

Association of Home Appliance Manufacturers *Household Electric Ranges*

AHAM ER-1-1992

PREFACE

The Association of Home Appliance Manufacturers develops standards in accordance with AHAM's "Policy and Procedures Governing Technical Standards" which states:

"AHAM Standards shall be in the best interest, mutually, of consumers who use appliances, the industries which provide and service appliances, and other interested parties. They shall relate to actual use conditions, be technically and scientifically sound."

Use or observance of AHAM standards is voluntary.

This standard contains

Test procedures that may be applied to any brand or model of household electric range for measuring performance. Results of tests in accordance with this standard may be publicly stated.

Recommended levels of performance which are considered important to include but which, necessarily, are recommendations only.

With regard to safety, AHAM recommends that all appliance products--both major and portable--manufactured or marketed in the United States be submitted to an appropriate independent laboratory for inspection and listing in conformance with the safety standards and procedures followed by such laboratories. The relevant standard for electric ranges is ANSI/UL 858, "Standard for Safety, Household Electric Ranges".

AHAM welcomes comments and suggestions regarding this standard. Any standard may be reviewed and improved as needed. Any interested party, at any time, may request a change in an AHAM standard. Such request should be addressed to AHAM's President, and should be accompanied by a statement of reason for the request and a suggested alternate proposal.

Copyright © 1992 by the Association of Home Appliance Manufacturers (AHAM)
All rights reserved.

The hard copy print version of this document shall be for individual use only.

The electronic file version of this document shall be for storage on one computer for purposes of viewing and/or printing one copy for individual use only.

This document shall not be reproduced in whole or in part by any means, and shall not be transmitted electronically or otherwise to a third person without the prior written permission of AHAM.

CONTENTS

Section	Pag
1. PURPOSE.....	1
2. SCOPE.....	1
3. DEFINITIONS	1
3.1 Definitions of Operations Performed on Range Products.....	1
3.2 Definitions of Range Products and Accessories.....	2
3.3 Test Definitions	3
3.4 Definitions of Functional Components	5
3.5 Materials Definitions.....	5
3.6 Miscellaneous Definitions.....	5
4. VOLTAGES	6
4.1 Rated Voltage	7
4.2 Range of Operating Voltages	7
5. GENERAL TEST CONDITIONS, EQUIPMENT AND INSTRUMENTATION	8
5.1 Supply Circuit.....	8
5.2 Test Circuit Voltage	8
5.3 Electrical Measurements.....	8
5.4 Temperature Measurements	8
5.5 Scale	9
5.6 Installation	9
5.7 Test Equipment.....	9
6. CONVENTIONAL COOKING TOPS - TEST METHOD FOR MEASURING PERFORMANCE CHARACTERISTICS.....	10
6.1 Conventional Cooking Tops - Test Method for Measuring Efficiency.....	10
6.2 Conventional Cooking Tops - Test Method for Determining Thermal Endurance Characteristics of Cooktop Heating Units	10
7. GRIDDLES - TEST METHOD FOR MEASURING PERFORMANCE CHARACTERISTICS.....	11
7.1 Test Procedure	11
7.2 Recommended Level of Performance.....	11
8. CONVENTIONAL OVENS - TEST METHOD FOR MEASURING PERFORMANCE CHARACTERISTICS.....	12
8.1 Setting the Conventional Oven Thermostat.....	12
8.2 Test Method for Determining Energy Efficiency in the Bake Mode	12
8.3 Test Method for Determining Baking/Browning Performance	14
8.4 Test Method for Determining Broiler Heat Distribution	16
8.5 Test Method for Determining Energy Consumption of the Pyrolytic Self-Cleaning Mode of Conventional Ovens.....	17
8.6 Test Method for Measuring the Cleaning Performance of the Conventional Oven	

Pyrolytic Self-Cleaning Mode	17
8.7 Test Method for Determining the Endurance Characteristics of Conventional Electric Ovens	18
9. TEST METHODS FOR EVALUATING STRUCTURAL CHARACTERISTICS OF ELECTRIC RANGE COMPONENTS.....	21
9.1 Test Method for Evaluating Structural Characteristics of Cooking Top.....	21
9.2 Test Method for Evaluating Structural Characteristics of Glass/Ceramic Cooking Tops	22
9.3 Test Method for Evaluating Structural Characteristics of Oven Doors.....	22
9.4 Test Method for Evaluating Structural Characteristics of Oven Racks	23
9.5 Test Method for Evaluating the Horizontal Positioning of the Oven Compartment	23
10. SUGGESTED GUIDELINES FOR USE AND APPLICATION OF MATERIALS AND FINISHES	24
10.1 Materials and Finishes Applicable to Cooktops and Oven Linings	24
10.2 Materials and Finishes Applicable to Unexposed Surfaces of Cooktops and Oven Linings	24
10.4 Materials and Finishes Applicable to Unexposed Surfaces of All Other Range Parts.....	25
11. SUGGESTED GUIDELINES FOR INSTALLATION AND SERVICING AIDS.....	25
11.1 Electrical Schematic Diagrams	25
11.2 Standard Space Dimensions for Free-Standing Range Connections	25
12. SAFETY CHARACTERISTICS AND TESTS.....	25
APPENDIX A	26
APPENDIX B	27
APPENDIX C	28
APPENDIX D	29
APPENDIX E.....	30
APPENDIX F.....	31
APPENDIX G.....	32

1. PURPOSE

This standard establishes a uniform, repeatable procedure or standard method for evaluating the performance of household electric ranges as indicated in Section 2.

The standard methods provide a means to compare and evaluate different brands and models of household electric ranges regarding characteristics significant to product use.

The standard methods are not intended to inhibit improvement and innovation in product testing, design or performance.

2. SCOPE

This standard applies to household electric ranges: free-standing ranges equipped with surface units and one or more ovens; built-in combinations of surface units and one or more ovens; wall-mounted ovens with one or more ovens; built-in ovens with one or more ovens; and counter-mounted surface assemblies. Microwave oven performance is not included.

Hereinafter, the word "range" will apply to all the above types unless otherwise specified.

3. DEFINITIONS

3.1 Definitions of Operations Performed on Range Products

3.1.1 Oven Cooking

3.1.1.1 Baking. To cook food by a combination of radiated, convected and conducted heat.

3.1.1.2 Broiling. To cook food by exposure to radiant heat.

3.1.1.3 Roasting. To cook meat by a combination of radiated, convected and conducted heat with a minimum of moisture present.

3.1.2 Surface Cooking.

To cook food by heat conducted through a cooking container (utensil).

3.1.2.1 Boiling. To cook food using water as a medium to assist in conducting heat.

3.1.2.2 Frying. To cook food using oil or fat as a medium to assist in conducting heat.

3.1.3 Oven Cleaning

3.1.3.1 Pyrolytic Self-Cleaning Oven. A cooking compartment that uses a process whereby the cooking soil is reduced to light ash during a separate high temperature cycle.

The remaining ash is removable with a damp cloth.

3.1.3.2 Continuous Cleaning Oven. Oven soil is gradually reduced to a presentably clean condition on porous porcelain enamel (3.5.1.2) during normal baking or roasting operations.