the exterior surfaces of aircraft. It is intended for use over an approved pre-treated surface.

2. Description

(a) The finishing scheme shall consist of one or other of the following combinations of materials:

- Scheme I — primer and finish
- Scheme II — primer, filler and finish

(b) The materials shall consist of:

- (i) *A primer* — which shall be suitable for direct application to pre-treated metal and which shall be a two component chromate pigmented cold-curing epoxide resin vehicle to the requirements described additionally in Clause 2(f) (i);
- (ii) *A filler* — (where required) which shall be suitable for application over the primer and which shall be a two component pigmented cold-curing epoxide resin vehicle conforming to the requirements described additionally in Clause 2(f) (i);
- (iii) *A finish* — which shall be suitable for application over the primer alone and over the primer over-coated with the filler. The finish shall be based on an air drying acrylic resin conforming to the requirements described additionally in 2(f) (vi) below. The finish shall be capable of being polished to give a highly glossy surface without detriment to the life of the scheme or the protection it affords to the metal. Additionally a limited range of colours may be available in a matt finish.

(c) The materials shall be suitable for application to metal in the following order, to give when dry the weight additions indicated, with or without flattening of the filler:

- Primer — 0.85 ± 0.15 oz/square yard
- Filler — 2.0 ± 0.25 oz/ " "
- Finish — 1.25 ± 0.25 oz/ " "

NOTE. The finish weight addition is normally obtained in more than one coat.

(d) The materials shall be suitable for use by spraying when diluted, if necessary, with the appropriate thinners.

(e) When supplied for Service use the primer and filler shall be compatible with thinners to specification DEF-1216.

(f)

(i) The cold-curing epoxide primer and filler shall each consist of an epoxide resin vehicle and curing agent. The two components shall be suitable for use when mixed together in the declared proportions which shall be in a simple ratio by volume. The manufacturers shall state which curing agent shall be used for each material and the mixing proportions for each material. The mixing instructions shall be marked clearly on the containers.

(ii) When supplied for Service use the primer shall also conform to D.T.D. 5567.

(iii) The mixtures of primer and filler prepared as in 2(f) (i) shall not settle unduly and shall remain suitable for use for not less than the following periods of time after mixing:

- 8 hours at a temperature of $20^\circ \pm 2^\circ\text{C}$
- 4 hours at a temperature of $35^\circ \pm 2^\circ\text{C}$

- (iv) The primer and filler will not cure satisfactorily at low temperatures or in conditions of high humidity. If type approval is required for conditions other than those laid down in D.T.D. 902, then evidence of satisfactory performance shall be supplied.
- (v) When ordered for Service use the primer and the filler and their curing agents in the correct amounts for mixing shall be supplied in multiple pack containers.
- (vi) The finish shall consist essentially of a pigmented acrylic resin vehicle with plasticiser if required.

3. Freedom from objectionable ingredients

Substances which may cause injury or discomfort to operators during or after application shall not be used.

4. Rate of drying

- (a) *Primer*. The primer coat shall be capable of being overcoated in not more than 4 hours when applied as described in Appendix II (a). There shall be no visible defects or lifting of the primer on overcoating with the filler or the finish as described in Appendix II (a).
- (b) *Filler*. The filler coat shall be capable of being overcoated in not more than 4 hours when applied as described in Appendix II (b). There shall be no visible defects or lifting of the filler on overcoating with the finish as described in Appendix II (b). The filler shall be capable of being rubbed smooth without clogging the paper when tested by the method described in Appendix III.
- (c) *Finish*. The finishing coat shall become "Hard Dry" in not more than 2 hours when applied by the method described in Appendix II (c), (i) or (ii) as appropriate and when tested as described in Appendix II (d) no visible defects shall occur.

5. Colour and finish

- (a) The colour of the primer, filler and finish shall be significantly different one from the other.
- (b) When applied to a hard aluminium panel, the dry film resulting from the application of one priming coat, one flatted filler coat (Scheme II only) and one or more finishing coats conforming to the limits of weight specified in Clause 2 (c) shall match the standard in respect of colour.
- (c) Details of the standards of colour and finish are obtainable from the Director of Chemical Inspection E135/17, Royal Arsenal East, Woolwich, London, S.E.18.

