

ABYC A-1 July, 2013

Equipment Division Standard
Thermal Appliance Project Technical
Committee

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the standards and Technical information reports.

# ABYC A-1

# MARINE LIQUEFIED PETROLEUM GAS (LPG) SYSTEMS



A-1 7/13

## THERMAL APPLIANCE PROJECT TECHNICAL COMMITTEE

Robert Newsome, Chairman

Mike Adler Douglas Cowie Kim MacCartney
Po Chang Ralph Lambrecht Thomas Schultz

This list represents the membership at the time the Committee was balloted.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All contact regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at <a href="mailto:comments@abycinc.org">comments@abycinc.org</a>.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

## **REQUEST FOR INTERPRETATIONS**

Upon written request, the Thermal Appliance PTC will render an interpretation of any requirement of the Standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The Committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.

# A-1 MARINE LIQUEFIED PETROLEUM GAS (LPG) SYSTEMS

# **Table of Contents**

1.1	PURPOSE	1
1.2	SCOPE	1
1.3	REFERENCES	1
1.4	DEFINITIONS	2
1.5	GENERAL REQUIREMENTS	2
1.6	IGNITION PROTECTION	3
1.7	CYLINDERS, VALVES, AND SAFETY DEVICES	
1.8	LPG LOCKERS	4
1.9	FUEL LINES	
1.10	INSTALLATION TESTS	6
1.11	SAFETY SIGNS AND LABELS	6
	APPENDIX	7
	Origin and Development of A-1, Marine Liquefied Petroleum (LPG) Systems	9

A-1 7/13

# A-1 MARINE LIQUEFIED PETROLEUM GAS (LPG) SYSTEMS

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all systems and associated equipment manufactured and/or installed after July 31, 2014.

### 1.1 **PURPOSE**

This standard is a guide for the design, construction, installation, and maintenance of liquefied petroleum gas (LPG) systems on boats.

### 1.2 **SCOPE**

This standard applies to liquefied petroleum gas (LPG) systems used for cooking, heating, air conditioning, and refrigeration on all boats up to the point of interface with the appliance. These standards do not apply to liquefied petroleum gas (LPG) systems used for internal combustion engines on boats.

#### **NOTES:**

- 1. The U.S. Coast Guard has promulgated regulations set for LPG systems on inspected vessels (e.g. small passenger vessels). See 46 CFR, Chapter I, Sub-chapter T, Sub-part B, Section 184.240.
- 2. Requirements for marine compressed natural gas (CNG) systems are covered by <u>ABYC A-22 Marine</u> <u>Compressed Natural Gas (CNG) Systems.</u>
- 3. Requirements for marine liquefied petroleum (LPG) fueled galley stoves are covered by <u>ABYC A-3 Galley</u> Stoves.
- 4. Requirements for LPG appliances, other than galley stoves, are covered by <u>ABYC A-26 LPG and CNG Fueled Appliances.</u>
- 5. Requirements for cooking appliances with integral LPG cylinders are covered by <u>ABYC A-30 Cooking</u> Appliances with Integral LPG Cylinders.

# 1.3 **REFERENCES**

The following publications form a part of this standard. Unless otherwise noted the latest version of referenced standards shall apply.

1.3.1 ABYC - American Boat & Yacht Council, 613 Third Street, Suite 10, Annapolis, MD 21403 Phone: (410) 990-4460 Fax: (410) 990-4466. Web site: www.abycinc.org

ABYC A-3, Galley Stoves

ABYC A-22, Marine Compressed Natural Gas (CNG) Systems

ABYC A-26, LPG and CNG Fueled Appliances

ABYC A-30, Cooking Appliances with Integral LPG Cylinders

ABYC H-27, Seacocks, Thru-Hull Connections and Drain Plugs

ABYC T-5, Safety Signs and Labels

- 1.3.2 ASME American Society of Mechanical Engineers, 3 Park Avenue, New York, NY 10016-5990 Phone: (212) 591-7722. Web site: <a href="https://www.asme.org">www.asme.org</a>
- 1.3.3 ASTM American Society for Testing and Materials, 100 Barr Harbor Drive, W. Conshohocken, PA 19428 Phone: (610) 832-9585. Web site: <a href="https://www.astm.org">www.astm.org</a>

ASTM B88-75a, Specifications for Seamless Copper Water Tube