

UL 875

STANDARD FOR SAFETY

Electric Dry-Bath Heaters



JANUARY 4, 2021 - UL 875 tr1

UL Standard for Safety for Electric Dry-Bath Heaters, UL 875

Ninth Edition, Dated May 21, 2009

Summary of Topics

This revision to ANSI/UL 875 dated January 4, 2021 includes the withdrawal and replacement of UL 508C with UL 61800-5-1; 16.1.1

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 October 9, 2020.

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.

<u>tr2</u> JANUARY 4, 2021 - UL 875

No Text on This Page

This is a preview. Click here to purchase the full publication.

MAY 21, 2009

(Title Page Reprinted: January 4, 2021)



1

UL 875

Standard for Electric Dry-Bath Heaters

Prior to the first edition, the requirements for the products covered by this standard were included in the Standard for Electric Heating Appliances, UL 499.

The First through Third editions were titled Electric Dry Bath Heaters. The Fourth Edition was titled Electric Sauna Heating Equipment.

First Edition – August, 1970
Second Edition – February, 1972
Third Edition – June, 1976
Fourth Edition – February, 1983
Fifth Edition – August, 1989
Sixth Edition – August, 1994
Seventh Edition – September, 2000
Eighth Edition – March, 2004

Ninth Edition

May 21, 2009

This ANSI/UL Standard for Safety consists of the Ninth Edition including revisions through January 4, 2021.

The most recent designation of ANSI/UL 875 as an American National Standard (ANSI) occurred on November 19, 2020. 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 © 2021 UNDERWRITERS LABORATORIES INC.

This is a preview. Click here to purchase the full publication.

No Text on This Page

CONTENTS

INTRODUCTION

		Scope	
	_	2.1 Components	
		2.2 Units of measurement	
		2.3 Undated references	
	3	Glossary	
	Ū	Globbary	
COI	NSTR	RUCTION	
	ЗА	Component Specifications	9
	3B	Component Specifications	
		3B.1 General	
		3B.2 Button or coin cell batteries of lithium technologies	
	3C	Safety Critical Functions	
		Frame and Enclosure	
	5	Risk of Injury to Persons	
	5A	Button or Coin Cell Batteries of Lithium Technologies	
		Assembly	
		Corrosion Resistance	
	8	Supply Connections	
		8.1 General	
		8.2 Field-wiring compartment	
		8.3 Wire-bending space	
		8.4 Field-wiring terminals and leads	
		Current-Carrying Parts	
	10	Internal Wiring	
		10.1 General	
		10.2 Sleeving and tubing	
		10.3 Protection of wiring	
		10.4 Splices and connections	
		10.5 Separation of circuits	
		10.6 Barrier material and thickness	
		10.7 Low-voltage circuits	
		10.8 Line-voltage circuits	
	11	Heating Elements	
		11.1 General	
		11.2 Sheathed heating element	
		11.3 Guarding of heating elements	
	12	Electrical Insulation	
	13	Thermal Insulation	
	14	Motors	
	15	Overcurrent Protection	
	16	Motor-Running Overcurrent Protection	
	16A	, , ,	
	16B		
	17	Short-Circuit Protection	
	17A		
	18	Lampholders	
	19	Switches	
	20	Receptacles	
	20A	Printed Wiring Boards	39

	UB (Semiconductors and Small Electronic Components	.40
2	1 A	utomatic Temperature Controls	.40
		21.1 General	
	2	21.2 Terminals and actuating members of temperature controls	.41
2		Liquid Level Controls	
	:1B	Pressure Controls	42
		pacings	
_		22.1 General	
		22.2 Barriers	
2		Clearance and Creepage Distances	
		rounding and Bonding	
2	.s G	rounding and bonding	.40
PERF	ORMA	ANCE	
2	4 P	ower Input Test	.46
2		emperature Test	
2		inimum Room Air Temperature Test	
		sulation Resistance Test	
		ielectric Voltage-Withstand Test	
		ater Spray Test	
		bnormal Operation Test	
		30.1 Temperature	
		30.2 Mechanical abuse	
		80.3 Cheesecloth and towel drape	
		30.4 Thermal cutoff	
		30.5 Stalled fan	
		80.6 Component breakdown	
2		otor Switch Overload Test	
		tability Test	
		tatic Loading Test	
3	4 St	trength of Legs Test	.62
MAN	JFAC1	TURING AND PRODUCTION-LINE TESTS	
3	5 D	ielectric Voltage-Withstand Test	.63
3	6 G	rounding-Continuity Test	.64
RATIN	IGS		
3	7 D	etails	.64
	(INGS		
WAR	MINGS		
3		etails	
3	9 P	ermanence of Markings	.70
INSTA	LLAT	ION INSTRUCTIONS	
4	.0 D	etails	.71
STATI		RY OR PORTABLE COMBINATION ROOM & HEATER UNITS	
		eneral	
4		onstruction	
	4	2.1 Room or cabinet	.73

This is a preview. Click here to purchase the full publication.

		42.2 Ventilation openings	73
		42.3 Heater	74
		42.4 Timed switch	74
		42.5 Power supply connections	
		42.6 Grounding and bonding	
	43	Performance	
		43.1 General	
		43.2 Leakage current after humidity	
		43.3 Plywood delamination	
	44	Warning Marking	
SUF		ENT SA - UL 60335-1 BASED REQUIREMENTS FOR THE EVALUATION OF ELECT IRCUITS	RONIC
INT	RODU	CTION	
	SA1	General	81
	SA2	Scope	
	SA3	Glossary	81
COI	NSTRU	ICTION	
	SA4	Components	82
		SA4.1 Capacitors	82
		SA4.2 Switch mode power supplies	83
		SA4.3 Temperature sensing, thermistor devices	83
		SA4.4 Transformers	83
	SA5	Identification of Safety Critical Circuit Functions	83
		SA5.1 General	83
		SA5.2 Protective electronic circuits	84
		SA5.3 Operating circuits that mitigate a dangerous malfunction of the appliance	84
	SA6	Evaluation of the Different Types of Electronic Circuits	84
	SA7	Circuits that Provide Safety Critical Functions	84
PEF	RFORM	IANCE	
	SA8	General Conditions for the Tests	85
		SA8.1 Details	
		SA8.2 Intentionally weak parts	
		SA8.3 Test results determined by overcurrent protection operation	
	SA9	Low-Power Circuit Determination	
	SA10		
	SA11	Overload Protection (Transformer and Associated Circuits) Test	
	SA12		
	SA13		
	SA14		

APPENDIX A

No Text on This Page