6. Schemes to be tested

All tests shall be carried out on schemes consisting of:

- (I) primer and finish
 - and (II) primer, filler and finish
- prepared as described in Appendix I.

7. Toughness, hardness and adhesion

Test conditions and requirements

Test	Test method	Material	Scheme I	Scheme II	Notes
(a) Bend	Panels shall be prepared and dried as in Appendix I. Testing shall be in accordance with BS. 3900 Part E.1.	Soft aluminium	$\frac{3}{8}$ " at 0°C	$\frac{1}{4}$ " at 0°C	The paint film shall not become detached or damaged: slight strain cracking may be permitted providing there is no loss of adhesion of any part of the system.
(b) Dry scratch	Panels shall be prepared and dried as in Appendix I. Testing shall be in accordance with BS. 3900 Part E.2.	Hard aluminium	1,500 g at room temperature	1,500 g at room temperature	Any scratch produced shall not penetrate the top coat.
(c) Wet scratch	Appendix IV followed by BS. 3900 Part E.2.	Hard aluminium	1,200 g at room temperature	1,200 g at room temperature	Any scratch produced shall not penetrate the top coat.

8. Protection against artificial sea water

The protection against artificial sea water of a film of the material prepared and tested as described in Appendix V shall be such that flaking, change of colour, blistering or corrosion of the metal shall not occur.

9. Resistance to synthetic lubricating oils

The resistance to cold, hot and hot pyrolised synthetic lubricating oils of films of the material shall be such that when tested by the method described in Appendix VI (a), (b) and (c) the films shall not become detached and the scratch shall not penetrate the finishing coat. In addition, following the tests to Appendix VI (a) and (b) the film shall show only negligible discolouration and following tests to Appendix VI (c), the film shall show no blistering and only slight discolouration. The degree of discolouration shall not be inferior to that of the approved sample.

10. Resistance to hydraulic fluid (Mineral based, type test only)

The resistance to cold D.T.D. 585 hydraulic fluid of films of the material shall be such that when tested by the method described in Appendix VII, the film shall show no signs of blistering or lifting and the scratch shall not penetrate the finishing coat.

11. Resistance to organic solvents

The resistance to immersion for 2 hours in organic solvents (toluene/trimethylpentane) of films of the material shall be such that when prepared and tested by the method described in Appendix VIII, the film shall retain its original appearance and shall not become detached or damaged to an extent greater than that permitted in Clause 7(a).

12. Resistance to hot kerosene

The resistance to hot kerosene to Specification D.Eng. R.D.2453 of films of the material shall be such that when tested by the method described in Appendix IX the film shall not become detached or damaged to an extent greater than that permitted in Clause 7(a).

13. Resistance to heat

The resistance to heat of films of the material shall be such that when tested by the method described in Appendix X the film shall not become detached or damaged. Slight yellowing of the films shall be disregarded.

14. Resistance to temperature cycling (Cold crack test) (Type test only)

The resistance to temperature cycling of a film of the material shall be such that when tested by the method described in Appendix XI the film shall not show signs of cracking, chipping, flaking, blistering or loss of gloss.

15. Overcoating test

The scheme shall be capable of being overcoated when tested in accordance with Appendix XII. It shall show no signs of crazing, lifting or other defects.

16. Resistance to natural weathering

The resistance to natural weathering of a film of the material shall be such that when tested by the method described in Appendix XIII the film shall not show signs of checking, cracking, chipping, flaking or blistering. Retention of colour and finish shall be to the satisfaction of the Director of Chemical Inspection. Slight chalking and slight loss of gloss shall be disregarded. Neither the filler coat nor the primer coat shall be visible and the metal shall be free from corrosion.

17. Keeping qualities

The keeping qualities of the materials shall be such that when stored in their original sealed containers, the materials shall retain the properties described in this specification for not less than twelve months in either tropical or temperate climates after the date of dispatch.

