



Wool Testing & Laboratory Licensing

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About IWTO

The International Wool Textile Organisation is the global authority for standards in the wool textile industry. Since 1930, IWTO has represented the collected interests of the global wool trade.

IWTO's membership encompasses all stages of the wool textile pipeline. From farm to retail, through research, education, and knowledge sharing, IWTO ensures a sustainable future for wool.

International Wool Textile Organisation
Rue de l'industrie 4
1000 Brussels, Belgium
Tel + (32) 2 505 40 10
www.iwto.org

Wool testing is a vital part of the global wool trade. For wool to be sold, both buyer and seller must be confident in the quality and quantity of wool involved in the sale. There must be:

- Clear specifications about the amount and quality of wool being delivered.
- A way to ensure that the wool meets these quality standards.

Testing fills these essential needs.

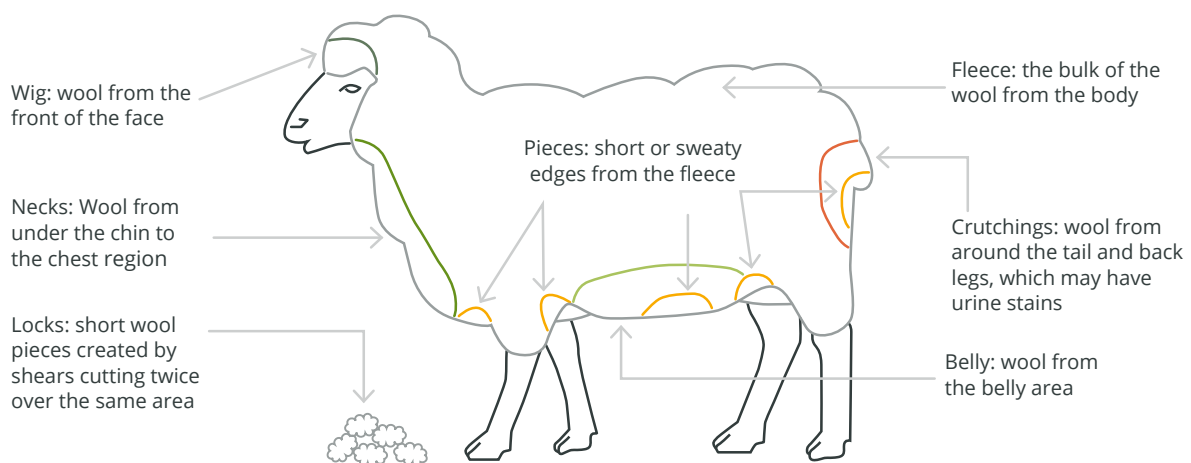
Testing of Samples

Once the wool is shorn the wool bales are shipped to a warehouse. At the warehouse, the wool bales from a single property are grouped into sale lots of similar types. Most bales of wool will be offered to prospective buyers through an auction. Even without an auction, wool bales will still need to be tested to determine its characteristics. Wool is a natural fibre, and each sale lot may vary largely in length, colour, fineness and content, therefore every wool lot is tested to confirm the wool's quality and characteristics.

Generally, two types of samples are taken from each bale to ensure test results are representative of the wool within the sale lot. Core samples, taken from random places across the bale, are usually tested for wool content (yield), fibre diameter (micron), vegetable matter and colour. Grab samples of wool taken from the centre of the bale, are tested for staple length and staple strength.

A test certificate is issued that lists all the results from the testing and stays with the sale lot right through to processing. Price per kilo is determined based on demand, quality, and volume on offer.

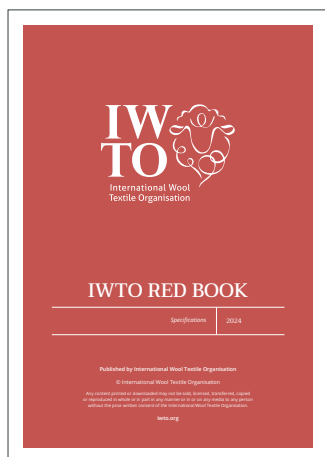
Parts of a Fleece



1. WOOL TESTING STANDARDS

The IWTO maintains the standards for wool testing across the industry. Testing specifications and regulations are updated annually in the IWTO Red Book (Specifications) and White Book (Regulations).

