PRODUCT STANDARD PS6-66
TRIM FOR WATER-CLOSET BOWLS, TANKS AND URNIALS
(DIMENSIONAL STANDARDS)

Product Standard (PS) 6-66 (supersedes Commercial Standard CS172-50), Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards was withdrawn by the Department of Commerce on August 18, 1980.

This product standard was replaced by the American National Standard Institute (ANSI) Standard A112.19.5, Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards).

For technical assistance and standards information contact:

American National Standard Institute (ANSI)
25 West 43rd Street, Fourth Floor
New York, NY 10038
Telephone: (212) 642-4900
Fax: (212) 398-0023

456-66
Full Copy

National Bureau of Standards

Announcement of Withdrawal of Voluntary Product Standards

AGENCY: Department of Commerce, National Bureau of Standards.

ACTION: Announcement of Withdrawal of Voluntary Product Standards.

In a separate notice appearing in this issue of the Federal Register, the Department of Commerce (Department) announced the issuance of revised Procedures for the Development of Voluntary Product Standards (15 CFR Part 10). Section 10.13 of those revised Procedures calls for the withdrawal of all Voluntary Product Standards which had been published by the Department prior to the effective date of the revised Procedures. Section 10.13 also provides that the effective date of the withdrawal of such standards will be 60 days following publication of the notice announcing the issuance of the revised Procedures unless within that 60-day period, interested parties submit a request to the Director of the National Bureau of Standards to retain a particular standard or standards.

Accordingly, this notice announces the withdrawal of the Voluntary Product Standards listed below effective August 18, 1980. One of the six criteria for Department of Commerce sponsorship of a Voluntary Product Standard is the availability of adequate reimbursable funding from one or more proponent organizations. The Director of the National Bureau of Standards invites interested parties to propose funding arrangements for those Voluntary Product Standards which they wish to have retained. The request to retain a standard must also address the other five criteria for Department sponsorship established in section 10.0(b) of the revised Procedures.

Currently, there are in effect 80 documents classified as Voluntary Product Standards. Of these, 52 are referenced as Product Standards (PS), 23 as Commercial Standards (CS), and 5 as Simplified Practice Recommendations (R). The designation and titles of the Voluntary Product Standards being withdrawn by this notice are:

PS 1–74 Construction and Industrial Plywood
PS 4–66 Standard Stock Light-Duty 1⅜- and 1¾-inch Thick Flush-type Interior Steel Doors and Frames
* PS 6–66 Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards)
PS 13–69 Uncord Slab Urethane Foam for Bedding and Furniture Cushioning
PS 15–69 Custom Contact-Molded Reinforced-Polyester Chemical-Resistant Process Equipment
PS 17–69 Polyethylene Sheeting (Construction, Industrial and Agricultural Applications)
PS 20–70 American Softwood Lumber Standard
PS 23–70 Horticultural Grade Perlite
PS 24–70 Melamine Dinnerware (Alpha-Cellulose Filled) for Household Use
PS 25–70 Heavy-Duty Alpha-Cellulose-Filled Melamine Tableware
PS 26–70 Rigid Poly (Vinyl Chloride) (PVC) Profile Extrusions
PS 27–70 Mosaic-Parquet Hardwood Slat Flooring
PS 28–70 Glass Stopcocks with Polytetrafluoroethylene (PTFE) Plugs
PS 29–70 Plastic Heat-Shrinkable Film
PS 30–70 School Chalk
PS 31–70 Polystyrene Plastic Sheet
PS 34–70 Fluorinated Ethylene-Propylene (FEP) Plastic Lined Steel Pipe and Fittings
PS 36–70 Body Measurements for the Sizing of Boys' Apparel
PS 38–70 Steel Bi-fold Closet Door Units, Frames, and Trim
PS 40–70 Package Quantities of Green Olives
PS 41–70 Package Quantities of Instant Mashed Potatoes
PS 42–70 Body Measurements for the Sizing of Women's Patterns and Apparel
PS 43–71 Fluorinated Ethylene-Propylene (FEB) Plastic Tubing
PS 44–71 Paper Ice Bag Sizes
PS 45–71 Body Measurements for the Sizing of Apparel for Young Men (Students)
PS 46–71 Flame-Resistant Paper and Paperboard
PS 47–71 Heat-Shrinkable Fluorocarbon Plastic Tubing
PS 48–71 Package Quantities of Cubed, Sized, Crushed, and Block Ice
PS 49–71 Portable Picnic Coolers
PS 50–71 Package Quantities of Toothpaste
PS 51–71 Hardwood and Decorative Plywood
PS 52–71 Polytetrafluoroethylene (PTFE) Plastic Tubing
PS 53–72 Glass-Fiber Reinforced Polyester Structural Plastic Panels
PS 54–72 Body Measurements for the Sizing of Girls' Apparel
PS 55–72 Rigid Poly (Vinyl Chloride) (PVC) Plastic Siding
PS 56–73 Structural Glued Laminated Timber
PS 57–73 Cellulosic Fiber Insulation Board
PS 58–73 Basic Hardboard
PS 59–73 Prefinished Hardboard Paneling
PS 60–73 Hardboard Siding
PS 62–74 Grading of Diamond Powder in Sub-Sieve Sizes
PS 63–75 Latex Foam Mattresses for Hospitals
PS 64–75 School Paste
PS 65–75 Paints and Inks for Art Education in Schools
PS 66–75 Safety Requirements for Home Playground Equipment
PS 67–76 Marking of Gold Filled and Rolled Gold Plate Articles Other than Watchcases
PS 68–76 Marking of Articles Made of Silver in Combination with Gold
PS 69–76 Marking of Articles Made Wholly or in Part of Platinum
PS 70–76 Marking of Articles Made of Karat Gold
PS 71–76 Marking of Jewelry and Novelties of Silver
PS 72–76 Toy Safety
PS 73–77 Carbonated Soft Drink Bottles
CS 5–65 Pipe Nipples; Brass, Copper, Steel, and Wrought Iron
CS 11–63 Moisture Regain of Cotton Yarns
CS 21–58 Interchangeable Taper-Ground Joints, Stopcocks, Stoppers, and Spherical-Ground Joints
CS 46–65 Hosiery Lengths and Sizes Excluding Women's
CS 75–56 Automatic Mechanical-Draft Oil Burners Designed for Domestic Installations
CS 98–62 Artists' Oil Paints
CS 130–60 Color Materials for Art Education in Schools
CS 138–55 Insect Wire Screening
CS 151–50 Body Measurements for the Sizing of Apparel for Infants, Babies, Toddlers and Children (for the Knit Underwear Industry)
CS 191–53 Flammability of Clothing Textiles
CS 192–53 General Purpose Vinyl Plastic Film
CS 201–55 Rigid Polyvinyl Chloride Sheets
CS 202–56 Industrial Lifts and Hinged Loading Ramps
CS 209–57 Vinyl Chloride Plastics Garden Hose
CS 227–59 Polyethylene Film
CS 234–61 Measurements for Stretch Socks and Anklets
CS 236–66 Mat-Formed Wood Particleboard
CS 242–62 Standard Stock Commercial 1¾-Inch Thick Steel Doors and Frames
CS 245–62 Vinyl-Metal Laminates
CS 257–63 TFE-Flourocarbon (Polytetrafluoroethylene) Resin Molded Basic Shapes
CS 268–65 Hide Trim Pattern for Domestic Cattlehides

PRODUCT STANDARD **PS6–66**

(Supersedes Commercial Standard CS172–50)

TRIM FOR WATER-CLOSET BOWLS, TANKS AND URINALS

(Dimensional Standards)

A RECORDED VOLUNTARY
STANDARD OF THE TRADE

U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, D.C. 20402 - Price 10 cents