18. Type approval

Before any particular manufacturer's material is accepted as complying with the requirements of this specification, the manufacturer shall obtain type approval. Applications for type approval shall be submitted to the Director of Chemical Inspection E.135/17, Royal Arsenal East, Woolwich, London, S.E.18, accompanied by:

- (i) Evidence that the materials comply with Clauses 1-17 inclusive of this Specification.
- (ii) Wet samples including thinners of all materials for which approval is sought together with details of their formulation, i.e. percentage of pigment, medium, volatile and nature of medium,

pigments and extenders and the specification references, where applicable, of the ingredients; and the weight per gallon of each material submitted.

- (iii) One sprayed panel prepared in accordance with Appendix XIII in respect of each finishing colour and scheme for which approval is sought and marked on the reverse with the description and film weight of each applied coat.

The Director of Chemical Inspection may at his discretion grant a provisional type approval on the basis of short term tests before natural weathering tests can be completed. Provisional approvals will be issued only in special circumstances, and after consideration of evidence supplied by the applicant of durability of materials of the same or similar formulation, definition of the type of medium and the names of the manufacturers or any proprietary resins used, in addition to details supplied under (i) (ii) and (iii).

Type approval shall be obtained in respect of each component and each finishing colour. After provisional or formal approval has been given no change in the formulation will be permitted, unless approval of the change has been sought and given.

19. Routine inspection

A representative sample of each batch of each of the components of the schemes shall be tested by the manufacturer and proved to comply with Clauses 1-9, 11-13 inclusive before release is authorised. At the discretion of the Inspecting Officer, the time required by Clauses 9 and 13 may be reduced from 1,000 to 168 hours.

The Director of Chemical Inspection may require the manufacturer to test to Clauses 10, 14, 15 and 16 at any time.

20. Preparation for delivery

In addition to bearing the markings called for by legal requirements, the packages constituting a consignment shall be clearly and durably marked with the description of the paint as shown by the title of this specification, the batch number, the date of despatch, the contractors initials or recognised trade mark and such markings as may be prescribed in the terms of the contract or required by the provisions of DEF-1234.

The following warning notices shall also be marked on the containers as appropriate:

- (i) "Use with Curing Agent . . . and Thinner . . ."
- (ii) "This material shall be mixed in . . . parts by volume with Curing Agent . . . prior to use", the ratio as appropriate being stated.
- (iii) In addition to the above, each container of pigmented component and curing agent shall have marked on the bottom outside surface:
 - (1) Manufacturer's proprietary reference number or description.
 - (2) Batch number.

APPENDIX I

Method for the preparation and painting of aluminium panels

The panels which shall be hard or soft as required shall comply with the specification and gauge described in the appropriate Appendix and shall be acid chromate pickled, as described in Part A.3 of B.S.3900. After application of the materials as described in Appendix II the paint shall be allowed to dry for 7 days, unless otherwise specified, at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and a relative humidity of 60-70 per cent. All film weights shall be as specified in Clause 2(c).

APPENDIX II

Method for the determination of rate of drying

In all cases, drying shall be carried out at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and a relative humidity of 60-70 per cent. All film weights shall be as specified in Clause 2(c)

(a) Primer.

- (i) One coat of primer shall be applied by spray to a hard aluminium panel prepared as described in Appendix I. After 4 hours drying the filler shall then be applied by spray and allowed to dry for 16 hours. The panel shall then be visually examined.
- (ii) The test shall be repeated using two or more coats of finish applied wet on wet instead of one coat of filler.

(b) Filler (Scheme II).

Prepare the panel as described in (a) (i) but after the filler has dried for 4 hours apply two or more coats of finish applied wet on wet. Allow to dry overnight. The panel shall then be examined visually.

(c) *Finish.*

- (i) Over primer (Scheme I)—prepare the panel as described in (a) (ii). After the finish has been allowed to dry for 2 hours it shall then be tested as described at (d).
- (ii) Over filler (Scheme II)—prepare the panel as in (b). When the finish has been allowed to dry for 2 hours, after the application of the last coat, then it shall be tested as described at (d).

(d) *Test for dryness.*

The panel shall be placed on one pan of a pair of scales. After balancing the scales, a weight of 5 lb shall be placed in the other pan. The scales shall then be balanced again for 20 seconds by pressing the thumb on the film. No sign of tackiness to the thumb shall be apparent and any impression produced on the film shall be capable of being wiped away with dry cotton wool without damaging the film, or shall disappear on standing for one minute.