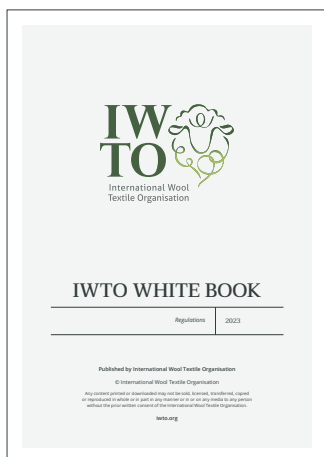
Laboratories that conduct wool testing are audited annually and must conform to the international standards set by their national laboratory accreditation body.



IWTO Red Book – Specifications

The Red Book contains all IWTO Test Methods and Draft Test Methods developed for the measurement of wool fibre, yarn and fabric properties. These provide the objective, technical and scientific specifications required for issuing IWTO test certificates.

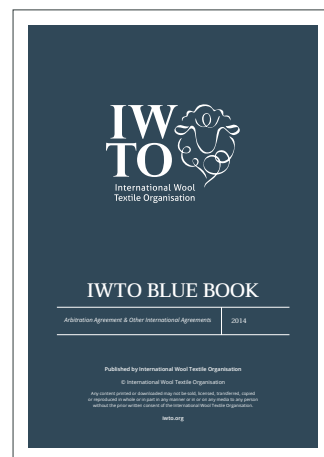
Test Methods may be purchased from IWTO, either individually or in a complete set.



IWTO White Book – Regulations

IWTO Regulations define the sampling and certification procedures and detail the procedures for resolving disputes in relation to certified test results.

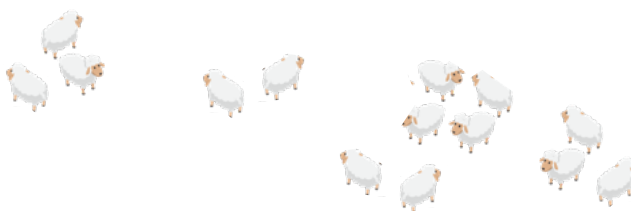
The IWTO White Book may be purchased from the IWTO.



IWTO Blue Book – Arbitration

The Blue Book contains the International Wool Textile Arbitration and other agreements.

The IWTO Blue Book may be purchased from the IWTO.



2. TEST METHODS & REGULATIONS

The IWTO developed Test Methods and Draft Test Methods for the measurement of wool fibre, yarn and fabric properties. IWTO Test Certificates are issued detailing the results of measurements conducted in accordance with the requirements of the IWTO Test Methods and Draft Test Methods.

IWTO Certificates are only valid if the methods and procedures laid down by IWTO are applied in complete accordance with the published texts. It is the role of the accreditation bodies to ensure that this is the case, and they cannot allow changes or amendments of any kind to the specified texts or procedures, without invalidating the Test Certificates concerned.

Only complete IWTO Test Methods may be accredited and under no circumstances can component parts of an IWTO Test Method be sub-contracted to another laboratory, even if that laboratory complies with ISO 17025.

To ensure the highest standards of commercial relevance and scientific accuracy in its Test Methods and Regulations, the IWTO Licensing Panel reserves the right to deny accreditation to any laboratory that does not meet these criteria.

Test Method Updates

The IWTO Test Methods and Regulations are regularly reviewed and updated when appropriate by the IWTO's Contracts and Specifications Committee. The procedure for updating or amending Test Methods is set out in IWTO-0. This is done through the relevant IWTO Technical Groups and Committees.



IWTO TEST METHODS AND APPLICABLE REGULATIONS (FROM THE IWTO RED BOOK)

