



Designation: F446 – 19 (Reapproved 2023)

# Standard Consumer Safety Specification for Grab Bars and Accessories Installed in the Bathing Area<sup>1</sup>

This standard is issued under the fixed designation F446; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

## INTRODUCTION

This consumer safety specification addresses certain bathing area accidents that were identified by the U. S. Consumer Product Safety Commission (CPSC), specifically those which might have been prevented by the presence of adequate grab bars. This specification also addresses the safe performance required of accessory items installed in the bathing area.

Available data from the National Electronic Injury Surveillance System (NEISS) were studied by Abt Associates, Inc., with assistance from Researchitects Inc., and reported to the CPSC. This information was made available to ASTM Task Group F15.03. It was reviewed along with other information appropriate to the subject and became the basis for developing this specification.

The information reviewed indicated that slips and falls frequently occur while entering or leaving the tub, while changing between a sitting or standing position, or while moving around in the bathing area. This specification establishes parameters as to strength, location, and general requirements of grab bars and accessories to assist movement and reduce hazards in the bathing area.

## 1. Scope

1.1 This consumer safety specification covers performance requirements, test methods, and levels of performance to ensure satisfactory functioning of the grab bars and accessory items (not including plumbing controls) during reasonable use to assist a person entering, leaving, or moving within the bathing area.

1.2 This consumer safety specification is intended to reduce the number of accidents by specifying requirements for grab bars and accessories designed to decrease the probability of slips and falls.

1.3 This consumer safety specification does not address the specific need of gang showers, island tubs, peninsula tubs, sunken tubs, or tubs 6 ft (1.8 m) or longer.

1.4 This consumer safety specification exempts shower stalls with both interior dimensions of 34 in. (864 mm) or less.

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.03 on Safety Standards for Bathtub and Shower Structures.

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1.6 The following precautionary caveat pertains only to the test method portion, Section 7, of this specification. *This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Definitions

2.1 *back wall*—wall opposite the exit-entry side of a tub or shower (see Figs. 1-4).

2.2 *bathing area*—bathing space that consists of a tub, tub-shower, or shower stall bounded by four walls, real or imaginary, extending vertically to the ceiling from the outside edge of the tub or stall (see Figs. 1-4).

2.3 *bathing area accessories*—towel bars, towel rings, soap holders, towel utility shelves, and other similar devices that are intended to be permanently affixed to surfaces and used in the bathing area.

2.4 *critical support area*—that portion of the back, service, or nonservice wall in which support would most likely be