APPENDIX III**Method for the determination of rubbing properties of the filler**

A panel of hard aluminium 6 inch x 9 inch shall be prepared in accordance with Appendix I and allowed to dry for 16 hours.

The panel shall then be rubbed with Silicon carbide paper, Grade A320 to B.S.872 wet with water.

APPENDIX IV**Method for the determination of toughness, hardness and adhesion after water immersion (Wet scratch test)**

The test described in B.S.3900 Part E.2 shall be repeated after immersion of the panel for 24 hours in distilled water at $20^{\circ} \pm 2^{\circ}\text{C}$. Surplus water shall be removed rapidly from the surface of the panel by shaking and by means of clean, dry filter paper and the wet scratch test performed within 30 seconds using the specified weight.

APPENDIX V**Method for the determination of protection against artificial sea water**

A 6 inch x 4 inch burnished steel panel prepared as described in B.S.3900, Part A.3 shall be painted as described in Appendix I. The back of the panel shall be protected, either with the materials under test or with any other protective which will not affect the testing solution. The edges shall be protected by dipping for $\frac{1}{4}$ inch in melted wax. Alternatively, two panels each painted on one side only may be placed back to back and sealed round the edges with wax.

The panel shall be partially immersed in a testing solution of the composition specified in B.S.3900, Part F.4, Clause 6.1 at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ continuously for 7 days, immediately after which time the panel shall be examined visually. A strip of paint film shall be removed from the face of the panel by a suitable paint remover so that a representative section of the panel is exposed, and the metal shall be examined for signs of corrosion.

APPENDIX VI**Method for the determination of resistance to synthetic lubricating oils**(a) *Cold oil*

Carry out the test as described in B.S.3900, Part G.1, subject to the following special conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) hard aluminium panel to B.S.1470 Grade SIC-H, 0.028 inch (0.7mm) thick (22 s.w.g.) prepared, coated and dried in accordance with Appendix I.
- (2) *Test solution.* Lubricating oil, aircraft turbine engine-synthetic type to specification D.Eng. R.D. 2847 (R.D.E. 0/463).
- (3) *Test procedure.*
 - (i) A cut shall be made through the film down to the metal using a sharp knife or razor edge. The cut shall be made down the middle of the panel parallel to the long edge.
 - (ii) Completely immerse the test piece in the test solution continuously for 1000 hours at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$.
 - (iii) Remove the test piece from the test solution and wipe with a soft rag dipped in a mixture of:
75 parts by volume 2.2.4. trimethylpentane I.P. reference fuel quality; and
25 parts by volume pure toluene to B.S.805.
 - (iv) Immediately carry out the scratch test as described in B.S.3900 Part E.2 under a load of 1,500 grammes.

(b) *Hot oil.*

Carry out the test as described in B.S.3900 Part G.1 subject to the following special conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) hard aluminium panel to B.S.1470 Grade SIC-H, 0.028 inch (0.7mm) thick (22 s.w.g.) prepared, coated and dried in accordance with Appendix I.
- (2) *Test solution.* Lubricating oil aircraft turbine engine-synthetic type to specification D.Eng. R.D. 2847 (R.D.E. 0/463).
- (3) *Test procedure.*
 - (i) A cut shall be made through the film down to the metal using a sharp knife or razor edge. The cut shall be made down the middle of the panel parallel to the long edge.
 - (ii) Completely immerse the test piece in the test solution continuously for 8 hours at a temperature of $70^{\circ} \pm 2^{\circ}\text{C}$.
 - (iii) Remove the test piece from the test solution and wipe with a soft rag dipped in a mixture of:
75 parts by volume 2.2.4 trimethylpentane I.P. reference fuel quality; and
25 parts by volume pure toluene to B.S.805.
 - (iv) Immediately carry out the scratch test as described in B.S.3900 Part E.2 under a load of 1,200 grammes.

