


**CORRUGATED
GASKETS**









“Temperature and corrosion resistance, mechanical strength and thermal conductivity”

Characteristics

- With inner ring, outer centering ring or both.
- Standard sizes acc/to DIN, ASME, EN or to customers specifications.
- Recovery and resilience through thermal cycles
- Low relaxation, high levels of tightness and elevated resistance to radial shear.

Corrugated gaskets are an excellent choice for **demanding environments of valves, gas, heat exchangers applications**. They can be manufactured in a wide range of shapes and with or without pass partition bars.

Gasket Profiles and limiting values

| Profile | Cross-section | Materials | K_0 | K_1 | R_z^* |
|---------|---|---|----------------------------------|--------------------------------------|-----------|
| | | | [N/mm] | [mm] | [mm] |
| W1A |  | Coated with: Graphite or PTFE | 15 b_D | 1,0 b_D | 25 to 160 |
| W11A |  | | | | |
| W1A-3 |  | | | | |
| W13 |  | <i>Metal Part:</i> Al Cu, Ms Steel <i>Interior:</i> Mineral Fibre | 30 b_D 35 b_D 45 b_D | 0,6 b_D 0,7 b_D 1,0 b_D | 50 to 160 |
| W5 |  | | | | |
| W7 |  | | | | |
| WZ3 |  | <i>Metal Part:</i> Al, Cu, Ms Steel <i>Interior:</i> Mineral Fibre with PTFE zone/ Graphite | 25 b_D 30 b_D 35 b_D | 0,5 b_D 0,65 b_D 0,8 b_D | 50 to 160 |

Surface Pressure

In order to avoid collapse, the sealing surface pressure must be between σ_{\min} and σ_{\max} :

| Profile | Materials | Surface Pressure (N/mm ²) | | | |
|---------------|--|---------------------------------------|-----------------|-------------------|--------------------|
| | | T = 20°C | | T = 300°C | |
| | | σ_{\min} | σ_{\max} | σ_{\min} | σ_{\max} |
| W1 | Carbon Steel | 120 | 600 | 130 | 390 |
| W1A | Stainless Steel/Graphite Stainless Steel/PTFE | 15 | 180 | 20 ⁽¹⁾ | 150 ⁽¹⁾ |
| W5 W7, W13 | Aluminium/Mineral Fibre | 30 | 80 | - | - |
| | Copper/Mineral Fibre | 35 | 110 | 45 | 90 |
| | Carbon Steel/Mineral Fibre | 45 | 150 | 60 | 125 |
| WZ3 | Steel/Mineral Fibre+PTFE | 35 | 150 | 45 | 125 |
| W1A | Carbon Steel/Mineral Fibre | 75 | 150 | 70 | 125 |
| | Stainless Steel/Graphite | 20 | 180 | 25 | 150 |

(1)-PTFE layers are not recommended at temperatures over 250°C

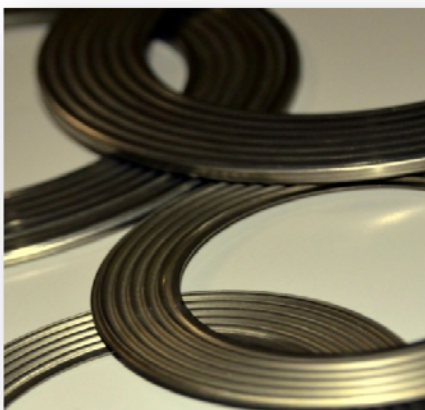
Characteristics and Details



Corrugated Gaskets feature good temperature and corrosion resistance. They are also **used in applications which require mechanical strength and thermal conductivity**.

These gaskets present good recovery and resilience through thermal cycles, being suitable **for demanding environments of valves, gas, heat exchangers applications and** wherever acids, oils or chemicals can be found.

Low relaxation, high levels of tightness and elevated resistance to radial shear, gives them stability and the capability to eliminate the problem of difficult handling, in case of large sizes, present in non-metallic gaskets.



The W1 type (simple corrugated metal) requires high levels of sealing surface of the flange. The W1A type is covered with layers on both sides in PTFE or graphite. This gasket construction create an highly effective and elastic sealing effect with very low leakage rate, as when fitted, the soft material layers are pressed into the corrugation.

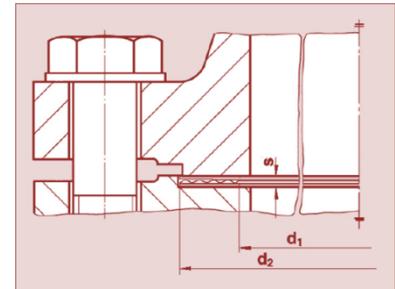
For large sealing diameters is recommended to use the gaskets W2A type, as these gaskets are fitted with additional stabilizing ring and seals on both sides, providing the gasket greater stability.