U.S. DEPARTMENT OF COMMERCE

JOHN T. CONNOR, *Secretary*

NATIONAL BUREAU OF STANDARDS

A. V. ASTIN, *Director*

Office of Engineering Standards Services

EFFECTIVE DATE

Having been passed through the regular procedures of the Office of Commodity Standards (now the Office of Engineering Standards Services, National Bureau of Standards) and approved by the acceptors hereinafter listed, this Product Standard is issued by the National Bureau of Standards, effective *November 1, 1966.*

A. V. ASTIN, *Director.*

PRODUCT STANDARDS

Product Standards are developed by manufacturers, distributors, and users in cooperation with the Office of Engineering Standards Services of the National Bureau of Standards. The purpose of a Product Standard may be either (1) to establish standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; or (2) to establish quality criteria, standard methods of testing, rating, certifying, and labeling of manufactured products.

The adoption and use of a Product Standard is voluntary. However, when reference to a Product Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

Product Standards usually originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Office of Engineering Standards Services, the necessary data to be used as the basis for developing a standard of practice. The Office, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedures of the office assures continuous servicing of each Product Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

The initial printing of Product Standard PS6–66 was made possible through the cooperation of the Plumbing Fixture Manufacturers Association.

Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards)

[Effective date November 1, 1966]

1. PURPOSE AND SCOPE

1.1 The purpose of this Commercial Standard is to establish a basis for dimensional interchangeability for those items of trim for water-closet bowls, tanks, and urinals known as spuds, lock nuts for spuds, flush valves for staple low tanks, float valves, flush elbows, and coupling nuts. It is also intended to provide a basis for understanding between buyers and sellers for the dimensions and tolerances that govern the fit of trim in the fixtures and connecting parts of trim.

2. REQUIREMENTS

2.1 **Standard dimensions.**—The dimensions given in the following illustrations and tables are standard. Thread profiles and tolerances shall conform to the requirements of Screw Thread Standards For Federal Services,[1] and American Standards Association Specifications,[2] B1.1–1960, Screw Threads and B2.1–1960, Pipe Threads (Except Dryseal) or the same as may later be amended.

3. IDENTIFICATION

3.1 **Labels and literature.**—In order that the purchaser may be assured that the trim purchased actually complies with all requirements of this Product Standard, it is recommended that manufacturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

> This trim complies with all requirements of PS6–66, as developed under the procedures of the Office of Engineering Standards Services, and published by the National Bureau of Standards.
>
> Or, more briefly
>
> Conforms to PS6–66, published by the National Bureau of Standards.
>
> Note: The name of articles that conform may be substituted for the word "trim."

[1] Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.
[2] Copies may be obtained from the American Standards Association, Inc., 10 East 40th Street, New York, N.Y. 10016.

HISTORY OF PROJECT

In a letter dated April 8, 1965, the Plumbing Fixture Manufacturers Association requested the cooperation of the Office of Commodity Standards (now the Office of Engineering Standards Services, National Bureau of Standards) in the revision of Commercial Standard CS172–50, Brass Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards), and submitted a draft of the proposed revision prepared by the Standards Committee of that organization. The principal changes in the revision consisted of the standardization of the threads for such trim to comply with the latest requirements of Screw Thread Standards for Federal Services, and American Standards B1.1–1960, Screw Threads, and B2.1–1960, Pipe Threads (Except Dryseal). The word "brass" was deleted from the title of the standard to provide latitude for the use of plastics for such trim.

A draft of the recommended revision was prepared by the Office of Commodity Standards and approved by a majority of the Standing Committee. Subsequently the Office of Commodity Standards circulated the Recommended Revision of Commercial Standard CS172–50, Trim for Water-Closet Bowls, Tanks and Urinals (Dimensional Standards), TS–5677A, to the trade for comment and acceptance on January 21, 1966. Acceptances were received representing a satisfactory majority of the industry.

The Office of Engineering Standards Services announced on September 26, 1966, that the standard had been approved for publication and designated Product Standard PS6–66, effective November 1, 1966.

