CAN/ULC-S137:2017 (R2022)

STANDARD METHOD OF TEST FOR FIRE GROWTH OF MATTRESSES (OPEN FLAME TEST)

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CETTE NORME NATIONALE DU CANADA EST DISPONIBLE EN VERSIONS FRANÇAISE ET ANGLAISE

Standard Method of Test for Fire Growth of Mattresses (Open Flame Test), CAN/ULC-S137

Second Edition, Dated August 1, 2017

Summary of Topics

This revision of CAN/ULC-S137 dated October 18, 2022 is being issued to update the title page to reflect the reaffirmation of this Second Edition National Standard of Canada. No changes in requirements are involved.

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated May 18, 2022.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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STANDARD METHOD OF TEST FOR FIRE GROWTH OF MATTRESSES (OPEN FLAME TEST)

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NAME	AFFILIATION	REGION	CATEGORY
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J. Current	Ministry of Solicitor General	Ontario	Government
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M. Van Geyn	Canadian Steel Door Manufacturers Association	Ontario	Government

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NAME	AFFILIATION	REGION	CATEGORY
B. Arsenault (Associate Member)	FRE Composites (2005) Inc.	Canada	Non-Voting
N. Benichou (Associate Member)	National Research Council Canada	Canada	Non-Voting
M. Birk (Associate Member)	Queen's University	Ontario	Non-Voting
E. Dahan (Associate Member)	Department of National Defence/Government of Canada	Canada	Non-Voting
D. Haithcock (Associate Member)	UL Standards & Engagement	USA	Non-Voting
L. Kearns (Associate Member)	N/A	Canada	Non-Voting
H. Locke (Associate Member)	Locke & Locke Inc.	British Columbia	Non-Voting
E. Sopeju (Associate Member)	N/A	Ontario	Non-Voting
B. Weckman (Associate Member)	University of Waterloo	Ontario	Non-Voting
G. Edwards (Project Manager)	UL Standards & Engagement	USA	Non-Voting

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PREFACE

This is the Second Edition of the Standard Method of Test for Fire Growth of Mattresses (Open Flame Test), CAN/ULC-S137.

This Edition of the Standard was developed by the ULC Standards Task Group on Combustibility and has been formally approved by the ULC Standards Committee on Fire Tests.

This Standard has been developed in compliance with the requirements of SCC for accreditation of a Standards Development Organization.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

Appendices A, B and C, identified as Informative, are for information purposes only.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Second Edition National Standard of Canada is based on, and now supersedes, the First Edition.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This CAN/ULC-S137 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com/canada.

This Standard is intended to be used for conformity assessment.

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1 SCOPE

1.1 The purpose of this test method is to investigate the ability of *mattresses* to resist rapid heat release by measuring specific fire test responses when the *mattress* or *mattress set* is subjected to a specified flaming ignition source under well ventilated conditions.

1.2 This test method is applicable only to the finished *mattresses* and *mattress sets* and does not apply to testing of individual component materials used, such as *ticking* and *upholstery materials*, foams, cotton battings, etc.

1.3 This test method does not provide information on the performance of a *mattress* or *mattress set* in other fire conditions or the contribution of the *mattress* to a developing fire condition.

2 REFERENCE PUBLICATIONS

2.1 The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard.

Document Published by the American Society for Testing and Materials (ASTM International)
100 Barr Harbour Drive, PO Box C700, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585
www.astm.org

• ASTM E1590-13, Standard Test Method for Fire Testing of Mattresses

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Document Published by ULC Standards
171 Nepean Street, Suite 400, Ottawa, ON K2P 0B4 Canada
Telephone: (613) 755-2729
www.ulc.ca/ulcstandards

• CAN/ULC-S138:2006 (R2016), Standard Method of Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration

• CAN/ULC-9705-13 (ISO 9705:1993, MOD), Fire Tests – Full-Scale Room Test for Surface Products

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Document Published by the US Consumer Product Safety Commission
4330 East West Highway, Bethesda, MD 20814 U.S.A
Telephone: (800) 638-2772; Fax: (301) 504-0124
www.cpsc.gov

• 16 CFR Part 1633-15, Standard for the Flammability (Open Flame) of Mattress Sets

3 GLOSSARY

NOTE: Terms used in this Standard that are in *italic* print are defined as follows:

3.1 *FOUNDATION* – a *ticking* covered structure used to support a mattress or sleep surface. The structure may include constructed frames, foam, box springs, or other materials, used alone or in combination.

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3.2 *MATTRESS* – a resilient material or combination of materials enclosed by a *ticking* (used alone or in combination with other products) intended or promoted for sleeping upon.

NOTE 1: This term includes: but is not limited to: adult *mattresses*, youth *mattresses*, crib *mattresses* (including portable crib *mattresses*), bunk bed *mattresses*, futons, flip chairs without a permanent back or arms, sleeper chairs, and water beds or air *mattresses* if they contain upholstery material between the *ticking* and the *mattress* core. *Mattresses* used in or as part of upholstered furniture are also included; examples are convertible sofa bed *mattresses*, corner group *mattresses*, day bed *mattresses*, roll-away bed *mattresses*, high risers, and trundle bed *mattresses*.

NOTE 2: The term *mattress* excludes: *mattress* pads, *mattress* toppers not exceeding a total of 25 mm thick (items with resilient filling, with or without *ticking*, intended to be used with or on top of a *mattress*), sleeping bags, pillows, liquid and gaseous filled *tickings*, such as water beds and air *mattresses* that contain no upholstery material between the *ticking* and the *mattress* core, upholstered furniture that does not contain a *mattress*, juvenile product pads such as car bed pads, carriage pads, basket pads, infant carrier and lounge pads, dressing table pads, stroller pads, crib bumpers, and playpen pads.

3.3 *MATTRESS SET* – means a *mattress* and *foundation*, which are sold as a set.

3.4 *TEST SPECIMEN* – a *mattress* or *mattress set* representing the end-use construction.

NOTE: *Mattresses* for sale with a *foundation* shall be tested with the corresponding *foundation*. *Mattresses* for sale without a *foundation* shall be tested alone.

3.5 *TICKING* – the outermost layer of fabric or related material of a mattress or foundation. It does not include any other layers of fabric or related materials quilted together with, or otherwise attached to, the outermost layer of fabric or related material.

3.6 *TWIN SIZE* – any *mattress* with the dimensions 965 mm x 1892 mm, all dimensions may vary by ± 13 mm.

3.7 *UPHOLSTERY MATERIAL* – all material, either loose or attached, between the *mattress ticking* and the core of a *mattress*, if a core is present.

4 SUMMARY OF METHOD

4.1 This test method determines a number of fire-test-response characteristics from a full scale *test specimen*, ignited with a pair of T-shaped gas burners and allowed to burn for a period of 30 min. Measurements to be made include rate of heat release and total amount of heat released.

NOTE: Additional optional measurements include specimen mass loss and smoke obscuration.

4.2 Fire testing of products and materials is inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting these tests. This test method may involve hazardous materials, operations and equipment.

4.3 The exhaust system shall be checked for proper operation before testing and must discharge into a building exhaust system with adequate capacity. Provision shall be made for collecting and venting any combustion products that should for whatever reason fail to be collected by the normal exhaust system of the apparatus.

5 APPARATUS

5.1 GENERAL

5.1.1 The test apparatus shall consist of the following components:

A A test area;

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