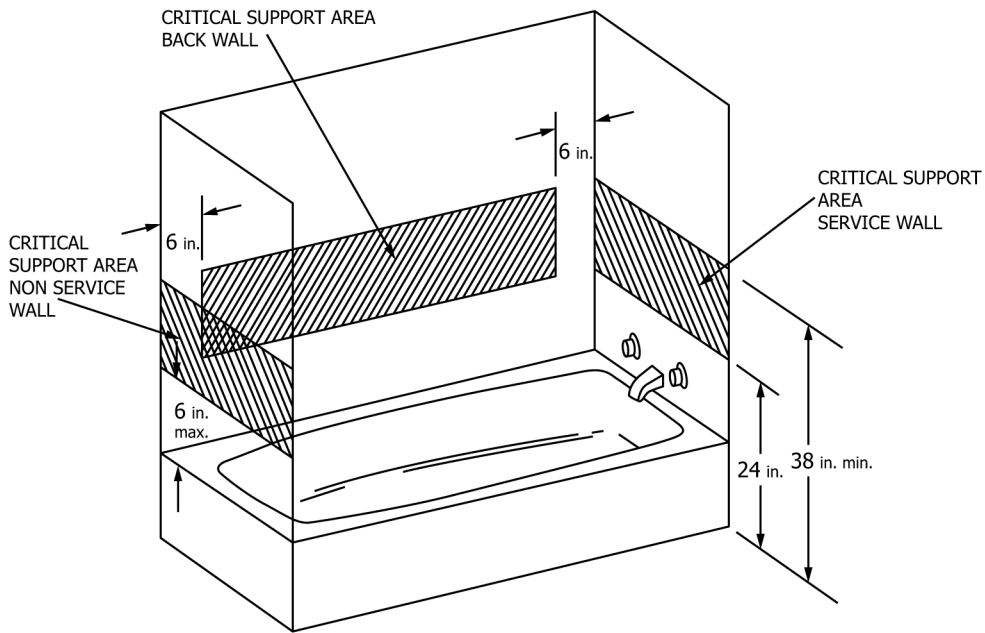


FIG. 1 Recessed Tub Bathing Area

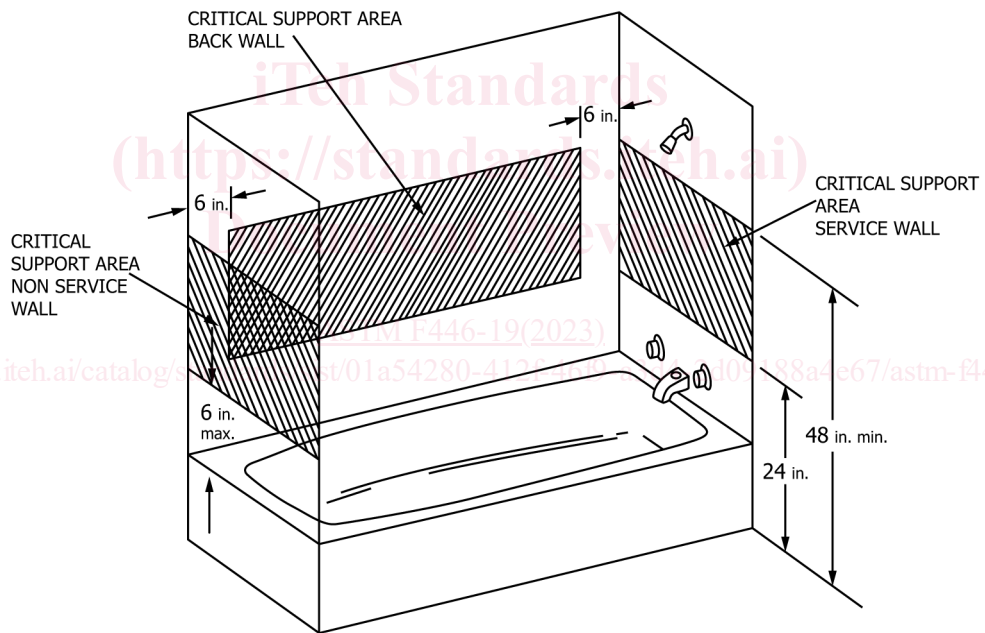


FIG. 2 Recessed Tub-Shower Bathing Area

beneficial in four different bathing areas (see Figs. 1-4 for specific requirements in this area).

2.5 *grab-bar*—bar or similar device made for the purpose of assisting a person in movement within the bathing area and for assistance in entering or exiting the bathing area. Sometimes referred to in the industry as hand holds.

2.6 *nonservice wall*—any wall excluding the back wall within the bathing area that does not contain plumbing service.

2.7 *plumbing controls*—valves, spouts, and shower head or fittings, or both, that allow the user to control the water flow and temperature.

2.8 *potential hazard area*—any surface within the bathing area, including bathtub or shower receptor from tub or shower floor up to 66 in. (1.7 m), which could be contacted by the body in a slip or fall situation.

2.9 *recessed tub*—bathtub enclosed by and attached to two or three walls without shower facilities.

2.10 *service back wall*—wall opposite the exit-entry side of the tub or shower that serves as a back wall as well as the location of controls.

2.11 *service wall*—wall within the bathing area upon which the plumbing controls are located.

