

ANSI®
Z124.9 - 2004
Revision of
ANSI Z124.9 - 1994

**American National Standard
for Plastic Urinal Fixtures**



Secretariat
**International Association of
Plumbing and Mechanical Officials**

Approved February 19, 2004
American National Standards Institute, Inc.

American National Standard

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Foreword (This Foreword is not a part of American National Standard for Plastic Urinal Fixtures)

Production of gel-coated glass-fiber reinforced Plastic Plumbing Fixtures began in 1956. The immediate need for standard specifications was answered by the issuance, in 1959, of Commercial Standards CS 221-59 for bathtubs and CS 222-59 for shower receptors. These standards served as the basis of product acceptance by the Federal Housing Administration (FHA) and code writing agencies.

In 1962 the development of a needed industry standard was undertaken by the NAHB Research Institute and a Reinforced Plastics Industry Advisory Board with the cooperation and assistance of the Society of the Plastics Industry. In July 1963, the NAHB Research Institute issued a new standard for tub-shower units which constituted an extensive revision of CS 221-59 and was the first performance-type standard for such products.

In December 1965, the NAHB Research Foundation, Inc., continuing the work of the NAHB Research Institute, issued a revised standard for bathtub units and a standard for shower receptors and stalls. These standards were considered by those most interested to be worthy of approval as an American National Standard, and the need for their application nationally was self-evident. Accordingly, they were submitted to the Standards Institute in 1965 and approved on April 5, 1967 as American National Standard for Gel-Coated Glass-Fiber Reinforced Polyester Resin Bathtub Units, Z124.1-1967 and Gel-Coated Fiberglass Reinforced Polyester Resin Shower Receptors and Shower Stalls, Z124.2-1967.

The sponsor also asked for the establishment of an American National Standards Committee, which was approved as American National Standards Committee Z124.

Use of American National Standards Z124.1 and Z124.2 has resulted, over the years, in constructive suggestions which have been incorporated in these standards. Many of the requirements given in these standards evolved out of field experience with new materials and manufacturing techniques. Therefore, these standards have been expanded, listing separate areas of pertinent tests and performance requirements for such materials and techniques. They also cover the revision and addition of test methods and performance requirements.

In October 1978, the International Association of Plumbing and Mechanical Officials (IAPMO) assumed the secretariat's position to continue the work already in progress.

The continuation of work resulted in the revision and updating of Z124.1 for Plastic Bathtubs and Z124.2 for Plastic Shower Receptors and Shower Stalls. These standards were forwarded to American National Standards Institute. Formal adoption was May 1, 1980.

Grab bars, slip resistance and fire and smoke are of prime concerns to the Z124 Committee. In 1985, reference to grab bars were included in both the bathtub and shower standards. In 1992, the Committee, after extensive study, decided to add an Appendix to the Z124 standards in regards to fire and smoke. At that time, the 1991 addendum was removed from the standards because no evidence was found that plastic plumbing fixtures contributed to or caused fires. Since the Appendix is not a formal part of the standard, it is for information only. The consensus of the Committee was that the combustibility concerns of plastic plumbing fixtures had been adequately addressed by the addition of the Appendix. Work is continuing on slip resistance and fire and smoke requirements.

A new standard for Plastic Lavatories, which had been started by a Task Group in early 1975, was also completed and forwarded to American National Standards Institute in September 1979. The formal adoption date was May 21, 1980, and resulted in American National Standard Z124.3 for Plastic Lavatories.

At the request of HUD, a Task Committee developed a standard for Plastic Water Closet Bowls and Tanks. It was completed and forwarded to ANSI and formally adopted May 30,

1983, as American National Standard Z124.4.

The Standard for Plastic Toilet (Water Closet) Seats which was started in November 8, 1983 was completed and forwarded to the American National Standards Institute on February 15, 1989. The formal adoption date was August 24, 1989 and resulted in American National Standards Institute, Standard Z124.5 for Plastic Toilet (Water Closets) Seats.

The Standard for Plastic Sinks which was started in April 1986 was completed and forwarded to American National Standards Institute on July 1989. The formal adoption date was December 13, 1990 and resulted in American National Standard Z124.6 for Plastic Sinks.

The Standard for Plastic Bathtub Liners which was started in 1985 was completed and forwarded to the American National Standards Institute in June, 1990. The formal adoption date was October, 1990 and resulted in American National Standards Institute, Standard Z124.8 for Plastic Bathtub Liners.

Other standards which are appropriate for the scope of the Z124 Standards are also under development.

The Z124 Committee had grown from the original 1962 Committee of eleven industry members to a full consensus balanced Committee of twenty two producer members and twenty two general interest, consumer, and distributor membership.

Suggestions for improvement of these Z124 standards are always welcome. They should be sent to the International Association of Plumbing and Mechanical Officials, 5001 East Philadelphia Street, Ontario, CA 91761.

