GORE® Sealant Technologies



# GASKET DIMENSIONS ASME B16.21 - 2021

## Gasket Type: Flat Ring

Dimensions in mm

| Nominal Size NPS | Nominal Size DN | A Standard ID [mm] | B GLS ID [mm] | C NPS ID [mm] | Outside Diameter [mm] Class 150 | Class 300 | Class 400 | Class 600 | Class 900 |
|---|---|---|---|---|---|---|---|---|---|
| ½ | 15 | 21 | 18 | 13 | 48 | 54 | 54 | 54 | 64 |
| ¾ | 20 | 27 | 25 | 19 | 57 | 67 | 67 | 67 | 70 |
| 1 | 25 | 33 | 31 | 25 | 67 | 73 | 73 | 73 | 79 |
| 1 ¼ | 32 | 42 | 38 | 32 | 76 | 83 | 83 | 83 | 89 |
| 1 ½ | 40 | 48 | 46 | 38 | 86 | 95 | 95 | 95 | 98 |
| 2 | 50 | 60 | 57 | 51 | 105 | 111 | 111 | 111 | 143 |
| 2 ½ | 65 | 73 | 70 | 64 | 124 | 130 | 130 | 130 | 165 |
| 3 | 80 | 89 | 85 | 76 | 137 | 149 | 149 | 149 | 168 |
| 3 ½ | 90 | 102 | – | 89 | 162 | 165 | 162 | 162 | – |
| 4 | 100 | 114 | 110 | 102 | 175 | 181 | 178 | 194 | 206 |
| 5 | 125 | 141 | 133 | 127 | 197 | 216 | 213 | 241 | 248 |
| 6 | 150 | 168 | 159 | 152 | 222 | 251 | 248 | 267 | 289 |
| 8 | 200 | 219 | 210 | 203 | 279 | 308 | 305 | 321 | 359 |
| 10 | 250 | 273 | 265 | 254 | 340 | 362 | 359 | 400 | 435 |
| 12 | 300 | 324 | 315 | 305 | 410 | 422 | 419 | 457 | 498 |
| 14 | 350 | 356 | 345 | N/A* | 451 | 486 | 483 | 492 | 521 |
| 16 | 400 | 406 | 390 | N/A* | 514 | 540 | 537 | 565 | 575 |
| 18 | 450 | 457 | 445 | N/A* | 549 | 597 | 594 | 613 | 638 |
| 20 | 500 | 508 | 495 | N/A* | 606 | 654 | 648 | 683 | 699 |
| 24 | 600 | 610 | 595 | N/A* | 718 | 775 | 768 | 791 | 838 |
| 26 | 650 | 660 | – | N/A* | 775 | 835 | 832 | 867 | – |
| 28 | 700 | 711 | – | N/A* | 832 | 899 | 892 | 914 | – |
| 30 | 750 | 762 | – | N/A* | 883 | 953 | 946 | 972 | – |
| 32 | 800 | 813 | – | N/A* | 940 | 1006 | 1003 | 1022 | – |

**ID:** Inside Diameter **GLS:** Glass-Lined Steel **NPS:** Nominal Pipe Size

* NPS ID ("old standard") exists up to NPS12 only. For gaskets larger than NPS12, select Standard ID or GLS ID as appropriate.

**Some sizes may not be available for some GORE® Gasketing products.**

**Dimensions applicable to:**

- ASME B16.5 Pipe Flanges
- ASME B16.47 Series A, Large Diameter Steel Flanges

**Tolerances**

- **Inside Diameter:**
  For NPS 12 and smaller ±1.5 mm
  For NPS 14 and larger ±3.0 mm
- **Outside Diameter:**
  For NPS 12 and smaller +0/–1.5 mm
  For NPS 14 and larger +0/–3.0 mm

**A**

**Standard/ID Option**
ASME B16.21
EN 1514-1

**Comments/Use**
- ID per applicable standard
- General use in steel flanges

**B**

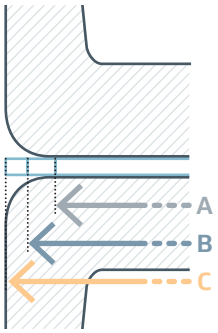
**Standard/ID Option**
ASME B16.21 / GLS ID
EN 1514-1 / GLS ID

**Comments/Use**
- ID reduced to protect glass lining
- Best option for glass lined steel flanges

**C**

**Standard/ID Option**
ASME B16.21 / NPS ID

**Comments/Use**
- ID equals nominal pipe size in inches ("old standard")
- Required for ductile iron pipe and other specialty applications