TECHNICAL DATA

In accordance with ASME B16.20 for flanges
in acc. with ASME/ANSI B16.5 - ASME B 16.20

d₁: Int. diameter (mm)

d₂: Ext. diameter (mm)



| NPS (") | d ₁ (mm) | d ₂ | | | | | | |
|------------|------------------------|----------------|---------|---------|---------|---------|----------|----------|
| | | 150 Lbs | 300 Lbs | 400 Lbs | 600 Lbs | 900 Lbs | 1500 Lbs | 2500 Lbs |
| 1/2" | 22,35 | 44,45 | 50,8 | 50,8 | 50,8 | 60,45 | 60,45 | 66,8 |
| 3/4" | 28,7 | 54,1 | 63,5 | 63,5 | 63,5 | 66,8 | 66,8 | 73,15 |
| 1" | 38,1 | 63,5 | 69,85 | 69,85 | 69,85 | 76,2 | 76,2 | 82,55 |
| 1 1/4" | 47,75 | 73,15 | 79,5 | 79,5 | 79,5 | 85,85 | 85,85 | 101,6 |
| 1 1/2" | 54,1 | 82,55 | 92,2 | 92,2 | 92,2 | 95,25 | 95,25 | 114,3 |
| 2" | 73,15 | 101,6 | 107,95 | 107,95 | 107,95 | 139,7 | 139,7 | 143 |
| 2 1/2" | 85,85 | 120,65 | 127 | 127 | 127 | 162,05 | 162,05 | 165 |
| 3" | 107,95 | 133,35 | 146,05 | 146,05 | 146,05 | 165,1 | 171,45 | 193,8 |
| 4" | 131,83 | 171,45 | 177,8 | 174,75 | 190,5 | 203,2 | 206,5 | 231,9 |
| 5" | 152,4 | 193,8 | 212,85 | 209,55 | 238,25 | 244,6 | 250,95 | 276,35 |
| 6" | 190,5 | 219,2 | 247,65 | 244,6 | 263,65 | 285,75 | 279,4 | 314,45 |
| 8" | 238,25 | 276,35 | 304,8 | 301,75 | 317,5 | 355,6 | 349,25 | 384,3 |
| 10" | 287,75 | 336,55 | 358,9 | 355,6 | 397 | 431,8 | 431,8 | 473,2 |
| 12" | 342,9 | 406,4 | 419,1 | 416,05 | 454,15 | 495,3 | 517,65 | 546,1 |
| 14" | 374,65 | 447,8 | 482,6 | 479,55 | 488,95 | 517,65 | 574,8 | - |
| 16" | 425,45 | 511,3 | 536,7 | 533,4 | 562,1 | 571,5 | 638,3 | - |
| 18" | 488,95 | 546,1 | 593,85 | 590,55 | 609,6 | 635 | 701,8 | - |
| 20" | 533,4 | 603,25 | 651 | 644,65 | 679,45 | 695,45 | 752,6 | - |
| 24" | 641,35 | 714,5 | 771,65 | 765,3 | 787,4 | 835,15 | 898,65 | - |

Conforms EN 12560-4 (Class 150 to Class 2500)

Conforms to EN 12560-4 for flanges in accordance with ANSI B 16.5

d₁: Int. diameter (mm)

d₂: Ext. diameter (mm)