TEST METHOD	TITLE	APPLICABLE REGULATIONS	EXAMPLE PROFICIENCY TRIALS
IWTO-6	Method of Test for the Determination of the Mean Diameter of Wool Fibres in Combed Wool Sliver using the Airflow Apparatus	IWTO Regulations for the Testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre Length	Interwoollabs
IWTO-7	Sub-Sampling Staples from Grab Samples	IWTO Staple Test Regulations	N/A
IWTO-10	Method for the Determination of Dichloro-methane Soluble Matter in Combed Wool and Commercially Scoured or Carbonised Wool	IWTO Core Test Regulations	N/A
IWTO-12	Measurement of the Mean and Distribution of Fibre Diameter using the Sirolan-Laserscan Fibre Diameter Analyser	IWTO Core Test Regulations IWTO Regulations for the Testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre Length	ILRT (for Raw Wool) Interwoollabs (for Sliver)
IWTO-17	Determination of the Fibre Length Distribution Parameters by means of the Almeter	IWTO Regulations for the Testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre Length	Interwoollabs
IWTO-19	Determination of the Wool Base and Vegetable Matter Base of Core Samples of Raw Wool	IWTO Core Test Regulations	ILRT
IWTO-28	Determination by the Airflow Method of the Mean Fibre Diameter of Core Samples of Raw Wool	IWTO Core Test Regulations	ILRT
IWTO-30	Determination of Staple Length and Staple Strength	IWTO Staple Test Regulations	ILRT
IWTO-31	Calculation of IWTO Combined Certificates for Deliveries of Raw Wool	All Regulations	N/A
IWTO-33	Determination of Oven-Dry Mass and Calculated Invoice Mass of Scoured or Carbonised Wool	IWTO Condition Testing Regulations for Scoured or Carbonised Wool	N/A
IWTO-34	Determination of the Oven-Dry Mass, Calculated Invoice Mass and Calculated Merchantable Mass of Wool Tops	IWTO Condition Testing Regulations for Wool Top	N/A
IWTO-38	Method of Grab Sampling Greasy Wool from Bales	Method of Grab Sampling Greasy Wool from Bales	N/A
IWTO-41	Determination of the Invoice Mass of Scoured or Carbonised Wool or Top or Noils by Capacitance Method	IWTO Conditioning Testing Regulations for Scoured and Carbonised Wool	N/A
IWTO-47	Measurement of the Mean and Distribution of Fibre Diameter of Wool using an Optical Fibre Diameter Analyser (OFDA)	IWTO Core Test Regulations IWTO Regulations for the Testing of Wool Slivers for Mean Fibre Diameter and Mean Fibre Length	ILRT (for Raw Wool) Interwoollabs (for Sliver)
IWTO-56	Method for the Measurement of Colour of Raw Wool	IWTO Colour Test Regulations for Raw Wool	ILRT

3. WOOL TEST CERTIFICATES

IWTO Test Certificates – the Gold Standard

Most bales of wool will be offered to prospective buyers with an IWTO test certificate. The IWTO Test Certificate is the “gold standard” in the industry.

IWTO Test Certificates are produced by impartial, independently audited test houses. Importantly, they are recognised by the IWTO Arbitration process (set forth in the IWTO Blue Book).

- *At Sampling*

IWTO Test Certificates have been designed to provide maximum integrity to all trading partners. This integrity begins from the very first stage, when the wool is sampled.

The IWTO Test Certification requires that all certified bales are weighed and sampled in strict accordance with IWTO Regulations, and that this is done so by, or under the supervision of, independent sampling staff.

An IWTO Certificate will not be issued for a test method that is not supported by IWTO sampling Regulations.

- *At Testing*

Laboratories that are licensed by IWTO to issue IWTO Certificates undertake this testing in strict accordance with the published IWTO Testing Standards & Regulations.

These testing facilities are subject to annual independent auditing by an internationally recognised accreditation body, to ensure that the required technical standards are maintained.

IWTO licensed laboratories demonstrate their ongoing proficiency to accreditation authorities by participation in interlaboratory trials.

Only testing facilities that meet all these standards can be licensed to issue IWTO Certificates.



Qualities of an IWTO Test Certificate

IWTO Test Certificates may only be issued as a result of tests carried out in strict compliance with full IWTO Test Methods and the IWTO Regulations which relate to them.

The certificate will be clearly titled as an IWTO Test Certificate.

IWTO Licensed Laboratories are required to show their IWTO License Number on the IWTO Test Certificates that they issue. The IWTO Certificate must also show all relevant test results, as well as detailed reference information to allow verification and trace-back.

IWTO Certificates are supported by the IWTO Arbitration Rules that clearly outline the rights and responsibilities of all concerned, including the testing facility.