*Together, improving life*

## Gasket Type: Flat Ring

Dimensions in inch

| Nominal Size NPS | DN | A Standard ID [inch] | B GLS ID [inch] | C NPS ID [inch] | Outside Diameter [inch] Class 150 | Class 300 | Class 400 | Class 600 | Class 900 |
|---|---|---|---|---|---|---|---|---|---|
| ½ | 15 | 0.84 | 0.71 | 0.50 | 1.88 | 2.12 | 2.12 | 2.12 | 2.50 |
| ¾ | 20 | 1.06 | 0.98 | 0.75 | 2.25 | 2.62 | 2.62 | 2.62 | 2.75 |
| 1 | 25 | 1.31 | 1.22 | 1.00 | 2.62 | 2.88 | 2.88 | 2.88 | 3.12 |
| 1 ¼ | 32 | 1.66 | 1.50 | 1.25 | 3.00 | 3.25 | 3.25 | 3.25 | 3.50 |
| 1 ½ | 40 | 1.91 | 1.81 | 1.50 | 3.38 | 3.75 | 3.75 | 3.75 | 3.88 |
| 2 | 50 | 2.38 | 2.24 | 2.00 | 4.12 | 4.38 | 4.38 | 4.38 | 5.62 |
| 2 ½ | 65 | 2.88 | 2.76 | 2.50 | 4.88 | 5.12 | 5.12 | 5.12 | 6.50 |
| 3 | 80 | 3.50 | 3.35 | 3.00 | 5.38 | 5.88 | 5.88 | 5.88 | 6.62 |
| 3 ½ | 90 | 4.00 | – | 3.50 | 6.38 | 6.50 | 6.38 | 6.38 | – |
| 4 | 100 | 4.50 | 4.33 | 4.00 | 6.88 | 7.12 | 7.00 | 7.62 | 8.12 |
| 5 | 125 | 5.56 | 5.24 | 5.00 | 7.75 | 8.50 | 8.38 | 9.50 | 9.75 |
| 6 | 150 | 6.62 | 6.26 | 6.00 | 8.75 | 9.88 | 9.75 | 10.50 | 11.38 |
| 8 | 200 | 8.62 | 8.27 | 8.00 | 11.00 | 12.12 | 12.00 | 12.62 | 14.12 |
| 10 | 250 | 10.75 | 10.43 | 10.00 | 13.37 | 14.25 | 14.12 | 15.75 | 17.12 |
| 12 | 300 | 12.75 | 12.40 | 12.00 | 16.13 | 16.62 | 16.50 | 18.00 | 19.62 |
| 14 | 350 | 14.00 | 13.58 | N/A* | 17.75 | 19.12 | 19.00 | 19.38 | 20.50 |
| 16 | 400 | 16.00 | 15.35 | N/A* | 20.25 | 21.25 | 21.12 | 22.25 | 22.62 |
| 18 | 450 | 18.00 | 17.52 | N/A* | 21.62 | 23.50 | 23.38 | 24.12 | 25.12 |
| 20 | 500 | 20.00 | 19.49 | N/A* | 23.88 | 25.75 | 25.50 | 26.88 | 27.50 |
| 24 | 600 | 24.00 | 23.43 | N/A* | 28.25 | 30.50 | 30.25 | 31.12 | 33.00 |
| 26 | 650 | 26.00 | – | N/A* | 30.50 | 32.88 | 32.75 | 34.12 | – |
| 28 | 700 | 28.00 | – | N/A* | 32.75 | 35.38 | 35.12 | 36.00 | – |
| 30 | 750 | 30.00 | – | N/A* | 34.75 | 37.50 | 37.25 | 38.25 | – |
| 32 | 800 | 32.00 | – | N/A* | 37.00 | 39.62 | 39.50 | 40.25 | – |

**ID:** Inside Diameter **GLS:** Glass-Lined Steel **NPS:** Nominal Pipe Size

* NPS ID ("old standard") exists up to NPS12 only. For gaskets larger than NPS12, select Standard ID or GLS ID as appropriate.

