DETERMINATION OF VOLATILE AND NON-VOLATILE CONTENT OF SOLUBLE OILS AND DRAW COMPOUNDS

Application

This test method is used to determine the volatile and nonvolatile content of soluble oils and draw compounds.

Apparatus Required

Analytical Balance
Precision +/- 0.1 mg

Mechanical Convection Oven
Must be capable of maintaining 105 +/- 2 °C

Desiccator
With desiccant

Steam Bath

Petri Dish (and cover)
Glass (60 - 80 mm diameter, 20 - 40 mm depth)

Infrared Spectrograph

Gas Chromatograph

Refer to the STM Standards referenced in the Procedure portion of this test method for additional equipment that is required.

The above apparatus is available from any reputable laboratory equipment supply house.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Date	Action	Revisions	
2001 01 16	Revised	Editorial – no technical change	A. Cockman
2000 03 22		Editorial – no technical change	A. Cockman
1990 04 27			

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Procedure

1. Weigh out a 10 g sample in a tared glass Petri dish.

   Note: The Petri dish is weighed with cover since the sample must be immediately covered prior to reweighing before and after oven drying.

2. Place on steam bath with cover removed for initial drying to remove solvents that may be present.

3. Place in an oven at 105 +/- 2 °C for 24 h with cover removed.

4. Remove from oven.

5. Replace cover on Petri dish.

6. Place in a desiccator and cool to 23 +/- 2 °C.

7. Reweigh.

8. The difference in weight divided by the sample weight multiplied by 100 gives the percent of volatile matter.

9. (100 %) minus (% of volatiles) = (% of non-volatile matter).

   Note: This test is meaningless if caustic soda or caustic potash are present. The caustic is usually converted, but not completely, to carbonate on drying. Therefore, the true value for non-volatile matter would not be obtained.

Water

These procedures are used in determining water in draw compounds and soluble oils.

I. Distillation Method
Refer to ASTM D 95

II. KFR Method
Refer to ASTM D 1123
D 1744
E 203

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