| NPS (") | d ₁ (mm) | d ₂ | | | | | |
|------------|------------------------|----------------|-------|-------|-------|-------|-------|
| | | 150 | 300 | 600 | 900 | 1500 | 2500 |
| 1/2" | 22 | 47,6 | 54 | 54 | 63,5 | 63,5 | 69,9 |
| 3/4" | 27 | 57,2 | 66,7 | 66,7 | 69,9 | 69,9 | 76,2 |
| 1" | 34 | 66,7 | 73 | 73 | 79,4 | 79,4 | 85,7 |
| 1 1/4" | 43 | 76,2 | 82,6 | 82,6 | 88,9 | 88,9 | 104,8 |
| 1 1/2" | 49 | 85,7 | 95,3 | 95,3 | 98,4 | 98,4 | 117,5 |
| 2" | 61 | 104,8 | 111,1 | 111,1 | 142,9 | 142,9 | 146,1 |
| 2 1/2" | 73 | 123,8 | 130,2 | 130,2 | 165,1 | 165,1 | 168,3 |
| 3" | 89 | 136,5 | 149,2 | 149,2 | 168,3 | 174,6 | 196,9 |
| 4" | 115 | 174,6 | 181 | 193,7 | 206,4 | 209,6 | 235 |
| 5" | 141 | 196,9 | 215,9 | 241,3 | 247,7 | 254 | 279,4 |
| 6" | 169 | 222,3 | 250,8 | 266,7 | 288,9 | 282,6 | 317,5 |
| 8" | 220 | 279,4 | 308 | 320,7 | 358,8 | 352,4 | 387,4 |
| 10" | 273 | 339,7 | 362 | 400,1 | 435 | 435 | 476,3 |
| 12" | 324 | 409,6 | 422,3 | 457,2 | 498,5 | 520,7 | 549,2 |
| 14" | 356 | 450,9 | 485,8 | 492,1 | 520,7 | 577,9 | - |
| 16" | 407 | 514,4 | 539,8 | 565,2 | 574,7 | 641,4 | - |
| 18" | 458 | 549,3 | 596,2 | 612,8 | 638,2 | 704,9 | - |
| 20" | 508 | 606,4 | 654,1 | 682,6 | 698,5 | 755,7 | - |
| 24" | 610 | 717,6 | 774,7 | 790,6 | 838,2 | 901,7 | - |

Conforms to EN 1514-4 for DIN flanges

(PN 10 to PN 100)

d₁: Int. diameter (mm)

d₂: Ext. diameter (mm)

| DN | d ₁ | PN 10 | d ₂ | | | | |
|-----|----------------|-------|----------------|------|-----|------|-----|
| | | | 16 | 25 | 40 | 63 | 100 |
| 10 | 18 | 48 | 48 | 48 | 48 | 58 | 58 |
| 15 | 22 | 53 | 53 | 53 | 53 | 63 | 63 |
| 20 | 27 | 63 | 63 | 63 | 63 | 74 | 74 |
| 25 | 34 | 73 | 73 | 73 | 73 | 84 | 84 |
| 32 | 43 | 84 | 84 | 84 | 84 | 90 | 90 |
| 40 | 49 | 94 | 94 | 94 | 94 | 105 | 105 |
| 50 | 61 | 109 | 109 | 109 | 109 | 115 | 121 |
| 65 | 77 | 129 | 129 | 129 | 129 | 140 | 146 |
| 80 | 89 | 144 | 144 | 144 | 144 | 150 | 156 |
| 100 | 115 | 164 | 164 | 170 | 170 | 176 | 183 |
| 125 | 141 | 194 | 194 | 196 | 196 | 213 | 220 |
| 150 | 169 | 220 | 220 | 226 | 226 | 250 | 260 |
| 200 | 220 | 275 | 275 | 286 | 293 | 312 | 327 |
| 250 | 273 | 330 | 331 | 343 | 355 | 367 | 394 |
| 300 | 324 | 380 | 386 | 403 | 420 | 427 | 461 |
| 350 | 356 | 440 | 446 | 460 | 477 | 489 | 515 |
| 400 | 407 | 491 | 498 | 517 | 549 | 546 | 575 |
| 450 | 458 | 541 | 558 | 567 | 574 | - | - |
| 500 | 508 | 596 | 620 | 627 | 631 | 660 | 708 |
| 600 | 610 | 698 | 737 | 734 | 750 | 768 | 819 |
| 700 | 712 | 813 | 807 | 836 | - | 883 | 956 |
| 800 | 813 | 920 | 914 | 945 | - | 994 | - |
| 900 | 915 | 1020 | 1014 | 1045 | - | 1114 | - |


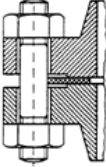

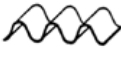



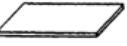
EN 1514-4

Flanges and their joints.

Dimensions of gaskets for PN-designed flanges.

Part 4: Corrugated, flat or grooved metallic and filled metallic gaskets for use with steel flanges

Gasket Types for this Standard

| Gasket Types | Cross-section | Gasket Types | Cross-section |
|---|---|------------------------------|--|
| Type A Corrugated, filled |  | Self-centring Gasket |  |
| Type A Corrugated Metal coating the filling |  | | |
| Type B Corrugated metallic |  | Gasket with Centring Ring |  |
| Type C Flat Metal coating the filling |  | | |
| Type D Grooved Metal with or without supplemental sealing materials |  | | |
| Type E Solid Flat Metal |  | | |

