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ASME-B16.21

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ASME B16.21-1992

(REVISION OF ANSI B16.21-1978)

Nonmetallic Flat Gaskets for Pipe Flanges

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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AN AMERICAN NATIONAL STANDARD

Nonmetallic Flat Gaskets for Pipe Flanges

ASME B16.21-1992

(REVISION OF ANSI B16.21-1978)

The American Society of Mechanical Engineers

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FOREWORD

(This Foreword is not part of ASME B16.21-1992.)

Several years ago the Standards and Specifications Committee of the Mechanical Packing Association started work on a standard for nonmetallic or cut gaskets for bronze, iron, and steel pipe flanges. Up to that time the individual sizes of gaskets were made to many different sets of dimensions, based on different concepts of adaption and functional use on the part of consumers as well as manufacturers. In some cases dimensions were shown in American Standards.

Dimensions of gaskets being used were collected, and a basic design philosophy for sizing was formulated by the committee. This was the result of extensive field research experience and accepted standard user requirements. The procedure followed was to dimension the gasket for each type and size of flange so as to prevent the gasket from projecting into the line of flow. Dimensional tolerances of standard pipe flanges and fittings as to ID, OD, and bolting were all considered.

Suggested dimensional standards were tabulated and distributed for industry comment. After several revisions a final draft, dated September 15, 1948, was approved by the Mechanical Packing Association for submission as an American Standard.

Sectional Committee (B16) on the Standardization of Pipe Flanges and Fittings was organized in 1921 under the procedure of the American Standards Association, with the Heating, Piping, and Air Conditioning Contractors' National Association, Manufacturers' Standardization Society of the Valve and Fittings Industry, and The American Society of Mechanical Engineers as joint sponsors.

Sectional Committee B16 received the proposal on May 9, 1949, and assigned it to a joint group of Subcommittees 1 and 3. The Manufacturers' Standardization Society was also consulted as the proposal included gaskets for bronze flanges made to their Standard Practice SP-2. This joint group offered a revision of the original design concept for sizing which was acceptable to the Mechanical Packing Association's Committee (now the Fluid Sealing Association). The standard was approved as an American Standard on December 5, 1951, with the designation ASA B16.21-1951.

In 1961, the standard was reviewed by the members of Subcommittee No. 7 on Gaskets and proposals for revision and updating the standard were agreed upon. The American Standards Assocation granted approval of the revision on March 20, 1962 following sectional committee and sponsor approval.

In the mid-1960's work was begun on a revision. The revision became a complete rewrite and included gaskets for API Std 605, MSS SP-44 and SP-51 as well as complete metric equivalents for all dimensions. Following its approval by the B16 Standards Committee and Co-Secretariat organizations, this Standard was approved as an American National Standard by ANSI on May 2, 1978.

In 1982, American National Standards Committee B16 was reorganized as an ASME Committee operating under procedures accredited by ANSI.

In 1989, general revisions were begun to reflect the current size ranges covered by the corresponding flange standards. Gasket dimensions for tongue and groove, male and

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female and Rating Classes above 900 were deleted because a survey indicated these nonmetallic gaskets were almost never used for these joints. Tolerances to the dimensions were added.

Following approval by the Standards Committee and ASME, approval as an American National Standard was given by ANSI on March 16, 1992, with the new designation ASME B16.21-1992.

All requests for interpretations or suggestions for revisions should be sent to the Administrative Secretary B16, The American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

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NONMETALLIC FLAT GASKETS FOR PIPE FLANGES

1 SCOPE

This Standard for nonmetallic flat gaskets for bolted flanged joints in piping includes:
(*a*) types and sizes;
(*b*) materials;
(*c*) dimensions and allowable tolerances.

2 TYPES

Dimensions are provided for the following types of gaskets which are suitable for use with the flange facings indicated:

Gasket Type	Flange Facing
full face	flat face flanges
flat ring	raised face

3 SIZES

The sizes of flanges for which dimensions are given in the tables are included in the standards listed under para. 5.3.[1] Those sizes are expressed in nominal pipe size (NPS) as described in ANSI/ASME B36.10 M.

4 MATERIALS

4.1 Composition

Gaskets shall be made of resilient or pliable materials. Metal may be incorporated as reinforcing or filler material.

4.2 Service Requirements

Selection of a suitable material for a given service is the responsibility of the user, subject to the requirements of the referenced standard (see para. 5.3) and any applicable code or government regulation. The material selected shall be compatible with the fluid and suitable for the pressure-temperature conditions of the service.