AUSTRALIAN WOOL TESTING AUTHORITY LTD		IWTO TEST CERTIFICATE		ORIGINAL	
Test Certificate No.	3 13727332 36	*CLASSIFIED GROWER LOT	TEST METHODS IWTO 19,12		
Origin of Bales	AWTA LTD - SAMPLE	HAMILTON	6 BALES	*DONSOLE P/SHIP	*AAWH
Total Bales Tested	REP. M	H53738	*DONSOLE P/SHIP	BAG 1	
Mean Fibre Diameter (Micron)	TOTAL BALE WEIGHTS:		BALE NO. GROSS *TARE NETT BALE NO. GROSS *TARE NETT		
Calculated Yield (to different scouring methods)	TEST HOUSE GROSS 1 120 KG TARE 12 KG NETT 1 108 KG		GROSS 1 120 KG TARE 12 KG NETT 1 108 KG		
Mulesing Status	TEST RESULTS:		GROSS 1 120 KG TARE 12 KG NETT 1 108 KG		
	1. WOOL BASE - 2 SUBSAMPLES		63.57 %		
	2. MEAN FIBRE DIAMETER - 4 SPECIMENS		19.3 MICRONS		
	3. COEFFICIENT OF VARIATION OF DIAMETER		20.3 %		
	4. VARIATION NATTER BASE INCLUDING *** & HARD HEADS-TWIGS		0.9 %		
	CALCULATED COMMERCIAL YIELDS & CLEAN MASSES:				
	5. IWTO SCOURING YIELD (1.045M)		79.7 % 817 KG		
	6. IWTO SCOURING YIELD AT 1% MOISTURE		77.2 % 855 KG		
	7. JAPANESE CLEAN SCOURING YIELD		74.9 % 830 KG		
	8. AUSTRALIAN CARBORISING YIELD		71.1 % 788 KG		
	ADDITIONAL INFORMATION:				
	9. MEAN FIBRE CURVATURE		67 INQ/M		
	10. COMFORT FACTOR		99.0 %		
	11. VARIATION NATTER COMPOSITION (H) 0.1% (S) 0.8% (R) 0.9%				
	DECLARED INFORMATION:				
	12. *DARK & MEDULLATED FIBRE RISK		NO		
	13. *MULESING STATUS				
	CHARGE: \$ 52.45 GST @ 10% = \$ 5.25 TOTAL CHARGE: \$ 57.70				
	37.1922 27 14167 0010 E		SECURITY CODE: 38223208		
	CONTINUED ON NEXT PAGE		TEST CONDUCTED AT RESOURCES LABORATORY		
			BALES SAMPLED AT HAMILTON ON 11.02.2019		
			AWTA LTD SERVICE TIME 3.5 DAYS		
			ISSUED ON 14.02.2019, PRINTED ON 11.10.2023		
			FORM 1		
	The ORIGINAL and any OFFICIAL COPY of this Certificate are issued in accordance with the stated Test Method(s) and any directly associated Regulations. By authorising the application of the AWTA Ltd Seal, we hereby certify that the test results are within the precision limits of the Test Method declared. As far as is practicable by law, no other warranty is expressed or implied. On request, AWTA Ltd will make available sampling, weighing and/or testing details in any form that is easier or less expensive than the original. Photographs and other reproductions are NOT recognised as Certificates. THIS CERTIFICATE SHALL BE REISSUED IF AMENDED OR A LOST.		For and on behalf of Australian Wool Testing Authority Ltd		
	*DECLARED: AWTA Ltd does not certify or provide any warranty whatsoever in regard to declared information.		MICHAEL B. JACKSON B.Sc.(Hons) MANAGING DIRECTOR		
	© AUSTRALIAN WOOL TESTING AUTHORITY LTD		BRENDON VAN RENSBURG B.Sc.(Hons) GENERAL MANAGER RAW WOOL		
	018992026		Accredited for compliance with ISO/IEC 17025 - Testing Accreditation No: 2850		
			CLIENT USE ONLY		

Other Types of Certificates

Test House Certificates or Test Reports

For a number of reasons, testing facilities (even those licensed by IWTO) may issue results on documents other than IWTO Test Certificates.

These may be called “Test House Certificate” or “Test Report.”

Some of the reasons that laboratories issue these kinds of certificates/reports:

- The facility is not licensed by IWTO
- The facility is licensed for IWTO, but not the tests reported
- The facility was not able to meet all the sampling, testing or reporting requirements for an IWTO Certificate
- The facility used an ‘in-house’ or other test method that is not recognised by IWTO
- Testing was conducted using modified or abbreviated IWTO methods

Commercial Implications for Test House Certificates or Test Reports

Trading parties should be aware that non-IWTO test house certificates and reports carry no official recognition from IWTO. These documents may show that an IWTO Test Method was followed, but without more, it does not rise to the level of an IWTO Test Certificate.

When using Test House Certificates or Test Reports, the parties to a transaction should strive to understand how the samples were taken, what standards exist for the tests made (if any), what data is included and excluded, and to what extent arbitration is defined.

Certificates for national standards

In some cases, IWTO accredited laboratories issue certificates for nationally approved standards rather than IWTO standards. Two examples of this are Bulk and Length After Carding (LAC) Tests. Certificates for tests like these cannot be issued as IWTO Certificates because the test methods are not IWTO methods.



