



UL 62841-3-1000

STANDARD FOR SAFETY

Electric Motor-Operated Hand-Held Tools, Transportable Tools And Lawn And Garden Machinery – Safety – Part 3-1000: Particular Requirements For Transportable Laser Engravers

UL Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools And Lawn And Garden Machinery – Safety – Part 3-1000: Particular Requirements For Transportable Laser Engravers, UL 62841-3-1000

First Edition, Dated December 31, 2019

SUMMARY OF TOPICS

This is the First Edition of ANSI/UL 62841-3-1000, the Standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools And Lawn And Garden Machinery – Safety – Part 3-1000: Particular Requirements For Transportable Laser Engravers. The standard provides construction, performance, and marking and instruction requirements for the evaluation of transportable CO₂ laser engravers with a laser power not exceeding 60 watts intended to cut, incise a design, engrave, ablate, burn, color, and perform similar processes on material samples inserted into the equipment.

The new requirements are substantially in accordance with Proposal(s) on this subject dated July 12, 2019 and October 18, 2019.

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.

No Text on This Page

DECEMBER 31, 2019



ANSI/UL 62841-3-1000-2019

1

UL 62841-3-1000

**Standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools
And Lawn And Garden Machinery – Safety – Part 3-1000: Particular
Requirements For Transportable Laser Engravers**

First Edition

December 31, 2019

This ANSI/UL Standard for Safety consists of the First Edition.

The most recent designation of ANSI/UL 62841-3-1000 as an American National Standard (ANSI) occurred on December 13, 2019. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

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>.

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.

COPYRIGHT © 2019 UNDERWRITERS LABORATORIES INC.

No Text on This Page

CONTENTS

1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	General requirements	5
5	General conditions for the tests	6
6	Radiation, toxicity and similar hazards	6
6.101	Laser	6
7	Classification	6
8	Marking and instructions	6
9	Protection against access to live parts	10
10	Starting	10
11	Input and current	10
12	Heating	10
13	Resistance to heat and fire	10
13.101	Fire containment	11
14	Moisture resistance	12
14.101	Polymeric fluid-handling components	12
15	Resistance to rusting	12
16	Overload protection of transformers and associated circuits	12
17	Endurance	12
18	Abnormal operation	13
19	Mechanical hazards	13
20	Mechanical strength	14
21	Construction	15
22	Internal wiring	15
23	Components	15
24	Supply connection and external flexible cords	15
25	Terminals for external conductors	16
26	Provision for earthing	16
27	Screws and connections	16
28	Creepage distances, clearances and distances through insulation	16

Annexes

Annex K Battery tools and battery packs

No Text on This Page