Project Manager: D. R. Stevenson, Office of Engineering Standards Services, National Bureau of Standards.

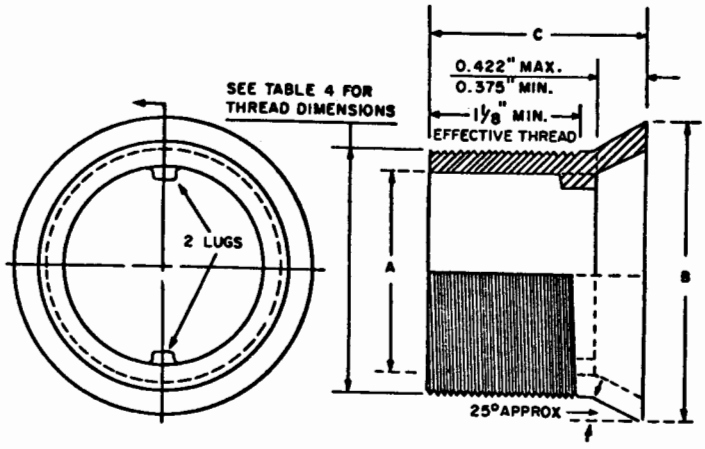


Figure 1. Regular Spuds

Table 1. Dimensions of regular spuds (inches)

Size of spud and thread size	A		B		C
	Max.	Min.	Max.	Min.	(nominal)
2	2.06	2.03	2.72	2.62	1.75
1-1/2	1.59	1.53	2.25	2.16	1.62
1-1/4	1.31	1.28	2.00	1.93	1.62

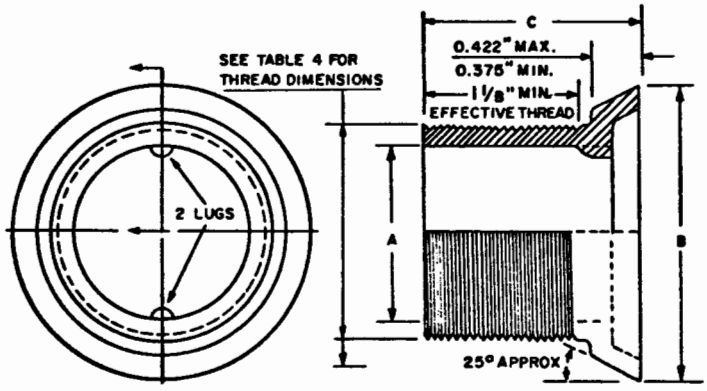


Figure 2. Reducing Spuds

Table 2. Dimensions of reducing spuds (inches)

Size of reducing Spud [1]	A		B		C
	Max.	Min.	Max.	Min.	(nominal)
2 x 1-1/2	1.58	1.53	2.72	2.62	1.62
2 x 1-1/4	1.38	1.28	2.72	2.62	1.62
1-1/2 x 1-1/4	1.38	1.28	2.25	2.16	1.62
1-1/4x 3/4	.81	.78	2.00	1.93	1.50
1 x 3/4	.81	.78	1.57	1.50	1.50

[1] The smaller dimension is the thread size.

