

Bonded Seals



ProGum

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I. Introduction

The bonded seal provides industry with a reliable solution for resolving problems of static sealing hitherto presenting a near impossible task for many requirements.

After many years of utilization for specific applications, the bonded seal is now generally adopted as a standard for mechanical engineering, hydraulic, pneumatic, and, in particular, by the aeronautical industry for its high performance characteristics.

It is particularly suitable for sealing under the heads of bolts and screws, for pipe couplings and a wide range of connector applications, where a perfect face to face contact is required for a pressure seal.

Bonded seals thus offer a complete SECURITY for applications combining pressure vibration and severe temperature conditions.

I. Introduccion

Las arandelas metal-buna ofrecen a la industria soluciones fiables para resolver problemas de estanqueidad estática hasta ahora presentando infinidad de cometidos para una gran variedad de requerimientos.

Después de muchos años utilizando las arandelas metal-buna para aplicaciones específicas, ahora generalmente son usadas como estándares para la ingeniería mecánica, hidráulica, neumática, y en particular, para la industria aeronáutica gracias a sus elevados rendimientos.

Su función particularmente es el sellado de uniones roscadas y bridas, uniones entre tuberías, así como una amplia gama de instrumentos de conexión, donde se precisa un contacto perfecto para un sellado a presión.

De este modo, las arandelas metal-buna proporcionan una SEGURIDAD completa para aplicaciones donde se combinan vibraciones de presión así como condiciones severas de temperatura.



II. Material Selection

Matal Washer

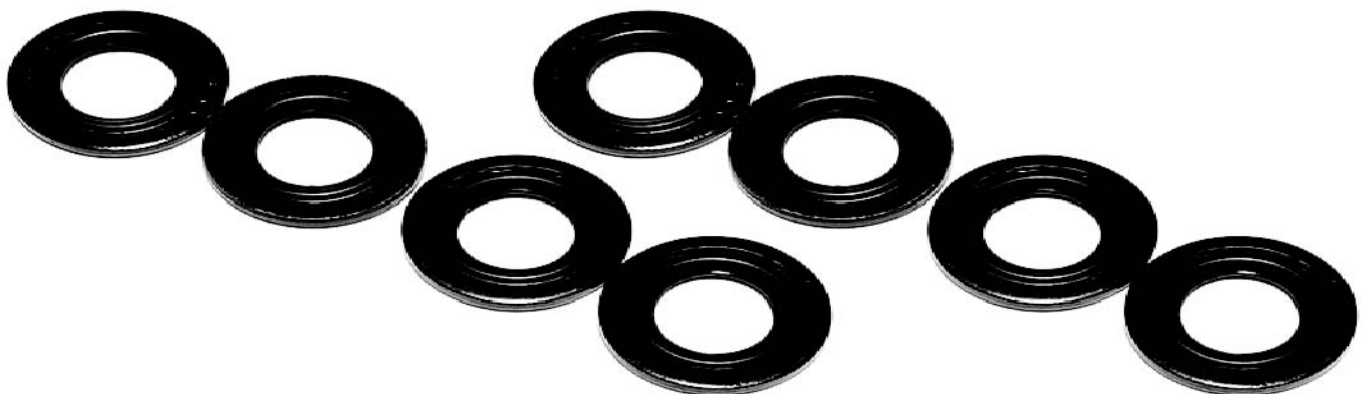
The metal case is important component of an bonded seals. The most common case is carbon steel, as our metal code 06. Stainless steel is an option for corrosion resistance, as our metal code 07.

| Code | Metal and Surface Finish |
|------|---|
| 01 | AISI1008-1010 ZINC PLATED WITH CHROME 6 |
| 03 | SUS304 STAINLESS STEEL |
| 04 | BRASS |
| 05 | AL3003-H14 (ALUMINIUM) |
| 06 | AISI1008-1010 ZINC PLATED WITH CHROME III |
| 07 | SUS316 STAINLESS STEEL |
| 08 | AISI1050-200HV, ZINK NICKEL PLATED 5um |
| 09 | ALUMINIUM BRONZE |
| 10 | AISI1070 (180HV) |
| 11 | CZ108 BRASS |
| 12 | AISI 1008-1010 Zinc cobalt plating |
| 13 | AISI 1008-1010 Zinc plating, Dyed black 2 microns |

