



# STANDARD FOR SAFETY

## UL 2577, Suspended Ceiling Power Grid Systems and Equipment

[ULNORM.COM](http://ULNORM.COM) : Click to view the full PDF of UL 2577 2018



Standards Council of Canada  
Conseil canadien des normes

No Text on This Page

[ULNORM.COM](https://www.ulnorm.com) : Click to view the full PDF of UL 2577 2018

UL Standard for Safety for Suspended Ceiling Power Grid Systems and Equipment, UL 2577

First Edition, Dated February 7, 2013

### **Summary of Topics**

***This revision of UL 2577/ULC-S2577 is being issued to update the title page to reaffirm approval as an American National Standard and as a National Standard of Canada. No changes in requirements have been made.***

The requirements are substantially in accordance with Proposal(s) on this subject dated March 23, 2018.

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.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

ULNORM.COM : Click to view the full PDF of UL 2577 2018

No Text on This Page

[ULNORM.COM](http://ULNORM.COM) : Click to view the full PDF of UL 2577 2018

Prepared by:



ULC Standards  
CAN/ULC-S2577-13-R2018  
First Edition



Underwriters Laboratories Inc.  
ANSI/UL 2577  
First Edition

## Suspended Ceiling Power Grid Systems and Equipment

February 7, 2013

(Title Page Reprinted: August 3, 2018)

ULNORM.COM : Click to view the full PDF of UL 2577 2018



ANSI/UL 2577-2017 (R2018)



## **Commitment for Amendments**

This Standard is issued jointly by Underwriters Laboratories Inc. (UL) and ULC Standards. Amendments to this Standard will be made only after processing according to the Standards writing procedures by UL and ULC Standards.

UL and ULC Standards are separate and independent entities and each is solely responsible for its operations and business activities. The UL trade names and trademarks depicted in this document are the sole property of Underwriters Laboratories Inc. The ULC Standards trade names and trademarks depicted in this document are the sole property of ULC Standards.

---

## **ISSN 0317-526X Copyright © 2018 ULC Standards**

All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, whatsoever without the prior permission of the publisher.

In Canada, written comments are to be sent to ULC Standards, 400 – 171 Nepean Street, Ottawa, Ontario KP2 0B4. Proposals should be submitted on a Standards Revision Request Form available from ULC Standards.

---

## **Copyright © 2018 Underwriters Laboratories Inc.**

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

This ANSI/UL Standard for Safety consists of the First Edition including revisions through August 3, 2018.

The most recent designation of ANSI/UL 2577 as a Reaffirmed American National Standard (ANS) occurred on August 3, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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

To purchase UL Standards, visit UL's Standards Sales Site at <http://www.shopulstandards.com/HowToOrder.aspx> or call toll-free 1-888-853-3503.

---

## CONTENTS

Preface .....	5
---------------	---

## INTRODUCTION

1 Scope .....	6
2 Components .....	7
3 Units of Measurement .....	8
4 Undated References .....	8
5 Glossary .....	8

## MECHANICAL CONSTRUCTION

6 General .....	8B
7 Assembly and Mounting .....	8B
8 Metal Components .....	8B
9 Polymeric Enclosure and Insulation Materials .....	10
9.1 General .....	10
9.2 Flammability .....	10
9.3 Relative Thermal Index (RTI) .....	11
9.4 Electrical properties .....	11
10 System Flammability .....	11
11 Adhesives .....	11
12 Strain Relief .....	12

## ELECTRICAL CONSTRUCTION

13 General .....	12
14 Current-Carrying Parts .....	13
15 Securement of Components .....	13
16 Splices and Connections .....	14
17 Electrical Spacings .....	15
18 Class 2 Power Supplies and Transformers .....	15
19 Luminaires .....	16
20 Switches and Controls .....	16
21 Control Circuits .....	17
22 Class 2 Supply and Load Connectors .....	18
22.1 General .....	18
22.2 Power feed connector .....	18
22.3 Load connectors .....	19
23 Field Wiring .....	19
23.1 Field wiring terminals .....	19
23.2 Separation for CEC/NEC Class 2 circuits .....	20