(c) *Hot pyrolised oil.*

Carry out the test as described in B.S.3900 Part G.1 subject to the special following conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) hard aluminium panel to B.S.1470 Grade SIC-H, 0.028 inch (0.7mm) thick (22 s.w.g.) prepared, coated and dried in accordance with Appendix I.
- (2) *Test solution.* The pyrolised ester lubricant shall be prepared by heating lubricating oil: aircraft turbine engine-synthetic type to specification D.Eng. R.D.2847 (R.D.E. 0/463) in a standard distillation apparatus until approximately one third of the lubricant has broken down and distilled over. The rate of heating shall be such that the thermometer reaches 175°C at the end of the process, although the temperature of the lubricant itself may be approximately 500°C . The distillate and residue shall be allowed to cool to room temperature and then mixed together.
- (3) *Test procedure.*
 - (i) Uniformly spread half the area of the panel with $0.1 \pm 0.02\text{g}$ with the test solution which shall then be placed horizontally on the shelf of an oven maintained at $70^{\circ} \pm 2^{\circ}\text{C}$ for a total of 1,000 hours.
 - (ii) The test solution shall be wiped off and renewed daily on five consecutive days every week for the complete test period.
 - (iii) The panel shall then be wiped with a soft rag dipped in a mixture of:
75 parts by volume 2.2.4. trimethylpentane I.P. reference fuel quality; and
25 parts by volume pure toluene to B.S.805.
 - (iv) Immediately carry out the scratch test as described in B.S.3900 Part E.2 using a load of 600 grammes.

APPENDIX VII

Method for the determination of resistance to hydraulic fluids

Carry out the test as described in B.S.3900 Part G.1 subject to the following special conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) hard aluminium panel to B.S.1470 Grade SIC-H, 0.028 inch (0.7 mm) thick (22 s.w.g.) prepared, coated, and dried in accordance with Appendix I.
- (2) *Test solution.* Mineral based hydraulic oil to D.T.D. 585.
- (3) *Test procedure.*
 - (i) A cut shall be made through the film down to the metal using a sharp knife or razor edge. The cut shall be made down the middle of the panel parallel to the long edge.
 - (ii) Completely immerse the test piece in the test solution continuously for 1,000 hours at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$.
 - (iii) Remove the test piece from the test solution and wipe with a soft rag dipped in a mixture of:
75 parts by volume 2.2.4. trimethylpentane I.P. reference fuel quality; and
25 parts by volume pure toluene to B.S.805.
 - (iv) Immediately carry out the scratch test as described in B.S.3900 Part E.2 under a load of 1500 grammes.

APPENDIX VIII**Method for the determination of resistance to organic solvents**

Carry out the test as described in B.S.3900 Part G.1 subject to the following special conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) soft aluminium panel to B.S.1470 Grade SIC-O, 0.0124 inch (0.3mm) thick (30 s.w.g.) prepared, coated and dried in accordance with Appendix I.
- (2) *Test solution.* Mixture of:
 - 75 parts by volume 2.2.4. trimethylpentane I.P. reference fuel quality; and
 - 25 parts by volume pure toluene to B.S.805.
- (3) *Test procedure.*
 - (i) Completely immerse the test piece in the test solution continuously for 2 hours at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$.
 - (ii) Remove the test piece from the test solution, allow to dry for 30 minutes and examine for appearance and condition.
 - (iii) Keep the test piece at room temperature for 24 hours and then carry out the bend test, as described in B.S.3900 Part E.1 at room temperature using a Type I apparatus and a mandrel of $\frac{1}{4}$ in (6.4mm).

APPENDIX IX**Method for the determination of resistance to hot kerosene**

Carry out the test as described in B.S.3900 Part G.1 subject to the following special conditions:

- (1) *Test piece.* Smooth (i.e. unabraded) soft aluminium panel to B.S.1470 Grade SIC-O, 0.0124 inch (0.3mm) thick (30 s.w.g.) prepared, coated and dried in accordance with Appendix I.
- (2) *Test solution.* Kerosene to specification D.Eng.R.D.2453.
- (3) *Test procedure.*
 - (i) Completely immerse the test piece in the test solution continuously for 2 hours at a temperature of 120°C (250°F).
 - (ii) Remove the test piece from the test solution, allow to dry for 1 hour and examine for appearance and condition.
 - (iii) Keep the test piece at room temperature for 24 hours and then carry out the bend test, as described in B.S.3900, Part E.1 at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ using a Type I apparatus and the mandrel size set out in Clause 7(a) for the scheme under test.