**Some sizes may not be available for some GORE® Gasketing products.**

**Dimensions applicable to:**

- ASME B16.5 Pipe Flanges
- ASME B16.47 Series A, Large Diameter Steel Flanges

**Tolerances**

- **Inside Diameter:**
  For NPS 12 and smaller: ±0.06 inch
  For NPS 14 and larger: ±0.12 inch
- **Outside Diameter:**
  For NPS 12 and smaller +0/–0.06 inch
  For NPS 14 and larger +0/–0.12 inch

**A**

**Standard/ID Option**
ASME B16.21
EN 1514-1

**Comments/Use**
- ID per applicable standard
- General use in steel flanges

**B**

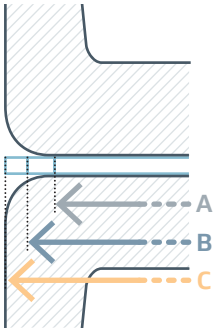
**Standard/ID Option**
ASME B16.21 / GLS ID
EN 1514-1 / GLS ID

**Comments/Use**
- ID reduced to protect glass lining
- Best option for glass lined steel flanges

**C**

**Standard/ID Option**
ASME B16.21 / NPS ID

**Comments/Use**
- ID equals nominal pipe size in inches ("old standard")
- Required for ductile iron pipe and other specialty applications



## Gasket Type: Full Face

Dimensions in mm

| Nominal Size | | A | C | Class 150 | | | | Class 300 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NPS | DN | Standard ID [mm] | NPS ID [mm] | OD [mm] | # | Ø [inch] | BC [mm] | OD** [mm] | # | Ø [inch] | BC [mm] |
| ½ | 15 | 21 | 13 | 89 | 4 | 5/8 | 60.3 | 95 | 4 | 5/8 | 66.7 |
| ¾ | 20 | 27 | 19 | 98 | 4 | 5/8 | 69.9 | 117 | 4 | 3/4 | 82.6 |
| 1 | 25 | 33 | 25 | 108 | 4 | 5/8 | 79.4 | 124 | 4 | 3/4 | 88.9 |
| 1 ¼ | 32 | 42 | 32 | 117 | 4 | 5/8 | 88.9 | 133 | 4 | 3/4 | 98.4 |
| 1 ½ | 40 | 48 | 38 | 127 | 4 | 5/8 | 98.4 | 156 | 4 | 7/8 | 114.3 |
| 2 | 50 | 60 | 51 | 152 | 4 | 3/4 | 120.7 | 165 | 8 | 3/4 | 127.0 |
| 2 ½ | 65 | 73 | 64 | 178 | 4 | 3/4 | 139.7 | 191 | 8 | 7/8 | 149.2 |
| 3 | 80 | 89 | 76 | 191 | 4 | 3/4 | 152.4 | 210 | 8 | 7/8 | 168.3 |
| 3 ½ | 90 | 102 | 89 | 216 | 8 | 3/4 | 177.8 | 229 | 8 | 7/8 | 184.2 |
| 4 | 100 | 114 | 102 | 229 | 8 | 3/4 | 190.5 | 254 | 8 | 7/8 | 200.0 |
| 5 | 125 | 141 | 127 | 254 | 8 | 7/8 | 215.9 | 279 | 8 | 7/8 | 235.0 |
| 6 | 150 | 168 | 152 | 279 | 8 | 7/8 | 241.3 | 318 | 12 | 7/8 | 269.9 |
| 8 | 200 | 219 | 203 | 343 | 8 | 7/8 | 298.5 | 381 | 12 | 1 | 330.2 |
| 10 | 250 | 273 | 254 | 406 | 12 | 1 | 362.0 | 444 | 16 | 1-1/8 | 387.4 |
| 12 | 300 | 324 | 305 | 483 | 12 | 1 | 431.8 | 521 | 16 | 1-1/4 | 450.8 |
| 14 | 350 | 356 | N/A* | 533 | 12 | 1-1/8 | 476.3 | 584 | 20 | 1-1/4 | 514.4 |
| 16 | 400 | 406 | N/A* | 597 | 16 | 1-1/8 | 539.8 | 648 | 20 | 1-3/8 | 571.5 |
| 18 | 450 | 457 | N/A* | 635 | 16 | 1-1/4 | 577.9 | 711 | 24 | 1-3/8 | 628.6 |
| 20 | 500 | 508 | N/A* | 699 | 20 | 1-1/4 | 635.0 | 775 | 24 | 1-3/8 | 685.8 |
| 24 | 600 | 610 | N/A* | 813 | 20 | 1-3/8 | 749.3 | 914 | 24 | 1-5/8 | 812.8 |
| 26 | 650 | 660 | N/A* | 870 | 24 | 1-3/8 | 806.4 | 972 | 28 | 1-3/4 | 876.3 |
| 28 | 700 | 711 | N/A* | 925 | 28 | 1-3/8 | 863.6 | 1035 | 28 | 1-3/4 | 939.8 |
| 30 | 750 | 762 | N/A* | 985 | 28 | 1-3/8 | 914.4 | 1092 | 28 | 1-7/8 | 997.0 |
| 32 | 800 | 813 | N/A* | 1060 | 28 | 1-5/8 | 977.9 | 1149 | 28 | 2 | 1054.1 |

