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METHODS OF TESTING MATERIALS
FOR RESISTANCE TO FUNGAL GROWTH
PART 3—RESISTANCE
OF CORDAGE
AND YARNS
TO FUNGAL GROWTH



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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Wool Corporation
Cordage Institute of Australia
CSIRO Division of Forest Products
Defence Standardization Committee
Department of Agriculture, N.S.W.
Manufacturing interests
Plastics Institute of Australia

This standard, prepared by Committee CH/20, Methods of Testing Materials for Resistance to Fungal Growth, was approved on behalf of the Council of the Standards Association of Australia on 21 November 1977, and was published on 1 April 1978.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

PREFACE

This standard method for testing the resistance of cordage and yarn to fungal growth was prepared under the direction of the Chemical Standards Board. It is one of a series of methods for assessing the resistance to fungal growth of a range of commonly used materials.

In this standard, reference is made to the following Australian standard:
AS L54 Method for the Determination of Breaking Load and Extension of Yarns and Threads.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF TESTING MATERIALS FOR RESISTANCE TO FUNGAL GROWTH

PART 3

RESISTANCE OF CORDAGE AND YARNS TO FUNGAL GROWTH

SCOPE. This standard describes procedures for determining the resistance of yarn, cordage, twine, thread and rope to attack by cellulolytic fungi which may reduce the strength of the material.

NOTE: Because of the difficulty in removing yarn from plaited and braided ropes, assessment of fungal attack on these should be by visual and not physical means.

2 PRINCIPLE. The test specimens are sterilized, inoculated with a spore suspension of *Chaetomium globosum* Kunze and then incubated for 14 days. At the end of this period, the fungal growth is assessed by visual means and the breaking force determined.

3 DEFINITION. For the purposes of this standard, where the term 'cordage' is used it shall be understood to include the terms 'rope', 'twine' or 'thread'.

4 APPARATUS, TEST MEDIUM AND TEST ORGANISM.

4.1 Apparatus.

- (i) As specified in AS 1157, Part 1—General Principles of Testing, viz—
For leaching of test specimens, see Appendix A.
For preparing the test medium, see Appendix B.
For sterilizing the equipment, see Appendix C.
For sterilizing the specimens, see Appendix D.
For preparing the spore suspension, see Appendix E.
- (ii) A forced air circulating oven, capable of continuous operation at a temperature of $50 \pm 2^\circ\text{C}$.
- (iii) Apparatus as specified for the determination of breaking load in AS L54.*
- (iv) Test vessels : Petri dishes having a internal diameter of approximately 87 mm are satisfactory, but other vessels of suitable size may be used.
- (v) An incubator, capable of continuous operation at a temperature of $30 \pm 2^\circ\text{C}$ at a relative humidity in excess of 90 percent.

4.2 Test Medium. The test medium shall be prepared using the procedure and reagents described in Appendix B of Part 1.

*AS L54, Method for the Determination of Breaking Load and Extension of Yarns and Threads.