AS 4830—2007

Australian Standard®

Determination of the extinction propensity of cigarettes

This Australian Standard® was prepared by Committee CS-102, Reduced Fire Risk Cigarettes. It was approved on behalf of the Council of Standards Australia on 19 February 2007.
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The following are represented on Committee CS-102:

- Australasian Fire Authorities Council
- Australian Consumers' Association
- CSIRO & Infrastructure Technology
- Fire Protection Association Australia
- Furntech
- Insurance Council of Australia
- New South Wales Department of Health
- Tobacco Product Manufacturing Interests
- The University of Sydney

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

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PREFACE

This Standard was prepared by Standards Australia Committee CS-102, Reduced Fire Risk Cigarettes. This Standard is based on ASTM E2187-04, *Standard test method for measuring the ignition strength of cigarettes*. The ASTM method was the result of over 10 years work and is reported to have been validated by laboratories in the US, but is yet to be validated in Australia. Although no laboratory test is a perfect predictor of the complex and varied causes of fires, this test method has been developed to determine extinction propensity of cigarettes.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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FOREWORD

A common initiating event in fatal fires in Australia is the dropping of a lit cigarette onto a bed or piece of upholstered furniture. The cigarette coal heats the furnishing materials to the point where smouldering combustion begins, perhaps followed by a transition to flaming combustion. According to statistics provided by the National Coroner's Information System, carelessly handled cigarettes caused approximately 12% of the fire deaths in Australia from 2000 to 2002.

Since limiting the frequency of ignitions is a principal approach to reducing fire loss, it is desirable to establish a test method for the propensity of a cigarette to remain lit and therefore potentially capable of igniting soft furnishings. This test method uses standard substrates to determine the extent to which, as the substrate draws heat from the cigarette, the cigarette combustion remains strong enough to continue smouldering and thus potentially capable of initiating a fire.

The test methods ASTM E1352, *Test method for cigarette ignition resistance of mock-up upholstered furniture assemblies* and ASTM E1353, *Test method for cigarette ignition resistance of components of upholstered furniture* have been developed to evaluate the susceptibility of upholstered furniture mock-ups and components to ignition by cigarettes.

STANDARDS AUSTRALIA

Australian Standard
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1 SCOPE

This Standard provides a measure of the capability of a machine-made cigarette, positioned on a standard substrate, as specified in Appendix A, to generate sufficient heat to continue burning and thus potentially cause ignition.

This method is applicable to machine-made cigarettes that burn along the length of a tobacco column including filtered and unfiltered machine-made cigarettes.

This method does not apply to cigars, cigarillos, loose tobacco or other tobacco products.

2 APPLICATION

This Standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. For specific hazard statements, see Clause 6.

3 REFERENCED DOCUMENTS

The following documents are referenced in this Standard:

AS	
2484	Fire—Glossary of terms
2484.1	Part 1: Fire tests
ASTM	
E691	Standard practice for conducting an interlaboratory study to determine the precision of a test method

4 DEFINITIONS

For the purpose of this Standard, the definitions in AS 2484.1 and those below apply:

4.1 Full-length burn (n)

The outcome of a determination in which the specimen burns to or past the front plane of the tipping paper, which covers the filter and perhaps a short section of the tobacco column in a filter tip specimen, or past the tips of the metal pins (see Clause 7.5) if the cigarette specimen has no filter.

4.2 Test specimens

Cigarette samples for testing.

4.3 Substrate

Horizontal surface consisting of layers of filter paper on which the test is carried out.

5 PRINCIPLE

This test enables comparison of the extinction propensity of different cigarette designs in standard laboratory conditions.