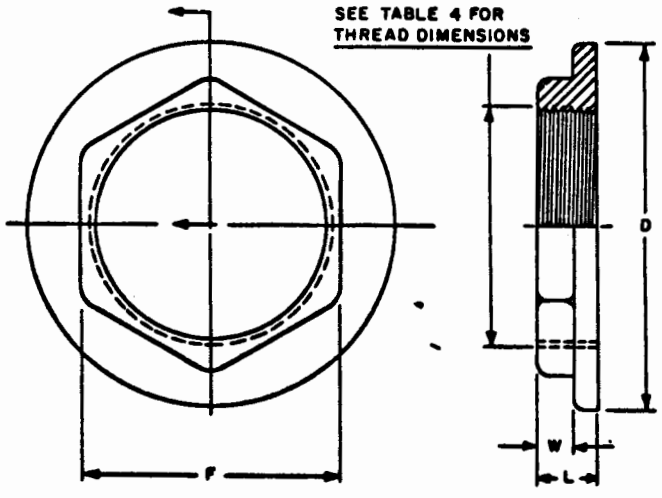
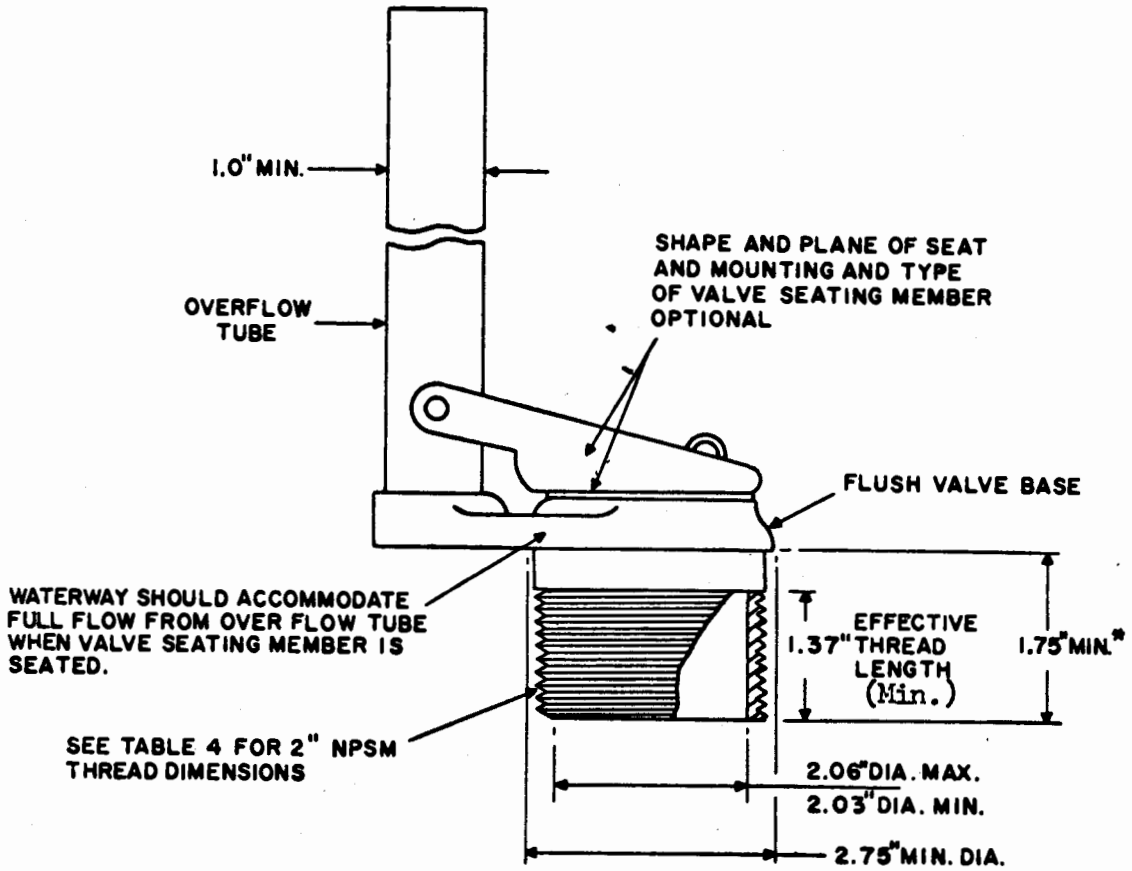


Figure 3. Lock Nuts for Spuds

Table 3. Dimensions of Lock Nuts for Spuds (inches)

Size of Locknut	D Min.	F		L Min.	W Min.
		Max.	Min.		
2	3.00	2.52	2.44	.34	.25
2 x 1-1/2	3.00	2.06	2.00	.34	.25
2 x 1-1/4	3.00	1.84	1.75	.34	.25
1-1/2	2.50	2.12	2.00	.34	.25
1-1/2 x 1-1/4	2.50	1.84	1.75	.34	.25
1-1/4	2.25	1.84	1.75	.31	.22
1-1/4 x 3/4	2.25	1.28	1.25	.31	.22
1 x 3/4	1.88	1.28	1.25	.31	.22



* This minimum dimension may vary for close-coupled tanks.

