ULC
STANDARD

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(Reaffirmed 2016)

STANDARD FOR BURGLARY RESISTANT COMBINATION LOCKS

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REFERENCE PUBLICATIONS

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 revision of the document available at the date on which the Committee approved this ULC Standard.

Standards Published by the American Society for Testing and Materials (ASTM)
100 Barr Harbor Drive, West Conshohocken, PA 19428-2259, U.S.A., Telephone: (610) 832-9585

B117-94	Standard Practice for Operating Salt Spray (Fog) Testing Apparatus.
D5423-93	Specification for Forced-Convection Laboratory Ovens for Evaluation of Electrical Insulation.

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STANDARD FOR BURGLARY RESISTANT COMBINATION LOCKS

PREFACE

This is the Reaffirmation of the First Edition of the Standard for Burglary Resistant Combination Locks, CAN/ULC-S327.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Physical Security Equipment.

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.

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.

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

The review and action to revise or reaffirm this Standard will not exceed 5 years from the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

This Standard is intended to be used for conformity assessment.

1. SCOPE

1.1 These requirements cover combination locks designed for attachment on doors of safes, chests, vaults, and the like, to provide a means of locking the boltwork against unauthorized opening.

1.2 These requirements are intended to test the ability of combination locks to resist unauthorized opening of the lock by manipulation methods such as sense or sight, touch, hearing or manipulation by electro-mechanical devices. Combination locks covered by these requirements may or may not have integral protection against entry by force.

2. GLOSSARY

NOTE: For the purpose of this Standard, the definitions in *italic print* shall apply.

DRIVE PIN - A protrusion on or through a cam or tumbler that engages the adjacent tumbler.

DRIVER CAM - A component that engages the tumblers and moves the lock bolt during the ordinary opening or closing procedure.

FENCE - A part of the *lever* that fits into the tumbler *gates*, permitting the *lever* to engage the *driver cam*.

GATE - The cutout in the periphery of the tumbler that is engaged by the *fence* on the *lever* assembly.

GROUP 1 - Those locks that have a high degree of resistance to expert manipulation. The protection against expert manipulation includes advanced design features not found in conventional designs. Refer to Table 1.

GROUP 1R - Those locks that have a high degree of resistance to expert manipulation, including use of radiological means. Refer to Table 1.

GROUP 2 - Those locks that have a moderate degree of resistance to unauthorized opening. Refer to Table 1.

GROUP 2M - Those locks that have a moderate degree of resistance to expert manipulation. Refer to Table 1.

LEVER - A component that retracts the bolt.

TUMBLER PACK - An assembly of tumblers, flys, washers, springs, and rings.

TUMBLER POST - A component, integral to the lock case or cover, on which the *tumbler pack* is assembled and about which the tumblers rotate.

TUMBLER WHEEL - An assembly, usually in the form of a circular disc, having a *gate* and *drive pin* whose locations may be set to selected positions to permit the user to change the combination.

WORKING HOURS - One person working 1 h, two people working 0.5 h, or the like. This time does not include the time spent on unsealed samples.

3. INSTALLATION AND OPERATING INSTRUCTIONS

3.1 A copy or draft of the installation and operating instructions intended to accompany each product or component, or equivalent information, shall be used as a guide in the examination and test of the product or component.

3.2 The instructions shall include such directions and information as deemed by the manufacturer to be necessary for the proper and safe installation, maintenance, and operation of the product.

4. CONSTRUCTION

4.1 GENERAL

4.1.1 The locks shall have a choice of at least 1 000 000 combinations/codes.

NOTE: All combination/code numbers are not available for use as per manufacturer's instructions. Refer to Table 1 for a minimum number of available combinations.

4.1.2 The locking *lever* or *fence* shall be secured tightly, fit snugly on its post, and be perpendicular to the plane of the tumblers.

4.1.3 The clearance between the *fence* and the *tumbler wheels* shall be not less than 0.65 mm when the bolt *lever* is raised by means of the *driver cam,* and not less than 0.40 mm when the *lever* is raised by means other than the *driver cam.*

4.1.4 Tumblers shall run true, and be at right angles to the *tumbler post.*

4.2 NONMETALLIC PARTS

4.2.1 Factors taken into consideration when judging the acceptability of nonmetallic parts are (1) mechanical strength; (2) resistance to impact; (3) moisture absorptive properties; and (4) resistance to distortion of the material under conditions of normal or abnormal usage. See Tests of Polymeric Material, Subsection 5.6.

4.3 CORROSION PROTECTION

4.3.1 All working parts of the lock mechanisms shall be constructed of brass, bronze, stainless steel, or equivalent corrosion-resistant materials or shall have a protective finish that permits the lock mechanism to comply with the requirements of the Salt Spray Corrosion Test, Subsection 5.5.