APPENDIX X**Method for the determination of resistance to heat**

A 5 inch x 2 inch panel of soft aluminium shall be painted as described in Appendix I with the Scheme under test. After application of the final coat it shall be allowed to dry at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and a relative humidity of 60-70 per cent for 7 days.

The panel shall be placed in an electrically heated air circulating oven maintained at $130^{\circ} \pm 2^{\circ}\text{C}$ ($266^{\circ} \pm 5^{\circ}\text{F}$) for 1,000 hours.

The panel shall be removed, allowed to cool to a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and the bend test described in B.S.3900 Part E.1 carried out using a Type I apparatus and the mandrel size set out in Clause 7(a) for the Scheme under test.

APPENDIX XI**Method for the determination of resistance to temperature cycling (Cold crack test)**

A 5 inch x 2 inch panel of soft aluminium shall be painted as described in Appendix I with the scheme under test. After application of the final finishing coat it shall be allowed to dry at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and a relative humidity of 60-70 per cent for 7 days.

The panel shall then be subjected to a cycle of humidity, low temperature, ambient temperature as follows:

- 24 hours storage under the conditions defined in specification B.S.3900, Part F.2;
- 20 hours storage at $-20^{\circ} \pm 2^{\circ}\text{C}$;
- 4 hours storage at $20^{\circ} \pm 2^{\circ}\text{C}$.

The cycle shall be repeated twice weekly for six weeks.

APPENDIX XII**Method for the determination of overcoating resistance**

Eight 12 inch x 4 inch panels (four per Scheme) of hard aluminium shall be painted as described in Appendix I with the Scheme under test. In Scheme II the filler coat shall be flatted. After the application of the finishing coat each of the four panels for both Schemes shall be allowed to dry for the following periods:

- (i) 4 hours
- (ii) 16 hours
- (iii) 7 days
- (iv) 7 days followed by heating at $100^{\circ} \pm 2^{\circ}\text{C}$ for 72 hours.

At the end of these periods the panels shall be overcoated with the finish to a weight of 1.25 ± 0.25 g allowing no more than two minutes between successive coats.

APPENDIX XIII**Method for the determination of resistance to natural weathering**

Panels of hard aluminium shall be painted as described in Appendix I with the Schemes under test. In Scheme II the filler coat shall be flatted. After the application of the finishing coat, the panel shall be allowed to dry at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ and a relative humidity of 60-70 per cent for 7 days.

The panel shall have an exposed area of at least 35 square inches, and the back of the panel shall be protected. The edges of the panel shall be rounded but not protected other than by application of the material under test.

The treated panel shall be exposed for two years in the open facing south at an angle of 45° to the horizontal. During the exposure the panel shall be sprayed three times per working day at intervals of three to four hours with a solution of artificial sea water, the composition of which is given in Appendix V.

At the completion of the test the panel shall be examined and half of the panel shall be stripped and inspected for freedom from corrosion.

Approved for issue,

E. W. RUSSELL,

Director of Materials Research and Development/Aviation.

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USE ON AIRCRAFT

APPENDIX VI—Method for the determination of resistance to synthetic lubricating oils

(c) *Hot pyrolysed oil.*

First sentence,

Delete Carry out the test as described in B.S.3900 Part G.1 subject to the following special conditions:

Insert Carry out the following test:

Paragraph (3)(i),

Delete Uniformly spread half the area of the panel with 0.1 ± 0.02 g with the test solution which shall then be placed horizontally on the shelf of an oven maintained at $70^\circ \pm 2^\circ\text{C}$ for a total of 1,000 hours.

Insert Uniformly spread half the area of the panel with 0.1 ± 0.02 g of the test solution which shall then be placed horizontally on the shelf of an oven maintained at $70^\circ \pm 2^\circ\text{C}$ for a total of 4 days.

Paragraph (3)(ii),

Delete The test solution shall be wiped off and renewed daily on five consecutive days every week for the complete test period.

Insert The test solution shall be wiped off and renewed daily.

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