Elastomer Materials

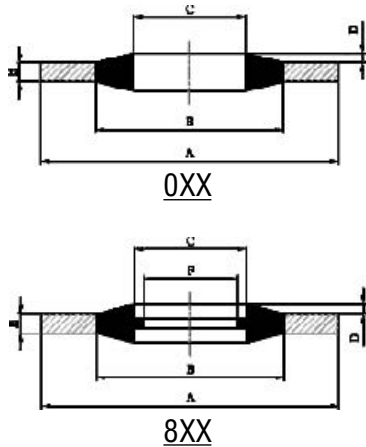
It is important to consider the seal's environment when selecting the lip material. The most important factors are the medium being sealed, the temperature of medium, the pressure.

| Material | Type of Polymer Most Often Used |
|---------------|--|
| NBR | NITRILE, BUNA N |
| EPDM | ETHYLENE PROPYLENE |
| SILICONE | VMQ, POLYSILIOXANE |
| HNBR | HYDROGENATED NITRILE |
| NEOPRENE | CR, CHOROPRENE POLYMERS, POLYCHLOROPRENE |
| SBR | BUTADIENE, STYRENE BUTADIENE, BUNA S |
| FKM / VITON | FPM, FMC, FLUOROCARBON, FLUOROELASTOMER |
| FLUROSILICONE | FLUROSILICONE |
| AFLAS | TETRAFLUROETHYLENE |



III. Bonded Seals Size List/ Lista de tamaños de arandelas

☆ Imperial Bonded Seals



Key features of self-centralsing:

1. Elimination of seal offset
2. Elimination of leaks
3. Ease of installation
4. Reduce assembly time
5. Captive assembly

When ordering self-centralsing bonded seals change first digit of ProGum reference to an 8 e.g. 823

PLEASE NOTE: check availability of self centralising bonded seals before ordering.

All dimensions in mm

Note: There is a permitted moulding flashline on the inner diameter C in accordance with AGS 1186

| PG REF. | SIZE | | A +0.13 -0.00 | B ±0.10 | C ±0.10 | D | E ±0.15 | F ±0.20 |
|---------|-------|--------|---------------------|------------|------------|-------------------|------------|------------|
| | BSP | BOLT | | | | | | |
| 001 | - | 6BA | 6.35 | 4.09 | 3.05 | 0.20 / 0.45 | 1.20 | - |
| 002 | - | 4BA | 7.26 | 5.26 | 4.12 | | | - |
| 003 | - | 2BA | 8.38 | 6.35 | 5.21 | | | - |
| 004 | - | 1/4 | 13.21 | 8.00 | 6.86 | | | 4.70 |
| 005 | - | 1/4 | 13.34 | 9.53 | 6.99 | | | 4.70 |
| 006 | - | 5/16 | 13.34 | 9.53 | 8.31 | | | 6.10 |
| 007 | - | 5/16 | 14.22 | 10.04 | 8.64 | | | 6.10 |
| 020 | 1/8 | 3/8 | 15.88 | 11.84 | 10.37 | 0.25 / 0.51 | 8.56 | |
| 008 | - | 0.4 | 18.36 | 12.45 | 11.26 | | 8.56 | |
| 009 | - | 7/16 | 19.05 | 13.08 | 11.69 | | 8.80 | |
| 021 | 1/4 | 1/2 | 20.57 | 15.21 | 13.74 | | 11.45 | |
| 010 | - | 9/16 | 22.23 | 16.39 | 14.86 | | 11.58 | |
| 022 | - | 0.6 | 22.23 | 17.30 | 15.83 | | 12.10 | |
| 011 | - | 5/8 | 25.40 | 18.75 | 16.51 | | 12.90 | |
| 023 | 3/8 | - | 23.80 | 18.75 | 17.28 | | 14.96 | |
| 012 | - | 11/16 | 25.40 | 19.69 | 18.16 | | 14.50 | |
| 024 | - | 3/4 | 26.92 | 21.21 | 19.69 | | 15.80 | |
| 025 | 1/2 | 13/16 | 28.58 | 23.01 | 21.54 | | 18.64 | |
| 026 | 5/8 | 7/8 | 31.75 | 24.97 | 23.49 | | 20.60 | |
| 013 | - | 15/16 | 33.27 | 26.04 | 24.26 | | 20.20 | |
| 027 | 3/4 | 1.0 | 34.93 | 28.53 | 27.05 | | 24.13 | |
| 028 | - | 1.1/16 | 38.61 | 30.61 | 27.82 | 22.90 | | |
| 014 | - | 1.1/8 | 36.58 | 30.86 | 29.33 | 23.90 | | |
| 031 | 1.0 | 1.5/16 | 42.80 | 36.88 | 33.89 | 30.30 | | |
| 029 | 7/8 | 1.3/16 | 38.10 | 32.29 | 30.81 | 27.89 | | |
| 015 | - | 1.1/4 | 41.40 | 35.69 | 32.64 | 27.10 | | |
| 030 | 1.0 | 1.5/16 | 42.80 | 36.88 | 33.89 | 30.30 | | |
| 016 | - | 1.3/8 | 44.45 | 38.99 | 35.94 | 29.50 | | |
| 017 | - | 1.1/2 | 47.75 | 42.04 | 38.96 | 32.70 | | |
| 032 | 1.1/4 | 1.5/8 | 52.38 | 45.93 | 42.93 | 38.96 | | |
| 018 | - | 1.3/4 | 57.15 | 48.39 | 45.34 | 37.90 | | |
| 033 | 1.1/2 | 1.7/8 | 58.60 | 51.39 | 48.44 | 44.86 | | |
| 019 | - | 2.0 | 63.50 | 54.74 | 51.69 | 43.60 | | |
| 034 | 1.3/4 | 2.1/8 | 69.85 | 58.30 | 54.89 | 50.80 | | |
| 035 | - | 2.1/4 | 70.36 | 61.09 | 58.04 | 56.67 | | |
| 036 | 2.0 | - | 73.03 | 63.63 | 60.58 | 55.40 | | |
| 037 | - | 2.1/2 | 77.72 | 67.44 | 64.39 | 65.80 | | |
| 038 | 2.1/4 | - | 79.50 | 69.98 | 66.68 | 72.20 | | |
| 039 | 2.1/2 | - | 90.17 | 79.38 | 76.08 | 85.00 | | |
| 079 | 3.0 | - | 101.47 | 92.84 | 89.09 | | | |

