# PREPARATION OF PANELS FOR PAINT TEST

## Application

This method describes the approved methods of preparing paint panels for laboratory tests of the applied coatings.

## Apparatus Required

**Pressure Cup**

De Vilbiss Type KB*, or equivalent.

**Pressure Gun**

De Vilbiss Type JGA502 - 704 FX or 704FF*, or equivalent.

**Suction Feed Spray Guns and Cups**

May be used for routine laboratory tests (except metallics) but, in case of dispute or where specified, a pressure cup shall be used. Suction Cup TGC-545 and Suction Gun JGA-502-30EX, or approved equivalent.

*Source:

| | |
|---|---|
| Aerograph DeVilbiss Co. Ltd.<br>Ringwood Road<br>West Howe, Bournemouth, Hants<br>England | The DeVilbiss Co.<br>300 Phillips Ave.<br>P.O. Box 913<br>Toledo, OH 43692 |

**Spray Booth**

With at least one meter minimum width for spraying panels automatically. The booth should be slightly pressurized so that dirt, dust, etc., will not enter. Air flow of 45 - 60 m/min. is required to pass over the spray rack. The air make-up shall be filtered by standard equipment designed for that purpose. The booth shall be air conditioned so as to maintain a temperature of 24 +/- °C and a relative humidity of 45 - 65 %.

A spray booth with at least a one meter minimum width is also required for proper hand spraying of panels. The spray booth shall be located in a room of sufficient size as to allow the operator to be unhampered in his movements while spraying the panels. The booth should be slightly pressurized so that dirt, dust, etc., will not enter. Air make-up shouldbe filtered by standard equipment designed for that purpose.

| Date | Action | Revisions |
|---|---|---|
| | | |
| 2001 03 13 | Revised | Editorial – no technical change A. Cockman |
| 1990 01 16 | | |



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**Automatic Spray Equipment**

Required for spraying exterior and interior metallic body enamels. The Spraymation automatic spray equipment is recommended, however, any approved automatic spray machine is acceptable if the results will correlate with Model 310540 Spraymation. In case of dispute, Spraymation Model 310540, with a De Vilbiss No. AGB Series 541 Gun, Needle, and Tip-AV 15 E with No. 30 air cap shall be used.

Source:

Spraymation Inc.
25 Amity St.
Little Falls, N.J. U.S.A.

**Paint Mixer**

Red Devil No. 30, or equivalent

Source:

Elcometer Ltd.
Edge Lane
Droylsden, Manchester England

**Laboratory Forced Air Oven**

Capable of maintaining a constant temperature of 180 +/- 2 °C.

**Thickness Gage** - (Ref: FLTM BI 117-01)

Permascope with a constant pressure probe, or equivalent.

Sources:

Fischer Instrumentation (GB) Ltd
Arnhem Industrial Estate
Arnhem Road
Newbury, Berks England

Fischer Messtechnik
7034 Maichingen
Industriestrasse 21
Germany

**Test Panels**

Steel body skin panels ground to surface finish of 1.4 +/- 0.3 micrometre. C.L.A., or as otherwise specified in the relevant specification.

Optional Panel Sizes:

100 mm x 300 mm
150 mm x 300 mm
75 mm x 230 mm
100 mm x 200 mm



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For special tests the use of Ford Test Panels to the following may be specified:

UMA18001 - Bare steel - 150 x 190 x 0.75 mm
UMA18002 - Phosphated steel - 150 x 190 x 0.75 mm
UMA18002 - Phosphated steel - 105 x 300 x 0.75 mm

The number of panels prepared shall be determined by the applicable Engineering Materials Specification; however, no less than four of each color shall be prepared.

Panels used for test in Group 1 shall be phosphate coated to meet the requirements of WSK-M3P1-C. Clean untreated panels may be used for the tests in Group 2. These panels shall be dried at 140 °C (metal temperature) for five minutes in a forced air oven prior to painting to remove absorbed moisture and allowed to return to 23 +/- 2 °C prior to application of the paint film.

Group 1

| | |
|---|---|
| Salt Spray Test | FLTM BI 103-01 |
| Water Immersion Test | FLTM BI 104-01 |
| Conical Mandrel Test | FLTM BI 105-01 |
| Adhesion Test | FLTM BI 106-01 |
| Chip Resistance Test | FLTM BI 107-01 |
| Cold Checking Test | FLTM BI 107-02 |
| Impact Test | FLTM BI 108-01 |
| Florida Exposure | |

Group 2

| | |
|---|---|
| Contrast Ratio | FLTM BI 101-02 |
| Dry Hiding Power | FLTM BI 101-03 |
| Dry Hiding Power (Straight Line Chart) | FLTM BI 158-01 |
| Intercoat Adhesion | FLTM BI 106-02 |
| Color Matching | FLTM BI 109-01 |
| Measurement of Gloss | FLTM BI 110-01 |
| Tukon Hardness of Paint | FLTM BI 112-02 |
| Water and Soap Resistance | FLTM BI 113-01 |
| Acid Resistance | FLTM BI 113-02 |
| Perspiration Staining Resistance | FLTM BI 113-03 |
| Bleeding of Paint | FLTM BI 114-01 |
| Repair Color Match | FLTM BI 115-01 |
| Repair Color Match with Catalyst | FLTM BI 115-02 |
| Sward Hardness | FLTM BI 112-01 |



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