

DETERMINATION OF FINISH CONTENT OF SEWING THREAD**Application**

This procedure is used to determine the percent by weight of finish on sewing threads.

Materials and Apparatus Required**Extraction Apparatus**

Solvent Extraction Apparatus (Soxhlet type) incorporating a reflux condenser and a 250 mL glass flask and suitable filter thimbles.

Support Rods and Clamps - for holding extraction apparatus.

Hot Plate

With adjustable temperature control.

Drying Oven

Capable of maintaining a constant temperature of 105 $\pm$ 2 °C.

Analytical Balance

Having a sensitivity of $\pm$ 0.1 mg

Desiccator

Charged with calcium chloride.

Weighing Bottles**Ethyl Ether****Denatured Ethyl Alcohol****Conditioning and Test Conditions**

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 $\pm$ 2 °C and 50 $\pm$ 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 30	Revised	Editorial – no technical change A. Cockman
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Procedure

1. Clean and dry a weighing bottle and cover in an oven for 15 minutes at 105 +/- 2 °C.
2. Remove the bottle from the oven, place immediately in a desiccator, uncovering the lid of the weighing bottle and allow to cool to 23 +/- 2 °C.
3. Cover and weigh to the nearest milligram to obtain the dry weight of bottle and cover (A).
4. Transfer approximately 5 grams of the thread specimen to the tared weighing bottle and dry (uncovered) in the oven for 2 h at 105 +/- 2 °C.
5. Remove the bottle from the oven, place immediately in a desiccator (uncovering the lid of the weighing bottle) and allow to cool to 23 +/- 2 °C (for approximately 30 minutes). Cover and weigh to the nearest milligram to obtain the dry weight of bottle, cover, and thread (B).
6. Calculate initial dry weight of thread - W_1

$$W_1 = B - A$$

where A = Dry weight of bottle and cover

where B = Dry weight of bottle and cover and thread

where W_1 = Dry weight of thread

7. Insert the test specimen into a filter thimble and place into the Soxhlet extractor, add 150 mL ethyl ether to the flask and assemble the apparatus for extraction.
8. Adjust the temperature of the hot plate to maintain moderate boiling of the solvent. Reflux until the extractor has completely filled and emptied 16 –20 times (3 - 4 h).
9. Disassemble the apparatus, transfer the test specimen to the tared weighing bottle and dry in an oven for 2 h at 105 +/- 2 °C with the cover off.
10. Remove the weighing bottle and thread specimen from the oven, place immediately in a desiccator and allow to cool to 23 +/- 2 °C (with weighing bottle cover removed).
11. Cover and weigh to the nearest milligram to obtain dry weight of the thread test specimen after ethyl ether extraction (C).