This standard was processed and approved for submittal to ANSI by American National Standards Committee on Synthetic Organic Materials in Plumbing Fixtures, Z124. Committee approval of the standard does not necessarily imply that all Committee members voted for its approval. At the time it approved this standard, the Z124 Committee had the following members:

Michael T. Kobel, Chairman
Lloyd Klusendorf, Secretary

<i>Organization Represented</i>	<i>Name of Representative</i>
American Society of Plumbing Engineers	S. Wolfson
American Standard Inc.	P. DeMarco
Aqua Bath Co., Inc.	G. McAllister
	B. Yeager (Alt.)
Aristech Chemical Corporation	E. Minghetti
	R. S. Tieman (Alt.)
Better Bath Components, Inc.	B. Mitchell
Consultant	C. T. Hicks
Crane Plumbing Universal Rundle, Fiats Products.....	J. Murray
G.E. Plastics	G. Diehl
Gruber Systems	L. Garasi
J.M. Huber / Solem Division	B. Dallum
ICPA	H.P. Toner
	B. Brody (Alt.)
Industrial Testing Laboratories	J. Zivic
International Association of Plumbing and Mechanical Officials	M. T. Kobel
Lucite International, Inc.....	R. W. Gano
Kohler Co.....	S. Rawalpindiwala

<i>Organization Represented</i>	<i>Name of Representative</i>
Maax, Inc.	S. Rouleau
Masco Corporation	W. Pan
	S. Kapelanski (Alt.)
NAHB Research Center, Inc.	C. Arnold
	T. Kenney (Alt.)
National Association of Plumbing, Heating, and Cooling Contractors	R. E. White
National Association of Thermoformers for Manufactured Housing Industry	S. Richardson
National Fiberglass Products, Inc.	K. Salach
National Society of Professional Engineers	W. W. Aird
NSF International	A. Ciechanowski
PSI / Pittsburg Testing Lab	P. Medwig
PW Meikle Consultants	P. W. Meikle
SGS US Testing Co., Inc.	D. Holloway
	J. Simmons (Alt.)
Spartech Plastics	J. L. Payne
Taylor Industries	B. W. Taylor
United Association	S. Cavanaugh
Underwriters Laboratories Inc.	M. E. Carroll
Wterless Co	K. Reichardt

Subcommittee Z124.9 on Plastic Urinal Fixtures, which developed this standard had the following members:

M. T. Kobel, Chairman	C. Arnold	S. Cavanaugh
	P. DeMarco	D. Gleiberman
	M. Klimboff	P.W. Meikle
	S. Rawalapindiwala	K Reichardt
	B.W. Taylor	H.P. Toner
	J. Zivic	

AMERICAN NATIONAL STANDARD FOR PLASTIC URINAL FIXTURES

1. Scope and purpose

1.1 Scope. This standard will cover physical requirements and test methods for performance and in addition, general requirements of materials and workmanship and finish of plastic urinal fixtures.

The materials and equipment which are listed as having been used to conduct the testing procedures in this standard are provided solely for informational reference. Material and equipment of similar design, composition and specification may also be used to conduct these testing procedures.

1.2 Purpose. The purpose of this standard is to establish a nationally recognized standard for plastic urinal plumbing fixtures for the guidance of manufacturers, distributors and purchasers; to promote better understanding between suppliers and users; and to furnish a basis for fair competition in furnishing plastic urinal plumbing fixtures to meet the principal demands of the trade.

1.3 Normative references. The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying most recent editions of the standards indicated below.

ANSI/ICC A117.1-1998, *Accessible and Usable Buildings and Facilities*

ASME/ANSI A112.6.1-1997, *Floor Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use*

ASME/ANSI A112.19.2M-2003, *Vitreous China Plumbing Fixtures*

ASME/ANSI A112.19.6-1995, *Hydraulic Requirements for Water Closets and Urinals*

ASTM D 570-1998, *Standard Test Method for Water Absorption of Plastics*

ASTM D 883-2000, *Standard Terminology Relating to Plastics*

ASTM D 2244-2002, *Test Method for Calculation of Color Tolerances and Color Differences from Instrumentally*

Measured Color Coordinates

ASTM D 2565-1999, *Practice for Xenon Arc Exposure of Plastics Intended for Outdoors Applications*

1.4 Definitions

cycle time: The time beginning at the instant the flush release device is operated and ending at the instant the water supply valve is completely shut off.

discoloration: A colored spot over 1/4 inch (6 mm) in maximum dimensions or a sufficient number of specks or spots to give the effect of a change in color.

fittings: Adjuncts to a fixture subject to selection or options of the purchaser as, for example, flushometer valves and carriers.

fixture: The plastic housing only, without trim and/or fittings.

flushometer valve: A special form of valve located on the water line used in flushing a urinal.

flushing cycle: The complete operating sequence of a urinal in emptying the contents, cleansing the inside surfaces, refilling the water seal and raising the water surface to the level of the trap weir.

flushing surface: The surface, visible after installation, which may be wetted during the operation of the fixture.

integral: A part built as a unit with another part of the fixture, such as a trap.

rim: The unobstructed open edge of a fixture.

rough-in measurement: Dimension from finished wall or floor to center of waste or supply opening or mounting holes.

sanitary: Reasonably acceptable appearance and not necessarily microbiologically clean.

spud: A threaded assembly inserted in the fixture.

static pressure: The pressure at the valve inlet that is exerted under a "no flow" condition.

trap: A fitting, device or integral fixture portion so designed and constructed as to provide a liquid seal which will prevent the back-passage of sewer gas without materially affecting the flow of sewage or waste water through it.

trim: Parts other than plastic regularly supplied with a fixture, as for example, spuds or wall hangers. Trim does not include