Figure 4. Flush Valves for Staple Tanks

Table 4. Threads on Spuds, Lock Nuts, and Coupling Nuts for Water Closets and Urinals
(Including Reducing Spuds)

(Dimensions in Inches)

External Threads

Nominal Shank Size	External Thread Designation	Major Diameter		Pitch Diameter	
		Max.	Min.	Max.	Min.
2	2" - 11-1/2 - NPSM	2.351	2.339	2.2944	2.2882
1-1/2	1-1/2" - 11-1/2 - NPSM	1.877	1.865	1.8205	1.8144
1-1/4	1-1/4" - 11-1/2 - NPSM	1.638	1.626	1.5816	1.5756
3/4	3/4" - 14 - NPSM	1.034	1.024	0.9873	0.9820

Internal Threads

Nominal Size	Internal Thread Designation	Minor Diameter		Pitch Diameter	
		Min.	Max.	Min.	Max.
2	2" - 11-1/2 - NPSM	2.259	2.268	2.2963	2.3044
1-1/4	1-1/2" - 11-1/2 - NPSM	1.785	1.794	1.8223	1.8302
1-1/4	1-1/4" - 11-1/2 - NPSM	1.546	1.555	1.5834	1.5912
3/4	3/4" - 14 - NPSM	0.958	0.970	0.9889	0.9958