5 DIMENSIONS

5.1 Thickness

Selection of gasket thickness is the responsibility of the user, considering the properties of the gasket material as well as the intended service application.

5.2 Diameters

The tabulated diameters are based on the following:
(*a*) The outside diameter of flat ring gaskets is equal to the bolt circle diameter minus the bolt diameter so that the gasket is centered in the flange bolts.
(*b*) The outside diameter of full face gaskets is equal to the flange outside diameter.
(*c*) The inside diameter of all gaskets is equal to the outside diameter of pipe required by ANSI/ASME B36.10M.[2]

5.3 Dimensional Tables

Tables are provided for each of the following referenced flange standards.

5.3.1 ASME/ANSI B16.1 Cast Iron Pipe Flanges and Flanged Fittings

(*a*) Table 1 (Class 25) and Table 2 (Class 125) provide dimensions for flat rung and full face gaskets.
(*b*) Table 3 (Class 250) provides dimensions for flat ring gaskets.

[1]Standards and specifications referenced in this Standard are listed in Annex A. The specific edition is not identified in text references. Instead, the edition reference is specified in Annex A.

[2]The user may require that the inside diameter of the gasket matches the inside diameter of the pipe.

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TABLE 1 GASKET DIMENSIONS FOR ASME/ANSI B16.1 CLASS 25 CAST IRON PIPE FLANGES AND FLANGED FITTINGS

			Full Face Gasket			
Nominal Pipe Size	Gasket ID	Flat Ring OD	OD	Number of Holes	Hole Diameter	Bolt Circle Diameter
4	4.50	6.88	9.00	8	0.75	7.50
5	5.56	7.88	10.00	8	0.75	8.50
6	6.62	8.88	11.00	8	0.75	9.50
8	8.62	11.12	13.50	8	0.75	11.75
10	10.75	13.62	16.00	12	0.75	14.25
12	12.75	16.38	19.00	12	0.75	17.00
14	14.00	18.00	21.00	12	0.88	18.75
16	16.00	20.50	23.50	16	0.88	21.25
18	18.00	22.00	25.00	16	0.88	22.75
20	20.00	24.25	27.50	20	0.88	25.00
24	24.00	28.75	32.00	20	0.88	29.50
30	30.00	35.12	38.75	28	1.00	36.00
36	36.00	41.88	46.00	32	1.00	42.75
42	42.00	48.50	53.00	36	1.12	49.50
48	48.00	55.00	59.50	44	1.12	56.00
54	54.00	61.75	66.25	44	1.12	62.75
60	60.00	68.12	73.00	52	1.25	69.25
72	72.00	81.38	86.50	60	1.25	82.50
84	84.00	94.25	99.75	64	1.38	95.50
96	96.00	107.25	113.25	68	1.38	108.50

GENERAL NOTE: Dimensions are in inches.

5.3.2 ASME/ANSI B16.5 Pipe Flanges and Flanged Fittings

(*a*) Dimensions in Tables 4 and 5 also apply to flanged valves (ASME/ANSI B16.34).

(*b*) Table 4 (Class 150) provides dimensions for flat ring and full face gaskets.

(*c*) Table 5 (Classes 300, 400, 600, and 900) provides dimensions for flat ring gaskets.

5.3.3 ASME B16.24 Cast Copper Alloy Pipe Flanges and Flanged Fittings. Table 6 provides dimensions for full face gaskets.

5.3.4 ASME B16.47 Large Diameter Steel Flanges

(*a*) Table 7 provides flat ring gasket dimensions for Series A (formerly MSS SP-44) flanges, Classes 150, 300, 400, and 600.

(*b*) Table 8 provides flat ring gasket dimensions for Series B (formerly API Standard 605) flanges, Classes 75, 150, 300, 400, and 600.

5.3.5 MSS SP-51 Class 150 LW Corrosion Resistant Cast Flanges and Flanged Fittings

(*a*) Table 9 provides dimensions for full face gaskets.

(*b*) These dimensions apply also to MSS SP-42 valves.

6 TOLERANCES

Outside diameter
NPS 12 and smaller: +zero, −0.06 in.
NPS 14 and larger: +zero, −0.12 in.

Inside diameter
NPS 12 and smaller: ±0.06 in.
NPS 14 and larger: ±0.12 in.