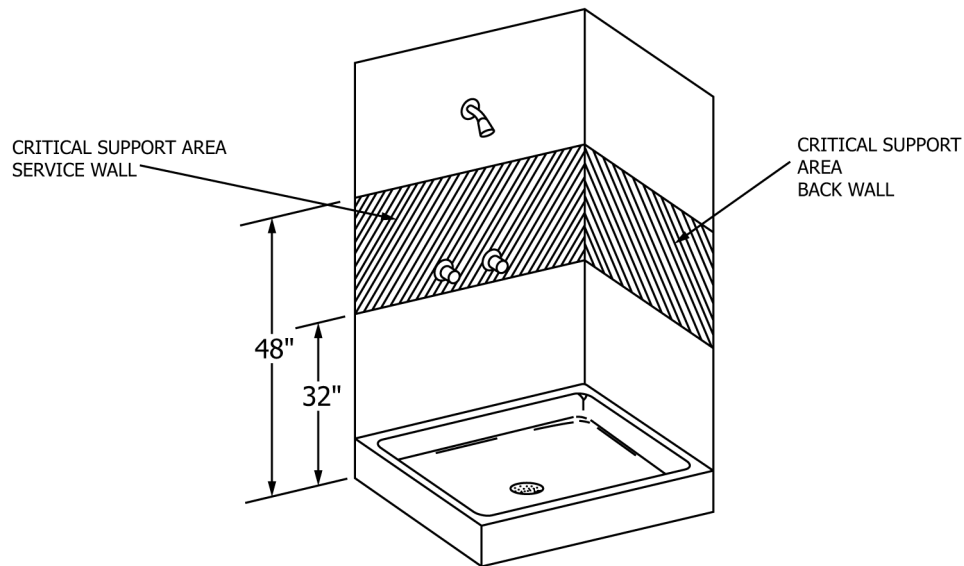


FIG. 3 Two-Wall Stall Shower Bathing Area

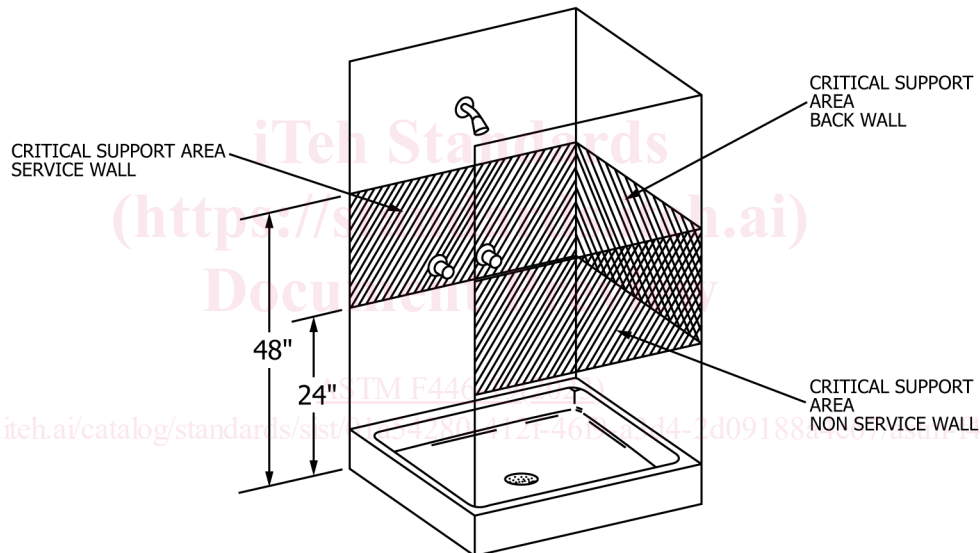


FIG. 4 Three-Wall Stall Shower Bathing Area

2.12 *shower receptor*—basin-like device in a shower that catches the water and directs it into the drain.

2.13 *shower stall*—two- or three-wall enclosure with a shower receptor and plumbing controls for shower bathing.

2.14 *tub-shower*—recessed tub with a shower head.

2.15 *tub or shower entrance area*—place where an individual enters and exits from a tub or shower, or both.

### 3. Compliance

3.1 No grab bar or accessory shall either by label or other means indicate compliance with this specification unless it conforms to all requirements contained herein.

### 4. General Requirements

4.1 Grab bars, accessories, their fastening devices, and trim shall be free of exposed burrs, sharp edges, and pinch points when mounted in their functional positions.

4.2 Grab bars are to be installed in the critical support area in accordance with 5.1.1 – 5.2.

4.3 Accessories mounted in the potential hazard area shall meet the requirements of 4.5 if they project more than 1 in. (25 mm). Projecting soap dishes without rails or bars are exempt when installed outside of the critical support area.

4.4 All grab bars or accessories shall have flanges or other devices to allow mounting to a wall with suitable fasteners or products.

4.5 All grab bars or accessories in the potential hazard area that project more than 1 in. (25 mm) when properly installed shall support a static load of at least 250 lbf (1.1 kN) when tested in accordance with Section 7.

4.6 Grab bars or projecting accessory bars shall not rotate more than 1/16 of a turn within their holding devices.