☆ Alternative Series - High Quality

By utilising advanced techniques for the manufacture of washers and standardising on washer thickness where possible, an alternative to all the popular B.S.P. sizes is now available, using the same quality of material as our regular range

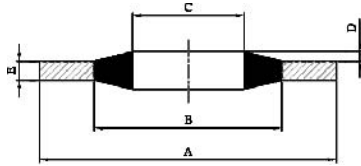
STANDARD

| PG REF. | SIZE | | A +0.13 -0.00 | B ±0.10 | C ±0.10 | D +0.26 -0.00 | E +0.20 -0.00 |
|---------|-------|--------|---------------------|------------|------------|---------------------|---------------------|
| | BSP | BOLT | | | | | |
| 020 | 1/8 | 3/8 | 15.88 | 11.84 | 10.37 | 0.25 | 2.00 |
| 021 | 1/4 | 1/2 | 20.57 | 15.21 | 13.74 | | |
| 023 | 3/8 | - | 23.80 | 18.75 | 17.28 | | |
| 025A | 1/2 | 13/16 | 28.58 | 23.01 | 21.54 | | |
| 027A | 3/4 | 1.0 | 34.93 | 28.53 | 27.05 | | |
| 030A | 1.0 | 1-5/16 | 42.80 | 36.88 | 33.89 | | |
| 032A | 1-1/4 | 1-5/8 | 52.38 | 45.93 | 42.93 | | |
| 033A | 1-1/2 | 1-7/8 | 58.60 | 51.39 | 48.44 | | |
| 036A | 2.0 | - | 73.03 | 63.63 | 60.58 | 2.50 | |

