

Australian Standard®

AS 4823.1—2006

Feather and down—Methods of test

Method 1: Determination of moisture content

PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee CS-035, Continental Quilts to supersede part of AS 2479—1987, *Down and/or feather filling materials and filled products*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The Committee referred to EN 1161:1998, *Feather and down—Test methods—Determination of moisture content* when developing this Standard.

METHOD

1 SCOPE

This Standard specifies a procedure to determine the moisture content of an individual sample of feather and down.

2 DEFINITION

For the purpose of this Standard, the following definition applies.

2.1 Moisture content

The ratio between the loss of mass of a test specimen by drying at $(105 \pm 2)^{\circ}\text{C}$ and the initial mass of the same test specimen.

3 PRINCIPLE

The moisture content is determined by drying the test specimen at $(105 \pm 2)^{\circ}\text{C}$ until a constant mass is obtained. The test specimen is weighted before and after this operation.

4 APPARATUS

4.1 An analytic balance

With sensitivity of 0.1 mg.

4.2 Weighting containers

Water-vapour proof and with tightly fitting lids.

4.3 Ovens

Capable of being controlled at $(105 \pm 2)^{\circ}\text{C}$ and suitably ventilated.

4.4 Tongs

4.5 A desiccator

With desiccating agent.

5 PREPARATION OF TEST SPECIMEN

A representative part of the laboratory bulk sample shall be drawn and mixed. From this, two test specimens of about 5 g weighed to an accuracy of 1 mg each shall be drawn, taking care to avoid humidity variation, and placed into containers.

6 PROCEDURE

The uncovered container and the lid shall be placed for $2\text{ h} \pm 10\text{ min}$ in the oven at a temperature of $(105 \pm 2)^{\circ}\text{C}$.

The container shall then be covered, and using clean tongs quickly transferred to the desiccator. After cooling to room temperature for not less than 1 h the covered container shall be weighed.

This procedure shall be repeated until a constant mass, within 1 mg, is obtained.

A representative test specimen of about 5 g weighed to an accuracy of 1 mg shall then be transferred as quickly as possible to the pre-dried container taking care to avoid humidity variations. The container shall be covered with a lid and weighed to an accuracy of 1 mg.

The containers and the lids shall be placed separately in the oven and dried at $(105 \pm 2)^{\circ}\text{C}$. After drying for $1\text{ h} \pm 10\text{ min}$ the container and the lid shall be transferred using clean tongs to the desiccator, and allowed to cool for not less than 1 h.

After cooling to room temperature, the containers with the lids shall be transferred using clean tongs to the analytical balance and weighed. The heating, cooling and weighing cycle shall be repeated until the mass of the container with a dried lid is constant to within 1 mg.

Repeat the procedure on a second test specimen.

7 EXPRESSION OF RESULTS

The moisture content expressed as a percentage is calculated as follows:

$$M_c = \frac{A - B}{A - C} \times 100$$

where

M_c = moisture content, in percent

A = mass of the container with lid and undried individual sample, in grams

B = mass of the container with lid and dried individual sample, in grams

C = mass of the container with a dried lid, in grams

All masses shall be expressed in grams, to three decimal values.

Calculate the mean of the two determinations with the approximation to the nearest integer.