IWTO authorizes licensed laboratories to issue IWTO Certificates, subject to compliance with certain criteria.

Laboratories licensed by IWTO are accredited by a recognised national laboratory accreditation body to ISO/IEC 17025 for the Test Methods and Regulations that are issued. IWTO also requires that the national accreditation body conform with ISO/IEC 17011 (Mutual Recognition Agreement).

To learn more about wool testing and to find one of IWTO's licensed laboratories, visit iwto.org/about-iwto/licensed-laboratories/

1. IWTO LICENSING CRITERIA

Since 1997, no laboratory may issue an IWTO Test Certificate without being licensed by the International Wool Textile Organisation (IWTO).

Laboratories licensed to issue IWTO Test Certificates must meet the following criteria:

- **IWTO Membership**
To be licensed by IWTO, a laboratory must be located in an IWTO Member-country.
If a laboratory is in a country where there is no IWTO member, that laboratory will need to apply for Associate Membership with IWTO
- **National Accreditation**
IWTO Laboratories must be accredited, by a recognised national accreditation body, to ISO/IEC 17025 for the Test Methods and associated sampling Regulations for which it wishes to issue IWTO Certificates.
The Scope of Accreditation, issued by the accreditation body, must indicate compliance with both the Test Method and the applicable Regulation.
- **Mutual Recognition Agreement/Conformity with ISO/IEC 17011**
The national laboratory accreditation body to which the laboratory is accredited have a Mutual Recognition Agreement (MRA) with similar institutions in other countries in conformity with ISO/IEC 17011. Alternatively, the national accreditation body may be signatory to the International Laboratory Accreditation Cooperation (ILAC) Arrangement.
- **Approval by the IWTO Licensing Panel**
Laboratories seeking to become licensed to issue IWTO Test Certificates shall be reviewed by the IWTO Licensing Panel.
- **Annual review and renewal.**
IWTO licenses are subject to annual review, as part of the renewal process.

2. OBTAINING IWTO ACCREDITATION

Laboratories may be licensed to issue IWTO Test Certificates by meeting the licensing criteria, and subject to the approval by the IWTO Licensing Panel.

To apply, complete the application form included in this brochure and return the completed form along with the required supporting documents to IWTO, as indicated on the form.

Approval will depend on several factors, including your facility's national accreditation status and participation in proficiency trials for the relevant Test Methods.

Interlaboratory Proficiency Trials

In the IWTO Test Methods and Applicable Regulations chart on page 10, interlaboratory proficiency trials are listed for each IWTO Test Method. Laboratories are strongly encouraged to demonstrate acceptable performance in one or more of the available proficiency trials, in compliance with ISO/IEC 17025.

The proficiency trial providers listed below are independent organizations with their own membership criteria. Some laboratories may not qualify for participation. Alternative options for verifying lab performance include other interlaboratory or round-robin trials.

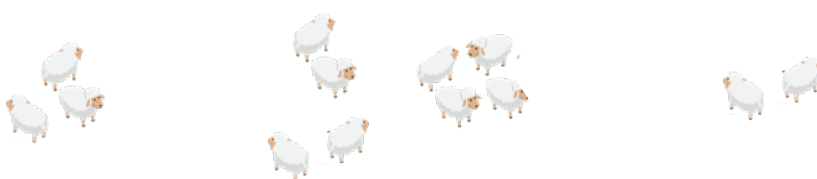
Independent Laboratories Round Trial (ILRT)

c/o Australian Wool Testing Authority Ltd

David Crowe
PO Box 240
NORTH MELBOURNE V
VIC 3051 AUSTRALIA
Ph: + 61 3 9371 2100
Fax: + 61 3 9371 2190
Email: david.crowe@awta.com.au

Interwoollabs

Andrew Lambert
Secretary General
7 Southway, Bingley
Bradford, West Yorkshire
UK BD16 3EW
Phone: + +44 1274 688666
Email: info@interwoollabs.org



Licensing Application Form



To apply, complete the form below and return to licensing@iwto.org

Along with the completed form, send a copy of your national accreditation certificate, and any other supporting documents. All applications will be reviewed by the IWTO Licensing Panel. The current annual licensing fee is €1985. For laboratories in countries without an IWTO member, Associate Membership in IWTO will be required.

Laboratory Name

Your Name

Your Job Title

Your Email

Mailing Address

Phone Number

VAT/Tax Number

What is the main activity of the lab?

Through what member are you connected to IWTO?

How many wool-related tests does the laboratory perform?

State your motivation for applying for the IWTO license.