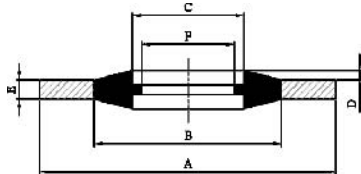
SELF-CENTRALISING

| PG REF. | SIZE | | A +0.13 -0.00 | B ±0.10 | C ±0.10 | D +0.26 -0.00 | E +0.20 -0.00 | F +0.00 -0.20 |
|---------|-------|--------|---------------------|------------|------------|---------------------|---------------------|---------------------|
| | BSP | BOLT | | | | | | |
| 820 | 1/8 | 3/8 | 15.88 | 11.84 | 10.37 | 0.25 | 2.00 | 8.56 |
| 821 | 1/4 | 1/2 | 20.57 | 15.21 | 13.74 | | | 11.45 |
| 823 | 3/8 | - | 23.80 | 18.75 | 17.28 | | | 14.96 |
| 825A | 1/2 | 13/16 | 28.58 | 23.01 | 21.54 | | | 18.64 |
| 827A | 3/4 | 1.0 | 34.93 | 28.53 | 27.05 | | | 24.13 |
| 830A | 1.0 | 1-5/16 | 42.80 | 36.88 | 33.89 | | | 30.30 |
| 832A | 1-1/4 | 1-5/8 | 52.38 | 45.93 | 42.93 | | | 38.96 |
| 833A | 1-1/2 | 1-7/8 | 58.60 | 51.39 | 48.44 | 44.86 | | |
| 836A | 2.0 | - | 73.03 | 63.63 | 60.58 | 2.50 | 56.67 | |

☆ German Metric Bonded Seals



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Key features of self-centralsing:

1. Elimination of seal offset
2. Elimination of leaks
3. Ease of installation
4. Reduce assembly time
5. Captive assembly

When ordering self-centralsing bonded seals change first digit of ProGum reference to an 6 e.g. 612

PLEASE NOTE: check availability of self centralising bonded seals before ordering.

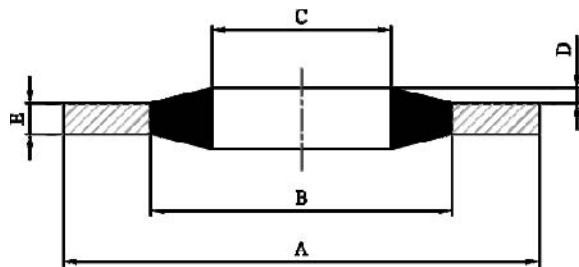
All dimensions in mm

Note: There is a permitted moulding flashline on the inner diameter C in accordance with AGS 1186

