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# Australian Standard 1980—1982

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## WOOL—CORE SAMPLING OF RAW WOOL IN BALES



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The following interests were represented on the committee responsible for the preparation of this standard:

- Australian Council of Wool Buyers
- Australian Wool Corporation
- Australian Wool Testing Authority Limited
- CSIRO, Division of Textile Physics
- Department of Defence
- Department of Primary Industry
- Livestock and Grain Producers Association of N.S.W.
- National Council of Wool Selling Brokers of Australia
- National Farmers Federation
- University of New South Wales
- Wool Textile Manufacturers of Australia

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## PREFACE

This edition of this standard was prepared by the Association's Committee on Testing of Wool to supersede AS 1980—1976. It provides standard practices for drawing samples from bales of raw wool for testing for yield, fibre fineness and other characteristics.

Core sampling of raw wool in Australia has traditionally been performed in accordance with the IWTO Core Test Regulations which cover the method of sampling a consignment of normal density bales so as to obtain a representative sample for the determination of wool base, and vegetable matter base. The Regulations were originally devised in order to standardize the sampling of post-auction consignments of wool, and also to regulate various commercial aspects relating to those consignments.

In the past 10 years, presale core sampling and testing has become the major application of the IWTO Core Test Regulations within Australia. In addition, technological advances have led to the development of automated sampling machinery and alternative bale sizes and densities. This edition describes the requirements and use of sampling machines and manual core sampling equipment in the present marketing environment.

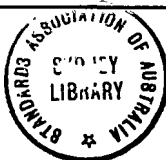
The standard is applicable to any number of bales in a lot, provided that the wool in all of the bales is in the same state, i.e. greasy, or scoured or some other condition, each bale in the lot is uniformly and randomly packed to approximately the same density, and the bales have similar dimensions and mass. The standard permits the use of both 18 mm and 13 mm tipped, mechanically operated coring tubes and provides a revised schedule of the number of cores to be taken from lots when using single or double tubes to maintain the required sampling precision of  $\pm 1$  percent of clean wool content.

The standard is one of a series of standards for sampling and testing of wool. Other standards in the series are as follows:

- AS 1133 Method for the Determination of Fibre Diameter of Raw Wool
- AS 1134 Method for the Determination of Wool Base and Vegetable Matter Base in Raw Wool
- AS 1362 Method for Calculation of Combined Test Certificates for Yield and Fineness of Greasy Wool in Consignments
- AS 1363 Method for the Grab Sampling of Greasy Wool from Bales
- AS 1401 Method for the Sonic Fineness Testing of Raw Wool
- AS 1555 Method for the Determination of Wool Content and Mean Fibre Diameter of Raw Wool in Presale Lots
- AS 1809 The Preservation of the Integrity of Raw Wool Samples for Display
- AS 2104 Method for Matching and Building Sale Lots of Greasy Wool in Bales by Objective Measurement
- AS 2274 Requirements for the Issue of a Test Certificate for Raw Wool

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## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

## for

## WOOL—CORE SAMPLING OF RAW WOOL IN BALES

**1 SCOPE.** This standard sets out a method for core sampling lots of raw wool packed in one or more bales. The samples may be used for the determination of wool base, vegetable matter base and mean fibre diameter (see AS 1133, AS 1134, AS 1555).

**2 APPLICATION.** The method is applicable to bales in lots in which the wool is in the same general state, e.g. all greasy or all scoured, and each bale in the lot is uniformly and randomly packed and of similar dimensions and mass.

The method is not applicable if any of the bales are so loosely packed that a core cannot be cut, or so highly compressed that the coring tube cannot penetrate to the required depth and in the required direction.

**3 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

- |         |   |
|---------|---|
| AS 1133 | Method for the Determination of Fibre Diameter of Raw Wool  |
| AS 1134 | Method for the Determination of Wool Base and Vegetable Matter Base in Raw Wool                   |
| AS 1326 | Polyethylene (Polythene) Film for Packaging and Allied Purposes                                   |
| AS 1555 | Method for the Determination of Wool Content and Mean Fibre Diameter of Raw Wool in Presale Lots. |

**4 DEFINITIONS.** For the purpose of this standard, the following definitions apply:

**4.1 Greasy wool**—wool from sheep or sheepskins which has not been scoured, solvent-degreased or carbonized.

**4.2 Raw wool**—wool fibre together with variable amounts of vegetable matter and extraneous alkali-insoluble impurities, mineral matter, wool waxes, suint and moisture. It includes—

- (a) greasy wool;
- (b) wool which has been scoured, carbonized, washed or solvent-degreased;
- (c) scoured skin wools; and
- (d) slipe wools.

**4.3 Lot**—any number of bales of similar dimension and mass containing raw wool from one country of origin, of the same general type, yield and fibre diameter, and in the same general state.

**4.4 Coring tube**—a circular tube, equipped with a cutting edge, capable of penetrating a bale of raw wool without rotation, removing a core and retaining it without loss of material or moisture.

**4.5 Core**—all the material removed by the coring tube in one core sampling operation.

**4.6 Core sample**—all the cores taken from, and representative of the lot.

**4.7 Bale ends**—those faces of the bale upon which the original baling pressure was applied, i.e. cap and base.

**5 PRINCIPLE.** Each bale of raw wool in the lot is sampled by a non-rotating coring tube operated under pressure mechanically or manually so as to obtain a representative sample. A mechanically operated device is preferred.

**6 APPARATUS.** The following apparatus is required:

- (a) For machine sampling—equipment as described in Appendix A.
- (b) For manual sampling—equipment as described in Appendix B.
- (c) Polyethylene bags of appropriate size, capable of being sealed, and having a film thickness of at least 0.071 mm (see AS 1326).

**7 SAMPLING.**

**7.1 Requirements.** The sampling procedure shall comply with the following requirements:

- (a) Every bale in the lot shall be core sampled using the same type of apparatus having a cutting tip of the same diameter. The diameter of the cutting tip shall be at least 13 mm (see Notes 1 and 2).
- (b) When the wool content of raw wool is to be determined in accordance with AS 1134 or AS 1555, each bale in the lot shall be weighed, at the time of core sampling, and at the same sampling site (see Note 3).
- (c) The coring tube shall enter the bale in the direction of baling compression and parallel to the sides of the bale.
- (d) Pack material shall be removed to avoid contamination of the core sample and the wool within the bale (see Note 4).
- (e) Cores shall be taken at a distance of not less than 75 mm from any edge of the surface to be cored (see Note 5).
- (f) The same depth of penetration shall be maintained for each core taken from the lot.
- (g) Not more than one core shall be taken at any one position on the bale.
- (h) The minimum number of cores taken from each lot shall be such as to give a sampling precision of  $\pm 1$  percent clean wool content at a probability level of 0.95. The minimum number of cores to give this precision and the required core sample mass is given in Table C1 of Appendix C.
- (j) The same number of cores shall be taken from each bale in the lot.