Bolt circle diameter: ±0.06 in.

Center-to-center of adjacent bolt holes: ±0.03 in.

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TABLE 2 GASKET DIMENSIONS FOR ASME/ANSI B16.1 CLASS 125 CAST IRON PIPE FLANGES AND FLANGED FITTINGS

			Full Face Gasket			
Nominal Pipe Size	Gasket ID	Flat Ring OD	OD	Number of Holes	Hole Diameter	Bolt Circle Diameter
1	1.31	2.62	4.25	4	0.62	3.12
1¼	1.66	3.00	4.62	4	0.62	3.50
1½	1.91	3.38	5.00	4	0.62	3.88
2	2.38	4.12	6.00	4	0.75	4.75
2½	2.88	4.88	7.00	4	0.75	5.50
3	3.50	5.38	7.50	4	0.75	6.00
3½	4.00	6.38	8.50	8	0.75	7.00
4	4.50	6.88	9.00	8	0.75	7.50
5	5.56	7.75	10.00	8	0.88	8.50
6	6.62	8.75	11.00	8	0.88	9.50
8	8.62	11.00	13.50	8	0.88	11.75
10	10.75	13.88	16.00	12	1.00	14.25
12	12.75	16.12	19.00	12	1.00	17.00
14	14.00	17.75	21.00	12	1.12	18.75
16	16.00	20.25	23.50	16	1.12	21.25
18	18.00	21.62	25.00	16	1.25	22.75
20	20.00	23.88	27.50	20	1.25	25.00
24	24.00	28.25	32.00	20	1.38	29.50
30	30.00	34.75	38.75	28	1.38	36.00
36	36.00	41.25	46.00	32	1.62	42.75
42	42.00	48.00	53.00	36	1.62	49.50
48	48.00	54.50	59.50	44	1.62	56.00

GENERAL NOTE: Dimensions are in inches.

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TABLE 3 FLAT RING GASKET DIMENSIONS FOR ASME/ANSI B16.1 CLASS 250 CAST IRON PIPE FLANGES AND FLANGED FITTINGS

Nominal Pipe Size	Gasket ID	Flat Ring OD	Nominal Pipe Size	Gasket ID	Flat Ring OD
1	1.31	2.88	12	12.75	16.62
1¼	1.66	3.25	14	14.00	19.12
1½	1.91	3.75	16	16.00	21.25
2	2.38	4.38	18	18.00	23.50
2½	2.88	5.12	20	20.00	25.75
3	3.50	5.88	24	24.00	30.50
3½	4.00	6.50	30	30.00	37.50
4	4.50	7.12	36	36.00	44.00
5	5.56	8.50	42	42.00	50.75
6	6.62	9.88	48	48.00	58.75
8	8.62	12.12			
10	10.75	14.25			

GENERAL NOTE: Dimensions are in inches.

TABLE 4 GASKET DIMENSIONS FOR ASME/ANSI B16.5 CLASS 150 PIPE FLANGES AND FLANGED FITTINGS

Nominal Pipe Size	Gasket ID	Flat Ring OD	Full Face Gasket				Nominal Pipe Size	Gasket ID	Flat Ring OD	Full Face Gasket			
			OD	No. of Holes	Hole Diameter	Bolt Circle Diameter				OD	No. of Holes	Hole Diameter	Bolt Circle Diameter
½	0.84	1.88	3.50	4	0.62	2.38	8	8.62	11.00	13.50	8	0.88	11.75
¾	1.06	2.25	3.88	4	0.62	2.75	10	10.75	13.38	16.00	12	1.00	14.25
1	1.31	2.62	4.25	4	0.62	3.12	12	12.75	16.13	19.00	12	1.00	17.00
1¼	1.66	3.00	4.63	4	0.62	3.50	14	14.00	17.75	21.00	12	1.12	18.75
1½	1.91	3.38	5.00	4	0.62	3.88	16	16.00	20.25	23.50	16	1.12	21.25
2	2.38	4.12	6.00	4	0.75	4.75	18	18.00	21.62	25.00	16	1.25	22.75
2½	2.88	4.88	7.00	4	0.75	5.50	20	20.00	23.88	27.50	20	1.25	25.00
3	3.50	5.38	7.50	4	0.75	6.00	24	24.00	28.25	32.00	20	1.38	29.50
3½	4.00	6.38	8.50	8	0.75	7.00							
4	4.50	6.88	9.00	8	0.75	7.50							
5	5.56	7.75	10.00	8	0.88	8.50							
6	6.62	8.75	11.00	8	0.88	9.50.							

