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WOOL—METHOD FOR THE CALCULATION OF COMBINED TEST CERTIFICATES FOR YIELD AND FINENESS OF RAW WOOL IN CONSIGNMENTS

AS/NZS 1362:1996
Wool—Calculation of IWTO combined certificates for yield and mean fibre diameter of raw wool in deliveries
(IWTO-31-86)
(In Professional Package 54B)
13pp DD

Sets out calculation procedures for combining the wool base, vegetable matter, commercial yields and mean fibre diameter test results of component lots in a delivery of raw wool for which the issue of one overall certificate is required. Specifies the precisions of the test results reported on the certificate. It is identical with and has been reproduced from IWTO-31-86.
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Australian Council of Wool Buyers
Australian Wool Corporation
Australian Wool Testing Authority Ltd
CSIRO, Division of Textile Physics
Department of Defence
Department of Primary Industry
National Council of Wool Selling Brokers of Australia
University of New South Wales
Wool Council of Australia
Wool Scourers and Carbonizers Association of Australia
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 1362-1973. It describes the methods for calculating the overall test results of a consignment of raw wool made up of separately tested component lots.

The standard sets out procedures for combining commercial yields as well as wool base, vegetable matter base and fibre diameter. It also incorporates procedures to obtain the test results for the remainder of a consignment when a small, tested lot is removed.

In this edition, the mathematical appendix showing how combination of data affects precision has been extensively reworked.

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

AS 1133	Wool—Determination of the Mean Fibre Diameter of Raw Wool*
AS 1134	Method for the Determination of Wool Base and Vegetable Matter Base in Raw Wool
AS 1363	Wool—Grab Sampling of Greasy Wool
AS 1401	Method for Sonic Fineness Testing of Raw Wool*
AS 1809	The Preservation of the Integrity of Raw Wool Samples for Display
AS 1980	Wool—Core Sampling of Raw Wool in Bales
AS 2104	Matching and Building Sale Lots of Greasy Wool in Bales by Objective Measurement
AS 2274	Wool—Requirements for the Issue of a Test Certificate*
AS 2720	Wool—Measurement of Mean Staple Length—Method Using the CSIRO Staple Length Meter
AS 2721	Wool—Method for Subsampling Staples from Grab Samples
AS 2722	Wool—Determination of Mean Staple Strength—Method Using the CSIRO Staple Strength Meter
AS XXXX	Wool—Method for the Measurement of the Colour of Wool†

*In course of revision.
†In course of preparation.

CONTENTS

Page

METHOD

1 Scope 5
2 Application 5
3 Referenced Documents 5
4 Principle 5
5 Definitions 5
6 Sampling 5
7 Testing 5
8 Calculation of Results 5
9 Report 6

APPENDIX A. PRECISION OF THE COMBINED TEST RESULTS 8

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
WOOL—METHOD FOR THE CALCULATION OF COMBINED TEST CERTIFICATES FOR YIELD AND FINENESS OF RAW WOOL IN CONSIGNMENTS

1 SCOPE. This standard sets out the method of calculating the yield and mean fibre diameter of raw wool for the issue of a test certificate of the test results on consignments when combining individual test results of the component lots. The precision of the test results reported on the certificate is specified.

The standard also sets out the method of calculating the yield and mean fibre diameter results for the remainder of a consignment or lot of wool when part of a certified consignment or lot has been removed and tested.

2 APPLICATION. This standard is applicable to the combination of test results of lots which have been sampled in accordance with AS 1980 and tested, as appropriate, in accordance with AS 1133 and AS 1134.

This procedure can be used under restricted circumstances for the calculation of a combined certificate (by subtraction). Use of the technique reduces the precision of the final calculated result compared to the precision of the original certified lot.

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

AS 1133 Wool—Determination of the Mean Fibre Diameter of Raw Wool

AS 1134 Method for the Determination of Wool Base and Vegetable Matter Base in Raw Wool

AS 1980 Wool—Core Sampling of Raw Wool in Bales

Australian Objective Measurement Project (AOMP) Report

4 PRINCIPLE. A test certificate for a consignment is calculated from the results of tests of all the individual component lots which comprise the consignment or, when subtracting a component, from the original test result less the result for the component removed.

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

5.1 Combined test certificate—a test certificate for a consignment of wool consisting of two or more individually tested lots.

5.2 Combined test certificate (by subtraction)—a test certificate for the remainder of a consignment of wool after the removal of a small individually tested lot.

5.3 Consignment—two or more sale lots which have been tested in accordance with the appropriate standards, and which have been amalgamated to form one lot.

5.4 Individual test—a test on a lot carried out in accordance with the appropriate standards.

5.5 Lot—any number of bales of wool prepared for sale according to accepted trade practices.

5.6 Raw wool—wool fibre together with variable amounts of vegetable matter and extraneous alkali-insoluble matter, 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

(d) slipe wools.

5.7 Sample—the raw wool drawn by coring methods from, and representative of, a lot.

5.8 Vegetable matter—the burrs (including hard heads), twigs, seeds, leaves and grasses present in wool.

5.9 Vegetable matter base—the oven-dry mass of ash-free, ethanol-extractives-free vegetable matter, expressed as a percentage of the mass of the sample.

5.10 Wool base—the oven-dry mass of wool fibre in a sample free from all extraneous matter, i.e. ash-free, ethanol-extractives-free and free from all vegetable matter and other alkali-insoluble matter, expressed as a percentage of the mass of the sample.

NOTES:

1. 'Hard heads' are Ring burrs (*Sida platycalyx*), Noogoora burr (*Xanthium pungens*), Bathurst burr (*Xanthium spinosum*) and similar burrs of a bean-like or woody character covered in readily removable spines. They are believed not to contribute to a loss of wool during processing.
2. 'Twigs' are small pieces of stick, woody leaf stalks and similar woody material. They do not contribute to a loss of wool during processing.

6 SAMPLING. Sampling of individual lots shall be in accordance with AS 1980.

7 TESTING. Testing of individual lots shall be in accordance with AS 1133 and AS 1134.

8 CALCULATION OF RESULTS.

8.1 Notation. The reported data shall be denoted as follows:

B = wool base (percent) of the consignment

B_i = wool base (percent) of the ith component where $i = 1, 2, \ldots, n$

B_r = wool base (percent) of the remainder of the consignment

B_s = wool base (percent) of the small lot removed from the consignment

D = mean fibre diameter (micrometres) of the consignment

D_i = mean fibre diameter (micrometres) of the ith component where $i = 1, 2, \ldots, n$

D_r = mean fibre diameter (micrometres) of the remainder of the consignment

D_s = mean fibre diameter (micrometres) of the