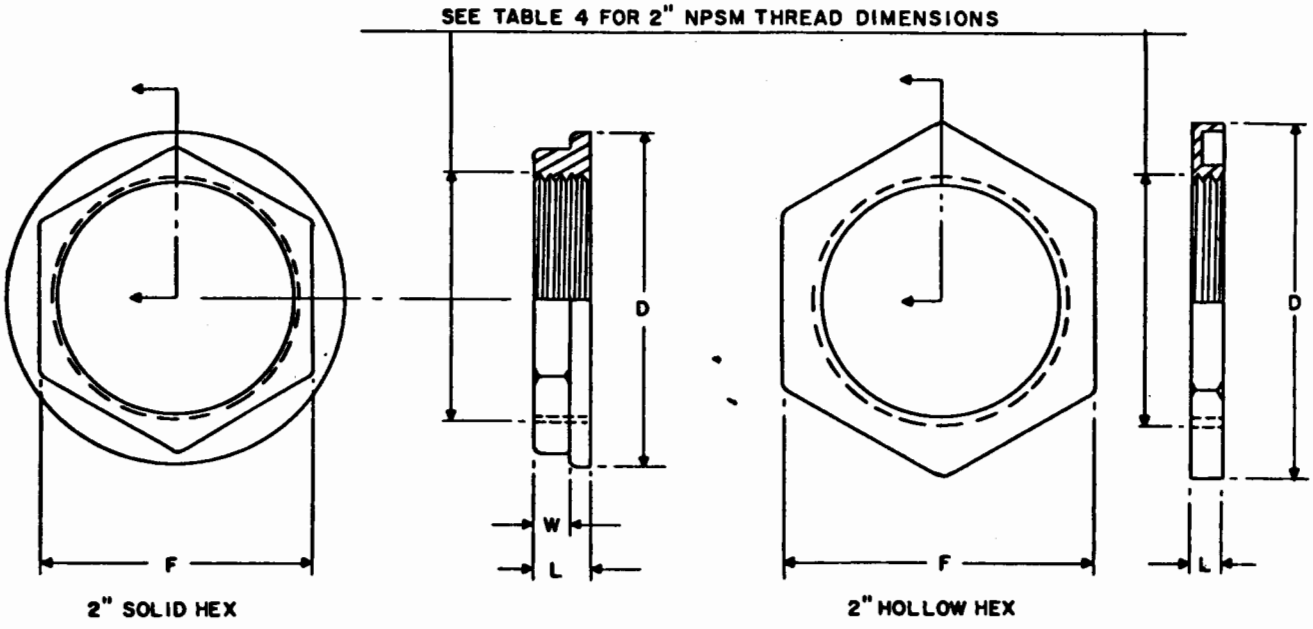


Figure 5. Flush Valve Locknuts

Table 5. Flush Valve Locknuts

Size and Style Locknut	D	F		L		W
	Min.	Max.	Min.	Min.	Max.	Min.
2" Solid Hex.	3.00	2.50	2.44	.25	.375	.25
2" Hollow Hex.	3.375	3.00	2.875	.25	.375	

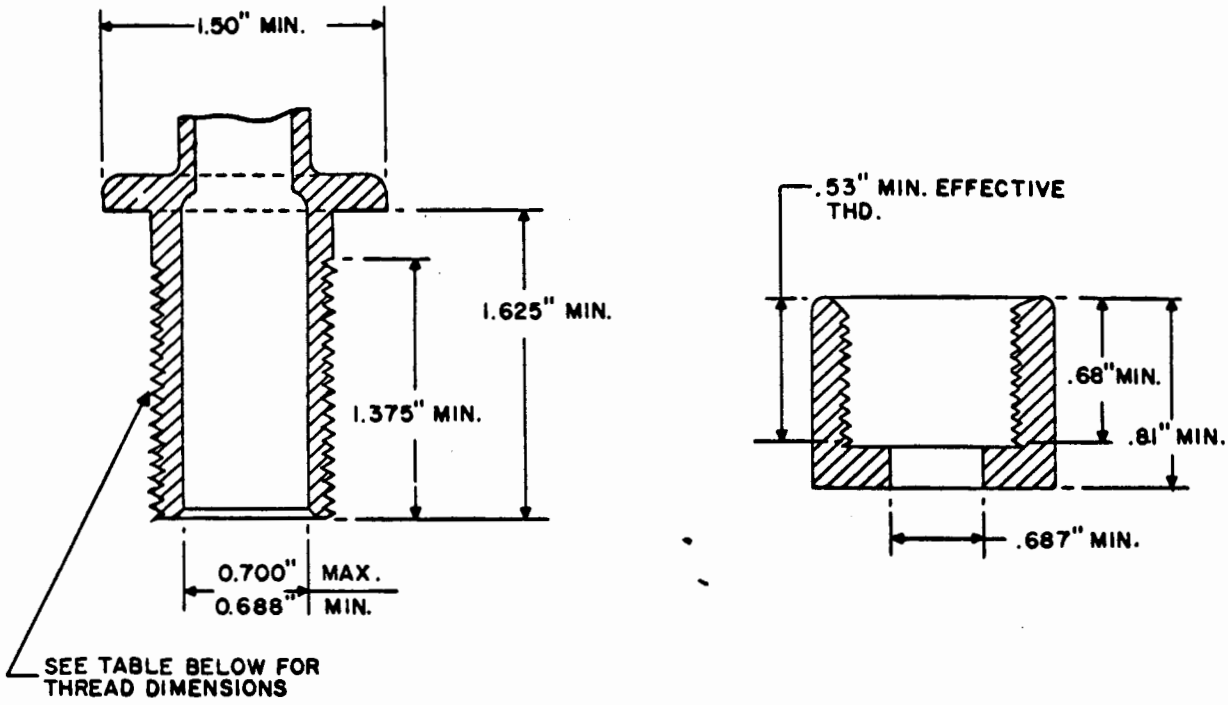


Figure 6. Float valve shanks and nuts.

