

**PAINT COATINGS
RESISTANCE TO IMMERSION IN WATER
(FORD TANK)**

Page 1/5

NO USE RESTRICTION

This is a translation, the French original shall be used in all cases of litigation

Date of translation : 16/11/2004

1.OBJECT AND FIELD OF APPLICATION

The object of this method is to determine the resistance of a film of paint to immersion in de-ionised water.

2.PRINCIPLE

Determine the density of blistering after a period of immersion in de-ionised water at a temperature of 40 °C, as well as the residual adhesion of the coating according to test method D25 1075.

3.EQUIPMENT AND REAGENT**3.1.RIGID POLYVINYL CHLORIDE TANK**

with a lid and equipped with a thermo-regulating device (see appendices 1 and 2).

3.2.GRADUATED THERMOMETER

from 0 to 100 °C, to an accuracy of 0,5 °C.

3.3.LINT FREE SOFT CLOTH OR ABSORBENT PAPER**3.4.DE-IONISED WATER**

with resistivity greater than 200 000 Ω/cm .

4.TEST SPECIMENS

Plates or parts covered with the product(s) to be tested; the coated surface must be approximately 1 dm².

5.CONDITIONING OF SPECIMENS

The specimens are conditioned at 23 °C \pm 2 °C and 50 % \pm 5 % relative humidity for:

- 7 days in the case of paints dried in air,
- 24 hours in the case of oven dried paints.

6.MODE OF OPERATION

- Fill the tank with de-ionised water (3.4) to a height of 100 mm, start the equipment, set it to its operating conditions ($40\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$).
- Introduce the specimens into the tank, close the lid.
- Examine the specimens after the immersion time specified in the documents.
 For the inspection, quickly wipe the specimens, without rubbing, with the soft cloth (3.3).
 After 1 hour at $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ and $50\% \pm 5\%$ relative humidity, carry out:
 - the grading of the blistering, of the loss of gloss and of the change in colour according to the indications in paragraph 7.0,
 - the adhesion test in accordance with test method D25 1075.

7.EXPRESSION OF RESULTS

7.1.GRADING OF BLISTERING, OF LOSS OF GLOSS AND OF CHANGE IN COLOUR

For the blistering, the grading is made using the series of 16 photographs (originating from norme ASTM D 714) shown in the appendix of test method D27 1571, according to the following scale:

- 0 - Change lower than F8 (only micro-blistering, visible under determined conditions, is allowed) or very slight loss of gloss or slight change in colour reversible by slight rubbing with the cloth (3.3) less than 6 hours after the end of the test.
- 1 - Size F8 or loss of gloss or non-reversible change of colour at least 6 hours after the end of the test.
- 2 - Sizes M8 and F6.
- 3 - Sizes and densities other than those above.
- 4 - More significant degradation than D2.

The expression of results must simultaneously include the grading and the index of the photograph materialising the noted change.

Example:

Grading 3 (M4).

Note:

- *Do not take into consideration a localised alteration if the relative surface concerned is less than 5 % of the total surface or if a mishap (finger marks) is easily detectable.*
- *Do not take into consideration a loss of gloss or change of colour for paints which do not have an appearance function.*

7.2.GRADING OF ADHESION

Carried out in conformity with test method D25 1075, paragraph 6.0.

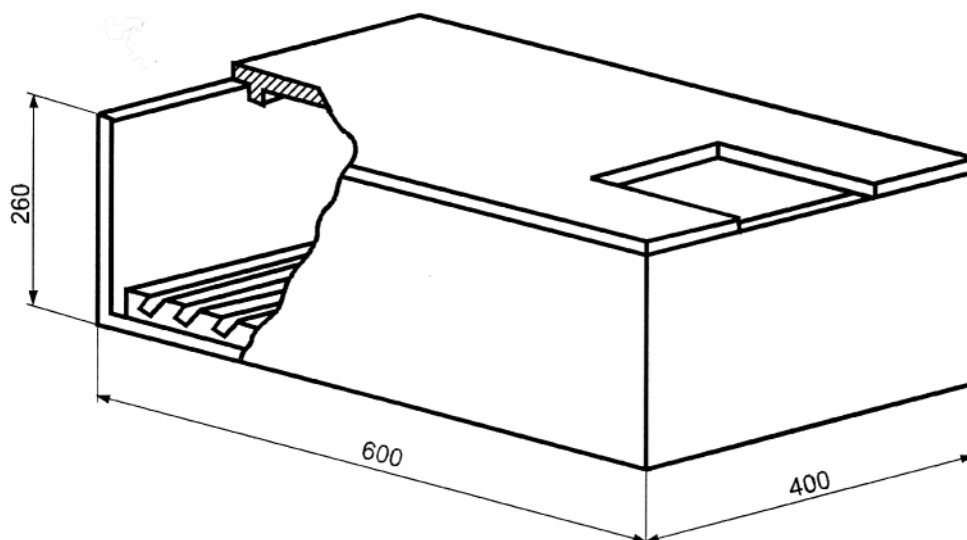
8.TEST REPORT

As well as the test results, the test report must indicate:

- The reference to this method,
- Operational details not specified in the method as well as any incidents likely to affect the results.

