



Transport
Roads & Maritime
Services

Test method T501

Freedom from foaming of bituminous materials

NOVEMBER 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Safety Notes , 2(f), added. 5(a) Revised. Generally Reformatted and Revision Summary Added	D.Dash	Sep 1999
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T501 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T501

Freedom from foaming of bituminous materials

1. Scope

This test method sets out the procedure for determining, by visual assessment, the freedom from foaming of bituminous materials when heated in a specific manner.

2. SAFETY NOTES

A poster describing the action to be taken in the event of bitumen burns must be displayed in the laboratory in the vicinity of the bitumen pouring area(s).

Use either tongs or heat resisting gloves when handling hot bitumen. Loosen or puncture lids before heating containers. Examine cold samples for signs of water. Remove all visible water. Wear spectacles when heating samples suspected of containing water. Cleaning solvents such as toluene may be toxic, handle such solvents in a fume cupboard, consult safety data sheets.

3. Apparatus

- (a) A thermostatically controlled oven with good air circulation, capable of maintaining a temperature within the range of 105°C to 110°C.
- (b) A heating device, such as a hotplate, capable of raising the temperature of the material in the container to 175°C at the prescribed rate.
- (c) A metal container of about 1 litre capacity, having a diameter of approximately 10cm and internal depth of approximately 10cm with double crimped seams.
- (d) A thermometer reading to 200°C.
- (e) Tongs or gloves to handle containers of molten material.
- (f) Sand tray

4. Preparation of Test Sample

- (a) Melt the sample in its original container by means of the air oven at 105°C to 110°C, avoiding unnecessary exposure to the air. Stir thoroughly when just sufficiently fluid, pour off a portion to half fill a 1 litre metal container and proceed with the test without delay.

5. Procedure

- (a) Heat the test sample on the hot plate inside a fume cupboard so that the temperature is increased at a rate of 3°C to 6°C per minute up to the maximum temperature specified for spraying the material (refer to RMS Spray Sealing Guide).
- (b) Stir gently with a thermometer to assist in maintaining a uniform temperature within the liquid.
- (c) Examine the sample during heating for the formation of foam. Quickly remove the container from the hotplate onto a tray of sand should the level of the liquid suddenly rise due to foaming.

6. Reporting

- (a) Report as “Foamed” if bubble formation causes the level of the liquid to rise rapidly and continuously to fill or overflow the container as heat is applied.
- (b) The formation of a thin layer of bubbles without noticeable increase in volume of the liquid shall be reported as “Free”.

7. Techniques

- (a) Care is necessary in preheating to ensure that excessive pressure does not build up when volatile matter is present or when appreciable air space remains in the container.
- (b) The preheating treatment of the sample described in 3 (a) may form part of the procedure for the preparation of test samples for other tests. However, it is not intended that the sub sample used in the foaming test, i.e. as described in 4 (a) – (c), be used for other prescribed tests owing to the degree of heating applied.