GENERAL NOTE: Dimensions are in inches.

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TABLE 5 FLAT RING GASKET DIMENSIONS FOR ASME/ANSI B16.5 PIPE FLANGES AND FLANGED FITTINGS, CLASSES 300, 400, 600, AND 900

Nominal Pipe Size	Gasket ID	Gasket OD			
		Class 300	Class 400	Class 600	Class 900
½	0.84	2.12	2.12	2.12	2.50
¾	1.06	2.62	2.62	2.62	2.75
1	1.31	2.88	2.88	2.88	3.12
1¼	1.66	3.25	3.25	3.25	3.50
1½	1.91	3.75	3.75	3.75	3.88
2	2.38	4.38	4.38	4.38	5.62
2½	2.88	5.12	5.12	5.12	6.50
3	3.50	5.88	5.88	5.88	6.62
3½	4.00	6.50	6.38	6.38	...
4	4.50	7.12	7.00	7.62	8.12
5	5.56	8.50	8.38	9.50	9.75
6	6.62	9.88	9.75	10.50	11.38
8	8.62	12.12	12.00	12.62	14.12
10	10.75	14.25	14.12	15.75	17.12
12	12.75	16.62	16.50	18.00	19.62
14	14.00	19.12	19.00	19.38	20.50
16	16.00	21.25	21.12	22.25	22.62
18	18.00	23.50	23.38	24.12	25.12
20	20.00	25.75	25.50	26.88	27.50
24	24.00	30.50	30.25	31.12	33.00

GENERAL NOTE: Dimensions are in inches.

TABLE 6 FULL FACE GASKET DIMENSIONS FOR ASME B16.24 CAST COPPER ALLOY PIPE FLANGES AND FLANGED FITTINGS, CLASSES 150 AND 300

Nominal Pipe Size	Gasket ID	Class 150 Gaskets				Class 300 Gaskets			
		OD	Number of Holes	Hole Diameter	Bolt Circle Diameter	OD	Number of Holes	Hole Diameter	Bolt Circle Diameter
½	0.84	3.50	4	0.62	2.38	3.75	4	0.62	2.62
¾	1.06	3.88	4	0.62	2.75	4.62	4	0.75	3.25
1	1.31	4.25	4	0.62	3.12	4.88	4	0.75	3.50
1¼	1.66	4.62	4	0.62	3.50	5.25	4	0.75	3.88
1½	1.91	5.00	4	0.62	3.88	6.12	4	0.88	4.50
2	2.38	6.00	4	0.75	4.75	6.50	8	0.75	5.00
2½	2.88	7.00	4	0.75	5.50	7.50	8	0.88	5.88
3	3.50	7.50	4	0.75	6.00	8.25	8	0.88	6.62
3½	4.00	8.50	8	0.75	7.00	9.00	8	0.88	7.25
4	4.50	9.00	8	0.75	7.50	10.00	8	0.88	7.88
5	5.56	10.00	8	0.88	8.50	11.00	8	0.88	9.25
6	6.62	11.00	8	0.88	9.50	12.50	12	0.88	10.63
8	8.62	13.50	8	0.88	11.75	15.00	12	1.00	13.00
10	10.75	16.00	12	1.00	14.25	...	...	...	...
12	12.75	19.00	12	1.00	17.00	...	...	...	...

GENERAL NOTE: Dimensions are in inches.

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TABLE 7 FLAT RING GASKET DIMENSIONS FOR ASME B16.47 SERIES A LARGE DIAMETER STEEL FLANGES, CLASSES 150, 300, 400, AND 600

Nominal Pipe Size	ID	OD			
		Class 150	Class 300	Class 400	Class 600
22 (1)	22.00	26.00	27.75	27.63	28.88
26	26.00	30.50	32.88	32.75	34.12
28	28.00	32.75	35.38	35.12	36.00
30	30.00	34.75	37.50	37.25	38.25
32	32.00	37.00	39.62	39.50	40.25
34	34.00	39.00	41.62	41.50	42.25
36	36.00	41.25	44.00	44.00	44.50
38	38.00	43.75	41.50	42.26	43.50
40	40.00	45.75	43.88	44.58	45.50
42	42.00	48.00	45.88	46.38	48.00
44	44.00	50.25	48.00	48.50	50.00
46	46.00	52.25	50.12	50.75	52.26
48	48.00	54.50	52.12	53.00	54.75
50	50.00	56.50	54.25	55.25	57.00
52	52.00	58.75	56.25	57.26	59.00
54	54.00	61.00	58.75	59.75	61.25
56	56.00	63.25	60.75	61.75	63.50
58	58.00	65.50	62.75	63.75	65.50
60	60.00	67.50	64.75	66.25	67.75

GENERAL NOTE: Dimensions are in inches.