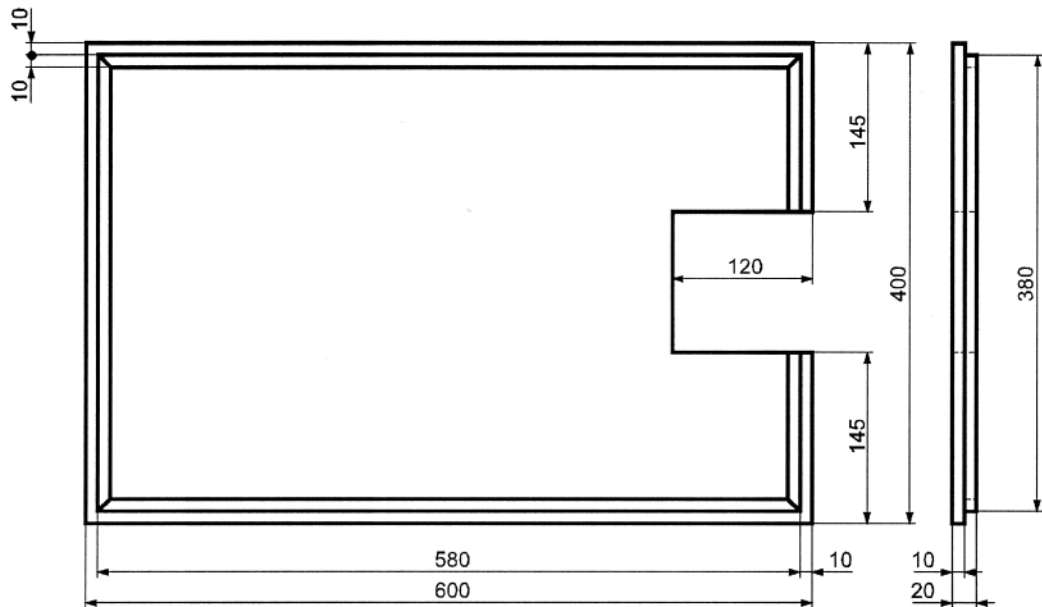
APPENDIX 1

FORD TANK

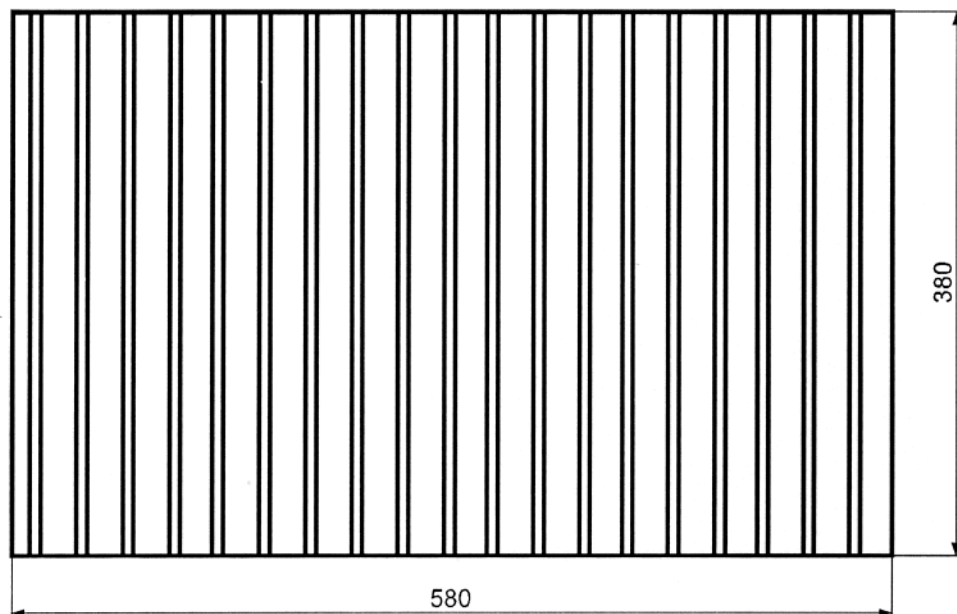
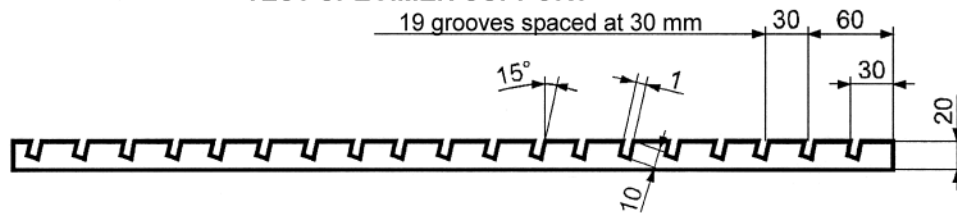


APPENDIX 2

LID



TEST SPECIMEN SUPPORT



9.RECORDS AND REFERENCE DOCUMENTS

9.1.RECORDS

9.1.1.CREATION

- OR: 01/09/1979 – CREATION OF THE NORME

9.1.2.SUBJECT OF THE MODIFICATION

- B: 31/07/1996 – INTRODUCTION TO IDEM (French only)
- C: 25/11/1997 – CORRECTION OF THE INTRODUCTION TO IDEM (French only)

9.2.REFERENCE DOCUMENTS

9.2.1.PSA DOCUMENTS

9.2.1.1.Normes

D25 1075, D27 1571.

9.2.1.2.Others

9.2.2.EXTERNAL DOCUMENTS

DEXASTMD714

9.3.EQUIVALENT TO:

9.4.CONFORMS TO:

9.5.KEY-WORDS

EAU, RESISTANCE
(WATER, RESISTANCE)