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JOINT CANADA-UNITED STATES
NATIONAL STANDARD

ANSI/CAN/UL/ULC 2271:2023

STANDARD FOR SAFETY

Batteries for Use In Light Electric Vehicle (LEV) Applications

Approved American National Standard
ANSI
ANSI/UL 2271-2023

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SCC FOREWORD

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UL Standard for Safety for Batteries for Use In Light Electric Vehicle (LEV) Applications, ANSI/CAN/UL/ULC 2271

Third Edition, Dated September 14, 2023

Summary of Topics

This new edition of ANSI/CAN/UL/ULC 2271, Standard for Batteries for Use In Light Electric Vehicle (LEV) Applications, dated September 14, 2023 includes the following changes:

– Modification of the normal operation conditions and cycle number during Temperature Test; 5.2, 33.1, and Table 33.1

– Clarification of the scope to better distinguish what is covered under UL/ULC 2271 versus UL/ULC 2580; 1.1, 1.4, 5.2, 6.1, 6.2, 6.14, 6.25, 6.29, 6.32, 6.40, 16.2, 16.3, and 16.8

– Updates to Functional Safety criteria; 6.34, 6.35, 6.36 and Section 15

– Additional guidance on protection of corrosion between dissimilar metals; 5.2, 8.1, 8.2, 8.4, Annex B, B1, and Table B.1

– Addition of requirements for when repurposed batteries are used; 5.2, Section 16, 16.8, Section 46, Annex C, and Table C.1

– Addition of a High Rate Charge Test that evaluates the safety when charging at a rate higher than the specified maximum level, Table 18.1, Section 21, 21.2, Table 21.1, and Section 24

– Addition of the Overload Under Discharge Test to replace the "soft short" in the Short Circuit Test; 6.32, Table 18.1, 21.1, 21.2 and Section 26

– Addition of a Single Cell Failure Design Tolerance Test for large size batteries; Table 18.1 section Table 21.1 and Section 45.

– Replaced reference to UL 60950-1 with UL 62368-1 throughout the Standard.

– Replaced reference to ISO 12405-1 with ISO 6469-1 throughout the Standard.

– Corrections to Manufacturing and Production Line Testing and inclusion of a 100% check on active controls relied upon for safety; 17.2, 17.4.

– Addition of a normal operation limit check in Overcharge and Overdischarge Test; 23.3, 23.6, 27.2 and 27.5

– Addition of a grounding continuity test; Section 14 and Section 32

– Editorial revisions throughout the Standard.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated April 7, 2023 and July 14, 2023.

ANSI/UL 2271-2023

SEPTEMBER 14, 2023

ANSI/CAN/UL/ULC 2271:2023

Standard for Batteries for Use In Light Electric Vehicle (LEV) Applications

First Edition – December, 2013
Second Edition – September, 2018

Third Edition

September 14, 2023

This ANSI/CAN/UL/ULC Safety Standard consists of the Third Edition.

The most recent designation of ANSI/UL 2271 as an American National Standard (ANSI) occurred on September 14, 2023. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This Standard has been designated as a National Standard of Canada (NSC) on September 14, 2023.

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Preface

This is the Third Edition of ANSI/CAN/UL/ULC 2271, Standard for Batteries for Use In Light Electric Vehicle (LEV) Applications.

ULSE is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO). ULC Standards is accredited by the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

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

This ANSI/CAN/UL/ULC 2271 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and 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.

Annex B, and Annex C are identified as Normative, as such, form mandatory parts of this Standard.

Annexes A and C are identified as Informative for the United States.

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 joint American National Standard and National Standard of Canada is based on, and now supersedes, the Second Edition of UL/ULC 2271.

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

This Edition of the Standard has been formally approved by the Technical Committee (TC) for Batteries for Use in Electric Vehicles, TC 2580.

This list represents the TC 2580 membership when the final text in this Standard was balloted. Since that time, changes in the membership may have occurred.

TC 2580 Membership

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Buoniconti, Ralph	SABIC	Supply Chain	USA
Byczek, Rich	Intertek	Testing and Standards	USA

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TC 2580 Membership Continued

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International Classification for Standards (ICS): 29.220; 43.120

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This Standard is intended to be used for conformity assessment.

The intended primary application of this Standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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

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