NOTE:
(1) NPS 22 for reference only. Size not listed in ASME B16.47.

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TABLE 8 FLAT RING GASKET DIMENSIONS FOR ASME B16.47 SERIES B LARGE DIAMETER STEEL FLANGES, CLASSES 75, 150, 300, 400, AND 600

Nominal Pipe Size	Gasket ID	Gasket OD				
		Class 75	Class 150	Class 300	Class 400	Class 600
26	26.00	27.88	28.56	30.38	29.38	30.12
28	28.00	29.88	30.56	32.50	31.50	32.25
30	30.00	31.88	32.56	34.88	33.75	34.62
32	32.00	33.88	34.69	37.00	35.88	36.75
34	34.00	35.88	36.81	39.12	37.88	39.25
36	36.00	38.31	38.88	41.25	40.25	41.25
38	38.00	40.31	41.12	43.25	...	...
40	40.00	42.31	43.12	45.25	...	...
42	42.00	44.31	45.12	47.25	...	...
44	44.00	46.50	47.12	49.25	...	...
46	46.00	48.50	49.44	51.88	...	...
48	48.00	50.50	51.44	53.88	...	...
50	50.00	52.50	53.44	55.88	...	...
52	52.00	54.62	55.44	57.88	...	...
54	54.00	56.62	57.62	61.25	...	...
56	56.00	58.88	59.62	62.75	...	...
58	58.00	60.88	62.19	65.19	...	...
60	60.00	62.88	64.19	67.12	...	...

GENERAL NOTE: Dimensions are in inches.

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TABLE 9 FULL FACE GASKET DIMENSIONS FOR MSS SP-51 CLASS 150LW CORROSION RESISTANT CAST FLANGES AND FLANGED FITTINGS

Nominal Pipe Size	Gasket ID	Gasket OD	Number of Holes	Hole Diameter	Bolt Circle Diameter
¼	0.56	2.50	4	0.44	1.69
⅛	0.69	2.50	4	0.44	1.69
½	0.84	3.50	4	0.62	2.38
¾	1.06	3.88	4	0.62	2.75
1	1.31	4.25	4	0.62	3.12
1¼	1.66	4.62	4	0.62	3.50
1½	1.91	5.00	4	0.62	3.88
2	2.38	6.00	4	0.75	4.75
2½	2.88	7.00	4	0.75	5.50
3	3.50	7.50	4	0.75	6.00
4	4.50	9.00	8	0.75	7.50
5	5.56	10.00	8	0.88	8.50
6	6.62	11.00	8	0.88	9.50
8	8.62	13.60	8	0.88	11.75
10	10.75	16.00	12	1.00	14.25
12	12.75	19.00	12	1.00	17.00
14	14.00	21.00	12	1.12	18.75
16	16.00	23.50	16	1.12	21.25
18	18.00	25.00	16	1.25	22.75
20	20.00	27.50	20	1.25	25.00
24	24.00	32.00	20	1.38	29.50

GENERAL NOTE: Dimensions are in inches.

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ANNEX A
REFERENCES

(This Annex is an integral part of ASME B16.21, which is placed after the main text for convenience.)

The following is a list of standards and specifications referenced in this Standard, showing the year of approval.

ASME Publications (Approved as American National Standards)

ASME/ANSI B16.1-1989	Cast Iron Pipe Flanges and Flanged Fittings
ASME/ANSI B16.5-1988	Pipe Flanges and Flanged Fittings
ASME B16.24-1991	Cast Copper Alloy Pipe Flanges and Flanged Fittings
ASME/ANSI B16.34-1988	Valves — Flanged, Threaded, and Welding End
ASME B16.47-1990	Large Diameter Steel Flanges
ANSI/ASME B36.10M-1985	Welded and Seamless Wrought Steel Pipe