**ID:** Inside Diameter **OD:** Outside Diameter **NPS:** Nominal Pipe Size **Ø:** Diameter of bolt hole **#:** Number of bolt holes **BC:** Diameter of bolt hole circle

* NPS ID ("old standard") exists up to NPS12 only. For gaskets larger than NPS12, select Standard ID or GLS ID as appropriate.

** Sizes NPS 1/2" to 8" Per ASME B16.21-2021 Nonmetallic Flat Gaskets for PipeFlanges (Table 4.1-4, Table 4.1-6); Larger sizes per ASME B16.5-2020 Pipe Flanges and Flanged Fittings (Table 11) and ASME B16.47-2020 Series A Large Diameter Steel Flanges (Table 32).

**Some sizes may not be available for some GORE® Gasketing products.**

### Dimensions applicable to:

- ASME B16.5 Pipe Flanges
- ASME B16.47 Series A, Large Diameter Steel Flanges

### Tolerances

- **Inside Diameter:**
  For NPS 12 and smaller ±1.5 mm
  For NPS 14 and larger ±3.0 mm
- **Outside Diameter:**
  For NPS 12 and smaller +0/–1.5 mm
  For NPS 14 and larger +0/–3.0 mm
- **Bolt:**
  Bolt circle diameter ±1.5 mm
  Adjacent bolt holes center to center ±1 mm

**A**

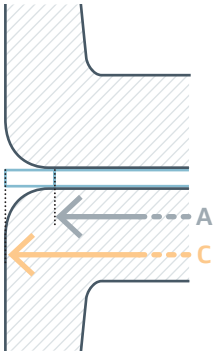
**Standard/ID Option**
ASME B16.21
EN 1514-1

**Comments/Use**
- ID per applicable standard
- General use in steel flanges

**C**

**Standard/ID Option**
ASME B16.21 / NPS ID

**Comments/Use**
- ID equals nominal pipe size in inches ("old standard")
- Required for ductile iron pipe and other specialty applications



