

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF TEST FOR TEXTILES

PART 4—COLOURFASTNESS TESTS

AS 2001.4.21

DETERMINATION OF COLOURFASTNESS TO
LIGHT USING AN ARTIFICIAL LIGHT SOURCE
(MERCURY VAPOUR, TUNGSTEN FILAMENT,
INTERNALLY PHOSPHOR-COATED LAMP)

PREFACE

This standard is one of a series for determining the colourfastness of textiles to various agencies.

In some cases the results obtained using the method described will differ from those obtained using daylight and should therefore be regarded as approximations only. Differences in results may be attributed to spectral differences between the two light sources, and to differences in effective humidity of the test specimens. In cases of dispute the following method should be regarded as the reference method:

AS 2001.4.2 Methods of test for Textiles, Part 4—Colourfastness Tests, Method 2—Determination of Colourfastness to Daylight*

The standard in its present form has been developed in Australia, and requires reference to the following

Australian and British standards:

AS 2001.4.1	Method of Test for Textiles, Part 4—Colourfastness Tests, Method 1—Definitions and General Requirements†
AS 2001.4.2	Methods of Test for Textiles, Part 4—Colourfastness Tests, Method 2—Determination of Colourfastness to Daylight
BS 1006	Methods for the Determination of the Colourfastness of Textiles to Light and Weathering

* Revision of AS 1177, Part 2 in course of preparation.

† Revision of AS L15, Part 1 in course of preparation.

METHOD

1 SCOPE. This standard describes a method for determining the colourfastness of textiles to light, using an artificial light source.

2 APPLICATION. The method is applicable to textiles in any form but is not applicable to photochromatic coloured textiles.

3 PRINCIPLE. A test specimen of the textile, together with blue light fastness standards, is exposed under prescribed conditions to the light from an artificial light source. The colourfastness of the specimen is assessed by comparing its performance with that of the blue light fastness standards.

4 STANDARDS.

4.1 Blue Light Fastness Standards. Blue light fastness standards Nos 1 to 7, as specified in BS 1006, shall be used, in pieces 15 mm × 60 mm.*

4.2 Grey Scale. The grey scale for evaluating change in colour, as described in AS 2001.4.1 shall be used.

5 APPARATUS.

5.1 Lamp. A 500 W mercury vapour, tungsten filament, internally phosphor-coated, fluorescent lamp.

NOTES:

1. Examples of suitable lamps are the Mazda or Thorn Atlas MBTF/U KOLORLUX, the Stella MBTL and the Philips 57512G/74.

Specifications for these lamps appear in the following reference: Hindson, W.R and Southwell G, 'The Mercury-tungsten Lamp for the Fading Assessment of Textiles': *Textile Inst. & Ind.* 12, 2, 1974, p.42.

2. New lamps should be operated for 100 h before using them for test purposes. It is also recommended that they be discarded after 10 000 h of operation.

5.2 Unit Assembly. (See Fig. 1.) The unit shall consist of a hollow cylinder of metal, e.g. aluminium,

* Blue lightfastness standards are available from the Standards Association of Australia in each capital city and from the Australian Wool Testing Authority, Melbourne.