API Standards

API Std 605-1980	Large Diameter Carbon Steel Flanges

MSS Standards

MSS SP-42-1985	Class 150 Corrosion Resistant Gate, Globe, Angle, and Check Valves with Flanged and Butt Weld Ends
MSS SP-44-1990	Steel Pipe Line Flanges
MSS SP-51-1986	Class 150LW Corrosion Resistant Cast Flanges and Flanged Fittings

Publications of the following organization appear on the above list:

ASME	The American Society of Mechanical Engineers 345 East 47th Street New York, New York 10017
API	American Petroleum Institute 1220 L Street, N.W. Washington, D.C. 20005
MSS	Manufacturers' Standardization Society of the Valve and Fittings Industry, Inc. 127 Park Street, N.E. Vienna, Virginia 22180

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Publications appearing above which have been approved as American National Standards may also be obtained from:

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AMERICAN NATIONAL STANDARDS FOR PIPING, PIPE FLANGES, FITTINGS, AND VALVES

Scheme for the Identification of Piping Systems ..... A13.1-1981(R1985)
Pipe Threads, General Purpose (Inch) ..... B1.20.1-1983(R1992)
Dryseal Pipe Threads (Inch) ..... B1.20.3-1976(R1991)
Cast Iron Pipe Flanges and Flanged Fittings B16.1-1989
Malleable Iron Threaded Fittings, Class 150 and 300 ..... B16.3-1985
Cast Iron Threaded Fittings, Classes 125 and 250 ..... B16.4-1985
Pipe Flanges and Flanged Fittings B16.5-1988
Factory-Made Wrought Steel Buttwelding Fittings B16.9-1986
Face-to-Face and End-to-End Dimensions of Valves B16.10-1986
Forged Fittings, Socket-Welding and Threaded B16.11-1991
Cast Iron Threaded Drainage Fittings B16.12-1991
Ferrous Pipe Plugs, Bushings, and Locknuts with Pipe Threads B16.14-1991
Cast Bronze Threaded Fittings, Class 125 and 250 ..... B16.15-1985
Cast Copper Alloy Solder Joint Pressure Fittings B16.18-1984
Ring-Joint Gaskets and Grooves for Steel Pipe Flanges B16.20-1973
Nonmetallic Flat Gaskets for Pipe Flanges B16.21-1992
Wrought Copper and Copper Alloy Solder Joint Pressure Fittings B16.22-1989
Cast Copper Alloy Solder Joint Drainage Fittings — DWV B16.23-1992
Cast Copper Alloy Pipe Flanges and Flanged Fittings, Class 150, 300, 400, 600, 900, 1500, and 2500 ..... B16.24-1991
Buttwelding Ends B16.25-1986
Cast Copper Alloy Fittings for Flared Copper Tubes B16.26-1988
Wrought Steel Buttwelding Short Radius Elbows and Returns B16.28-1986
Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings — DWV B16.29-1986
Cast Copper Alloy Solder Joint Fittings for Sovent® Drainage Systems B16.32-1992
Manually Operated Metallic Gas Valves for Use in Gas Piping Systems Up to 125 psig (Sizes ½ Through 2) B16.33-1990
Valves — Flanged, Threaded, and Welding End B16.34-1988
Orifice Flanges B16.36-1988
Large Metallic Valves for Gas Distribution (Manually Operated, NPS 2½ to 12, 125 psig Maximum) ... B16.38-1985
Malleable Iron Threaded Pipe Unions, Classes 150, 250, and 300 ..... B16.39-1986
Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems B16.40-1985
Functional Qualification Requirements for Power Operated Active Valve Assemblies for Nuclear Power Plants ..... B16.41-1983(R1989)
Ductile Iron Pipe Flanges and Flanged Fittings, Class 150 and 300 ..... B16.42-1987
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Cast Iron Fittings for Sovent® Drainage Systems B16.45-1987
Large Diameter Steel Flanges (NPS 26 Through NPS 60) B16.47-1990
Power Piping B31.1-1989
Fuel Gas Piping B31.2-1968
Chemical Plant and Petroleum Refinery Piping B31.3-1990
Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols B31.4-1989
Refrigeration Piping B31.5-1987
Gas Transmission and Distribution Piping Systems B31.8-1989
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ASME Guide for Gas Transmission and Distribution Piping Systems — 1986 (not an ANSI Standard) .....
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Stainless Steel Pipe B36.19M-1985
Self-Operated and Power-Operated Safety-Related Valves Functional Specification Standard .. N278.1-1975(R1984)

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