## PERFORMANCE

24 Connector Tests .....	21
24.1 General .....	21
24.2 Movable connector cycle conditioning and temperature test .....	21
24.3 Field-installed conductors conditioning and temperature test .....	22
24.4 Fixed connector cycling test .....	22

25	System Temperature Test .....	22
25.1	General .....	22
25.2	Test setup – grid rail system .....	24
25.3	Test setup – power supplies and low voltage/extra-low voltage equipment .....	24
26	Mechanical Assembly Load Test .....	24
27	Moment Test .....	25
28	System Flammability Test – Grid Rails .....	25
29	System Flammability Test – Discrete Components Located In Air-Handling Spaces .....	26
30	Mold Stress-Relief Distortion Test .....	27
31	Connector Drop Test .....	27
32	Field Cutting Test .....	28
33	Conductor Secureness Test .....	28
34	Strain Relief Test .....	29
35	Push-Back Relief Test for Conductors or Cable .....	29
36	Dielectric Voltage Withstand Test .....	30

## MARKINGS

37	Details .....	31
37.1	General .....	31
37.2	Connectors .....	32
37.3	Air-handling use .....	33
37.4	Correlation markings .....	34
38	Installation and Operating Instructions .....	34
38.1	General .....	34
38.2	Operating instructions .....	37
38.3	Connectors .....	38

## TABLES

## FIGURES

## ANNEX A (NORMATIVE) – Reference Standards

Standards for Components

## ANNEX B (NORMATIVE) – Reference Publications

ULNORM.COM: Click to view the full PDF of UL 2577 2018

## Preface

This is the common UL and ULC Standard for Suspended Ceiling Power Grid Systems and Equipment. It is the First edition of both CAN/ULC-S2577 and ANSI/UL 2577.

This Joint Standard was prepared by Underwriters Laboratories Inc., ULC Standards, and the Technical Committee on Solid State Lighting (TCSSL). The standard was formally approved by the UL/ULC Technical Committee on Solid State Lighting (TCSSL). The efforts and support of the Technical Committee are gratefully acknowledged.

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.

Annexes A and B, both identified as normative, form a mandatory part of this Standard.

**Note:** *Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.*

## Level of Harmonization

This Standard is published as an identical standard between UL and ULC Standards. An identical standard is a standard that is the same in technical content except for conflicts in Codes and Governmental Regulations. Presentation shall be word for word except for editorial changes.

## Interpretations

The interpretation by the SDO of an identical or equivalent standard shall be based on the literal text to determine compliance with the standard in accordance with the procedural rules of the SDO. If more than one interpretation of the literal text has been identified, a revision shall be proposed as soon as possible to each of the SDOs to more accurately reflect the intent.

## INTRODUCTION

### 1 Scope

1.1 These requirements cover suspended ceiling grid low voltage/extra-low voltage systems and equipment intended for installation and use in accordance with the:

**In Canada:**

Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, CSA C22.1,

**In the United States:**

National Electrical Code (NEC), ANSI/NFPA 70.

1.2 The suspended ceiling grid low voltage/extra-low voltage systems covered by this standard are intended to be installed as a suspended ceiling grid that provides mechanical support for the ceiling tiles and provides electrical connections between the low voltage/extra-low voltage power supply and the low voltage/extra-low voltage equipment. The low voltage/extra-low voltage system consists of the following components:

- a) An isolating type low voltage/extra-low voltage power supply with output(s) operating at 30 V (42.4 V peak) or less and not exceeding Class 2 power limits,
- b) A grid rail power distribution system to provide power from the Class 2 power supply to one or more pieces of Class 2 powered equipment, and
- c) Class 2 powered equipment that is electrically connected to the suspended ceiling grid low voltage/extra-low voltage system.

1.3 The suspended ceiling grid low voltage/extra-low voltage system is intended to be permanently connected, for indoor dry locations, and installed in accordance with the following requirements:

**In Canada:**

Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, CSA C22.1, and the National Building Code of Canada.

**In the United States:**

National Electrical Code (NEC), ANSI/NFPA 70, the International Building Code (IBC), and the International Mechanical Code (IMC).

This standard also covers suspended ceiling grid low voltage/extra-low voltage systems intended for use in air-handling spaces.