Table 6. Threads on Float Valve Shanks and Nuts
(Dimensions in Inches)

Float Valve Shanks

Nominal shank size	External Thread Designation	Major diameter of shank		Pitch diameter of shank	
		Max.	Min.	Max.	Min.
15/16	15/16"-14NS-1	0.9354	0.9214	0.8890	0.8820

Float Valve Lock Nuts and Coupling Nuts

Nominal size	Internal Thread Designation	Pitch diameter of nut		Minor diameter of nut	
		Min.	Max.	Min.	Max.
15/16	15/16"-14NS-1	0.8911	0.8981	0.8602	0.8679

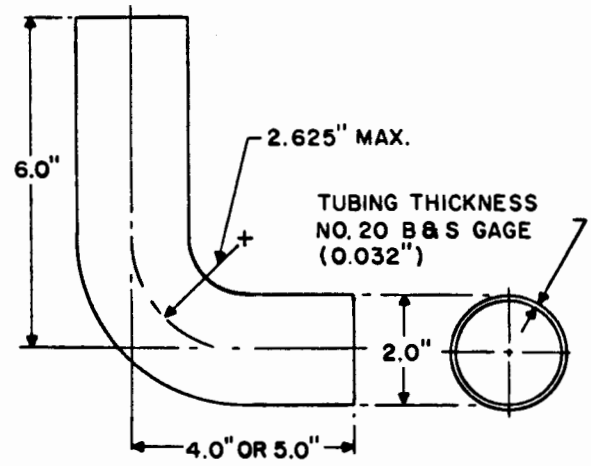


Figure 7. Flush Elbows

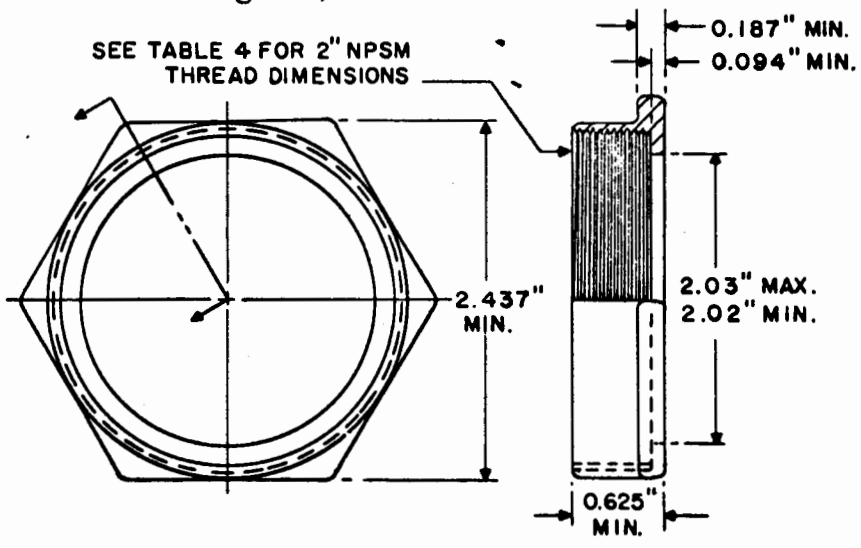


Figure 8. Two-inch Coupling Nuts

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the Committee or to the Office of Engineering Standards Services, National Bureau of Standards which acts as Secretary for the Committee.

Myron J. Ament, Eljer Plumbingware Division, The Murray Corp. of America, 1301 Third Avenue, Ford City, Pa. 16226.

Fred C. Alexander, Universal-Rundle Corp., New Castle, Pa.

E. W. Breese, Hajoca Corp., Post Office Box 31, Ardmore, Pa.

F. Morgan Brown, Western Plumbing Officials Association, Post Office Box 247, South Pasadena, Calif. 91031.

T. W. Hawley, Scovill Manufacturing Co., 99 Mill Street, Waterbury, Conn. 06720.

J. H. Peery, Central Supply Association, 221 North La Salle Street, Chicago, Ill. 60601.

James I. Kennedy, Kennedy-Scheidel-Young, Inc., 243 East 44th Street, New York, N.Y. 10017 (representing National Association of Master Plumbers).