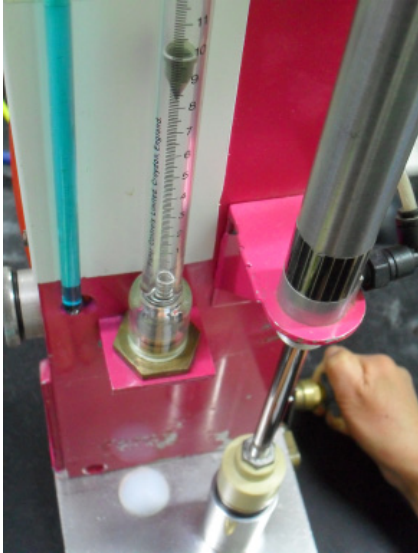


MEAN FIBRE DIAMETER MEASUREMENT



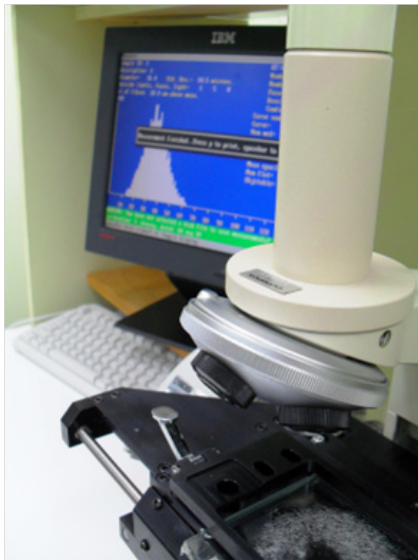
Airflow Measurement

Mean fibre diameter is normally the most important determinant of raw wool price (Info-bulletin 3.1). Until recently, it was mostly certified using the airflow method detailed in IWTO-28. The test method involves scouring and drying of greasy wool, removal of vegetable matter and randomising of the fibres in the core samples using a Shirley Analyser, and then measuring the resistance to airflow of a specified mass of conditioned fibre packed in a standardised container.

Whilst the method is reliable and fast, it produces results which sometimes differ from the reference projection microscope method (IWTO-8) (It should be noted that there are some important differences between this method and ASTM D2130, which remains the reference method in the USA).

There have been several attempts to produce new test methods that give similar results to the projection microscope on all wools. Two have successfully made it through the IWTO acceptance process (document Trading Certification Services provides more information about IWTO certification):

The default certification test method for raw wool diameter in Australia and South Africa, and for merino wool in New Zealand, is now IWTO-12, which utilises the Laserscan instrument.



OFDA Measurement

IWTO-47 is an alternative modern method that uses the OFDA technology. Greasy wools can be certified throughout the southern hemisphere using this method. Both the Laserscan and OFDA technology can also be used for certifying scoured wool, and both are used extensively throughout the world by mills and research institutes. Whilst there is some competition between the two technologies, they give similar results on processed wool, and each have their advantages and disadvantages.

Both new technologies have also gained acceptance in the USA, with ASTM recently issuing test methods D6544 for Laserscan and D6500 for OFDA.

SGS Wool Testing Services offers all the above methods, although the projection microscope cannot be used for certification of raw wool. Info-bulletin 3.3 gives some further information on the comparison of test methods for diameter. Info-bulletin 3.5 shows comparisons between OFDA and Laserscan on greasy wool in the 2000-01 season, and Info-bulletin 3.6 updates the comparisons between all 3 instruments after changes in the Laserscan calibration method.

IWTO methods 8 (Projection microscope), 12 (Laserscan), and 47 (OFDA) can be applied to both raw wool and tops, and under some circumstances, yarns. The airflow method has two versions: IWTO 6 for tops and sliver, and IWTO-28 for raw wool. The measurement principles are virtually identical in both methods, although for raw wool, the sampling and scouring procedures are fully specified



Laserscan

FOR ENQUIRIES

Email us at NZ.wool@sgs.com

Or contact us at:

48 Kemp Street, Kilbirnie

PO Box 15062

Wellington, New Zealand

Tel: +64.4.387.8565

Fax: +64.4.387.8651

© 2011 SGS. All rights reserved. The information contained herein is provided "as is" and SGS does not warrant that it will be error-free or will meet any particular criteria of performance or quality. Do not quote or refer any information herein without SGS' prior written consent. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.