## Gasket Type: Full Face

Dimensions in inch

| Nominal Size | | A | C | Class 150 | | | | Class 300 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NPS | DN | Standard ID [inch] | NPS ID [inch] | OD [inch] | # | Ø [inch] | BC [inch] | OD [inch] | # | Ø [inch] | BC [inch] |
| ½ | 15 | 0.84 | 0.50 | 3.50 | 4 | 5/8 | 2.38 | 3.75 | 4 | 5/8 | 2.62 |
| ¾ | 20 | 1.06 | 0.75 | 3.88 | 4 | 5/8 | 2.75 | 4.62 | 4 | 3/4 | 3.25 |
| 1 | 25 | 1.31 | 1.00 | 4.25 | 4 | 5/8 | 3.12 | 4.88 | 4 | 3/4 | 3.50 |
| 1 ¼ | 32 | 1.66 | 1.25 | 4.63 | 4 | 5/8 | 3.50 | 5.25 | 4 | 3/4 | 3.88 |
| 1 ½ | 40 | 1.91 | 1.50 | 5.00 | 4 | 5/8 | 3.88 | 6.12 | 4 | 7/8 | 4.50 |
| 2 | 50 | 2.38 | 2.00 | 6.00 | 4 | 3/4 | 4.75 | 6.50 | 8 | 3/4 | 5.00 |
| 2 ½ | 65 | 2.88 | 2.50 | 7.00 | 4 | 3/4 | 5.50 | 7.50 | 8 | 7/8 | 5.88 |
| 3 | 80 | 3.50 | 3.00 | 7.50 | 4 | 3/4 | 6.00 | 8.25 | 8 | 7/8 | 6.62 |
| 3 ½ | 90 | 4.00 | 3.50 | 8.50 | 8 | 3/4 | 7.00 | 9.00 | 8 | 7/8 | 7.25 |
| 4 | 100 | 4.50 | 4.00 | 9.00 | 8 | 3/4 | 7.50 | 10.00 | 8 | 7/8 | 7.88 |
| 5 | 125 | 5.56 | 5.00 | 10.00 | 8 | 7/8 | 8.50 | 11.00 | 8 | 7/8 | 9.25 |
| 6 | 150 | 6.62 | 6.00 | 11.00 | 8 | 7/8 | 9.50 | 12.50 | 12 | 7/8 | 10.62 |
| 8 | 200 | 8.62 | 8.00 | 13.50 | 8 | 7/8 | 11.75 | 15.00 | 12 | 1 | 13.00 |
| 10 | 250 | 10.75 | 10.00 | 16.00 | 12 | 1 | 14.25 | 17.50 | 16 | 1-1/8 | 15.25 |
| 12 | 300 | 12.75 | 12.00 | 19.00 | 12 | 1 | 17.00 | 20.50 | 16 | 1-1/4 | 17.75 |
| 14 | 350 | 14.00 | N/A* | 21.00 | 12 | 1-1/8 | 18.75 | 23.00 | 20 | 1-1/4 | 20.25 |
| 16 | 400 | 16.00 | N/A* | 23.50 | 16 | 1-1/8 | 21.25 | 25.50 | 20 | 1-3/8 | 22.50 |
| 18 | 450 | 18.00 | N/A* | 25.00 | 16 | 1-1/4 | 22.75 | 28.00 | 24 | 1-3/8 | 24.75 |
| 20 | 500 | 20.00 | N/A* | 27.50 | 20 | 1-1/4 | 25.00 | 30.50 | 24 | 1-3/8 | 27.00 |
| 24 | 600 | 24.00 | N/A* | 32.00 | 20 | 1-3/8 | 29.50 | 36.00 | 24 | 1-5/8 | 32.00 |
| 26 | 650 | 26.00 | N/A* | 34.25 | 24 | 1-3/8 | 31.75 | 38.25 | 28 | 1-3/4 | 34.50 |
| 28 | 700 | 28.00 | N/A* | 36.50 | 28 | 1-3/8 | 34.00 | 40.75 | 28 | 1-3/4 | 37.00 |
| 30 | 750 | 30.00 | N/A* | 38.75 | 28 | 1-3/8 | 36.00 | 43.00 | 28 | 1-7/8 | 39.25 |
| 32 | 800 | 32.00 | N/A* | 41.75 | 28 | 1-5/8 | 38.50 | 45.25 | 28 | 2 | 41.50 |

**ID:** Inside Diameter **OD:** Outside Diameter **NPS:** Nominal Pipe Size **Ø:** Diameter of bolt hole **#:** Number of bolt holes **BC:** Diameter of bolt hole circle

* NPS ID ("old standard") exists up to NPS12 only. For gaskets larger than NPS12, select Standard ID or GLS ID as appropriate.

**NOTE:** Class 300 Dimensions per B16.5-2013. NPS 26 - NPS 32 Class 150 & Class 300 Dimensions per B16.47 Series A

**Some sizes may not be available for some GORE® Gasketing products.**

### Dimensions applicable to:

- ASME B16.5 Pipe Flanges
- ASME B16.47 Series A, Large Diameter Steel Flanges

### Tolerances

- **Inside Diameter:**
  For NPS 12 and smaller ±0.06 inch
  For NPS 14 and larger ±0.12 inch
- **Outside Diameter:**
  For NPS 12 and smaller +0/–0.06 inch
  For NPS 14 and larger +0/–0.12 inch
- **Bolt**
  Bolt circle diameter ±0.06 inch
  Adjacent bolt holes center to center ±0.04 inch

**A**

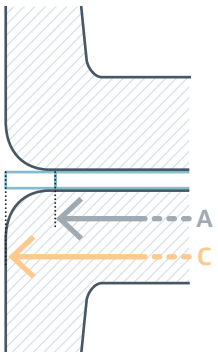
**Standard/ID Option**
ASME B16.21
EN 1514-1

**Comments/Use**
- ID per applicable standard
- General use in steel flanges

**C**

**Standard/ID Option**
ASME B16.21 / NPS ID

**Comments/Use**
- ID equals nominal pipe size in inches ("old standard")
- Required for ductile iron pipe and other specialty applications




**GORE® GR Sheet Gasketing and unprinted GORE® Universal Pipe Gasket (Style 800) conform to the US FDA 21CFR. Declaration of Compliance is available upon request.**

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