

IAPMO/ANSI Z124.5-2006

Revision of ANSI Z124.5-1997

Plastic Toilet (Water Closet) Seats



ANSI Accredited Program
PRODUCT CERTIFICATION

AN AMERICAN NATIONAL STANDARD



IAPMO / ANSI
Z124.5 - 2006
Revision of
ANSI Z124.5 - 1997

**American National Standard
for Plastic Toilet (Water Closet) Seats**



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

Approved December 20, 2006
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 Toilet (Water Closets) Seats)

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, and in 2005, both standards were harmonized. 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.

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 Closet) 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 Prefabricated Plastic Spa Shells which was started in February 1987 was completed and forwarded to the American National Standards Institute in November 1996. The formal adoption date was June 5, 1997 and resulted in American National Standard Z124.7 for Prefabricated Plastic Spa Shells.

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.

The Standard for Plastic Urinal Fixtures which was started in November, 1990 was completed and forwarded to the American National Standards Institute in November, 1993. The formal adoption date was January 25, 1994 and resulted in American National Standards Institute, Standard Z124.9 for Plastic Urinal Fixtures.

Other standards which are appropriate for the scope of the Z124 can also be proposed for development, and suggestion for improvement of these Z124 standards are always welcome. They should be sent to the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.

The Z124 Committee had grown from the original 1962 Committee of eleven industry members to a consensus Committee of thirty - four members.

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:

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This is a preview of "IAPMO/ANSI Z124.5-20...". [Click here to purchase the full version from the ANSI store.](#)

AMERICAN NATIONAL STANDARD FOR PLASTIC TOILET (WATER CLOSET) SEATS

1. Scope and purpose

1.1 Scope. This Standard covers physical requirements and test methods for performance pertaining to structure, water resistance, chemical/stain resistance, ignition testing, cleanability, and other significant properties, in addition to general requirements of materials, workmanship and finish of plastic water closet seats and covers.

While this standard covers the performance requirements of plastic water closet seats and covers and describes those performance requirements in terms of methods of test applicable to all such units, a number of different materials and methods of manufacture shall be permitted to be used to meet the requirements.

The provisions of this standard are not intended to prevent the use of any alternate material or method of construction provided any such alternate meets the intent of this standard.

1.2 Purpose. The purpose of this standard is to establish minimum performance requirements for plastic water closet seats and covers.

Conformance to this standard and test procedures herein shall indicate the acceptability of plastic water closet seats and covers.

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.

ASTM B 117-03, *Salt spray (fog) testing*

ASTM D 883-00, *Standard terminology of terms relating to plastics*

2. Definitions

2.1 Water closet seat and cover definitions

bumper: Extensions of the seat or cover which act as a spacer and a cushion, and may be either separately attached or integrally molded.

edge: Lowermost surface of the toilet seat or cover side, front or rear profile.

seat's parting line: Parting lines are the result of an injection or compression molding process. These lines are a visual reference of the separation of the top half and the bottom half of tooling.

specification seat dimensions: Length is determined by the distance from the mounting bolt centers to the front edge of the seat (refer to Fig. 1). This size is normally determined as not less than the water closet bowl contour although certain proprietary designs may require special shapes and sizes

toilet seat: The component on which a person sits while using the water closet. Products may be of the regular or elongated sizes, with or without cover, with open or closed front or back.

cover: Optional addition to the toilet seat.

elongated size: This classification is determined by the approximate 470 mm (18-1/2") distance from the two (2) mounting holes to the front edge of the water closet. See Figure 1.

open back: This type seat provides a notched opening at the rear of the seat.

open front: This type seat provides an open area at the front of the seat.

regular size: This classification is determined by the approximate 419 mm (16-1/2") distance from the two (2) mounting holes to the front edge of the water closet. See Figure 1.

2.2 Toilet seat component definitions

bolt: A bolt is an externally threaded fastener designed for mounting the seat assembly to the water closet.

hardware: All components required to attach hinge or hinge posts to water closets. Amount of components varies with the many different seat types.

hinge: That portion of the assembly which allows the rotation of the seat or seat and cover.

layback or list: Is the angle of the toilet seat at the point of rotation stoppage beyond the vertical balance position.

pivot pin: That portion of the assembly about which the rotation takes place.

screw: A screw is an externally threaded fastener.