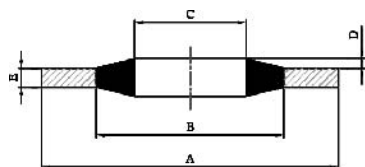
| PG REF. | THREAD DIA | A +0.13 -0.00 | B ±0.10 | C ±0.10 | D | E ±0.15 | F ±0.20 |
|---------|------------|---------------------|------------|------------|-------|------------|------------|
| 201 | M3.5 | 7.20 | 5.20 | 4.10 | 0.30 | 1.00 | - |
| 202 | M4 | 7.00 | 5.40 | 4.50 | | | 3.40 |
| 203 | M5 | 9.00 | 6.80 | 5.70 | | | 4.50 |
| 204 | M5 | 10.00 | 7.40 | 5.70 | | | 4.50 |
| 205 | M5.5 | 9.20 | 7.20 | 6.20 | | | 4.70 |
| 206 | M6 | 10.00 | 8.00 | 6.70 | | | 4.70 |
| 207 | M6 | 11.00 | 8.20 | 6.70 | | | 4.70 |
| 210 | M6.7 | 10.20 | 8.60 | 7.30 | | | 5.77 |
| 211 | M8 | 13.40 | 9.40 | 8.50 | | | |
| 212 | M8 | 13.00 | 10.00 | 8.70 | | | 6.40 |
| 213 | M8 | 14.00 | 10.40 | 8.70 | 6.40 | | |
| 215 | M8.5 | 13.30 | 10.50 | 9.30 | 6.90 | | |
| 216 | M10 | 15.88 | 12.00 | 10.35 | 0.40 | 2.00 | 8.56 |
| 217 | M10 | 16.00 | 12.40 | 10.70 | | 8.05 | |
| 218 | M10 | 18.00 | 12.40 | 10.70 | | 8.05 | |
| 219 | M11 | 16.30 | 12.70 | 11.40 | | 9.80 | |
| 220 | M11 | 18.50 | 13.70 | 11.80 | | | |
| 221 | M11 | 19.10 | 13.50 | 11.80 | | 9.80 | |
| 222 | M12 | 18.00 | 14.30 | 12.70 | | 9.73 | |
| 223 | M12 | 20.00 | 14.40 | 12.70 | | 9.73 | |
| 225 | M13 | 22.00 | 15.40 | 13.70 | | 1.50 | 10.80 |
| 226 | M13.5 | 18.70 | 15.70 | 14.00 | | | 11.30 |
| 227 | M14 | 22.00 | 16.40 | 14.70 | 11.38 | | |
| 229 | M16 | 24.00 | 18.40 | 16.70 | 13.41 | | |
| 230 | M17 | 24.00 | 19.20 | 17.40 | 13.08 | | |
| 231 | M17.5 | 24.70 | 20.10 | 18.00 | 13.60 | | |
| 232 | M18 | 26.00 | 20.40 | 18.70 | 14.76 | | |
| 233 | M20 | 28.00 | 22.50 | 20.70 | 16.76 | | |
| 234 | M21 | 28.70 | 23.30 | 21.50 | 2.50 | | 17.80 |
| 236 | M22 | 30.00 | 24.40 | 22.70 | 2.00 | | 18.74 |
| 237 | M22 | 30.00 | 24.40 | 22.70 | 3.00 | | |
| 238 | M24 | 32.00 | 26.40 | 24.70 | 2.00 | 20.11 | |
| 239 | M26 | 35.00 | 28.40 | 26.70 | | 22.30 | |
| 240 | M27 | 36.00 | 29.00 | 27.20 | | 23.30 | |
| 241 | M28 | 37.00 | 30.40 | 28.70 | | | |
| 242 | M30 | 39.00 | 33.00 | 31.00 | | 25.70 | |
| 243 | M33 | 42.00 | 35.80 | 33.70 | | 28.70 | |
| 244 | M33 | 46.00 | 36.40 | 34.30 | | 28.70 | |
| 245 | M36 | 46.00 | 38.80 | 36.70 | | 31.10 | |
| 246 | M39 | 51.00 | 41.90 | 40.00 | | 2.50 | 34.10 |
| 247 | M42 | 53.00 | 44.40 | 42.70 | | | 36.50 |
| 248 | M48 | 59.00 | 50.80 | 48.70 | 3.00 | 41.90 | |
| 250 | M52 | 64.50 | 56.40 | 53.30 | | 46.00 | |
| 254 | M88 | 101.35 | 92.10 | 89.09 | 3.25 | - | |

☆ CETOPS (Recommended in ISO 1179-1973)

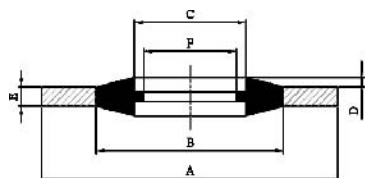
| PG REF. | THREAD DIA | A +0.00 -0.20 | B +0.20 -0.00 | C +0.20 -0.00 | D +0.25 -0.00 | E +0.15 -0.15 |
|---------|------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 519 | 1/16 | 12.70 | 9.90 | 8.30 | 0.25 | 1.25 |
| 510 | 1/7 | 14.70 | 12.00 | 10.40 | | |
| 511 | 1/4 | 18.70 | 15.75 | 13.85 | | |
| 512 | 3/8 | 22.70 | 19.25 | 17.35 | | |
| 513 | 1/2 | 26.70 | 23.55 | 21.65 | | |
| 514 | 3/4 | 32.50 | 29.20 | 27.30 | | |
| 515 | 1.0 | 39.50 | 36.10 | 34.20 | | 2.00 |
| 516 | 1.1/4 | 49.50 | 44.70 | 42.80 | | |
| 517 | 1.1/2 | 55.50 | 50.60 | 48.70 | | |
| 518 | 2.0 | 68.50 | 62.40 | 60.50 | | |



☆ French Metric Bonded Seals



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Key features of self-centralsing:

1. Elimination of seal offset
2. Elimination of leaks
3. Ease of installation
4. Reduce assembly time
5. Captive assembly

When ordering self-centralsing bonded seals change first digit of ProGum reference to an 7 e.g. 712

PLEASE NOTE: check availability of self centralising bonded seals before ordering.

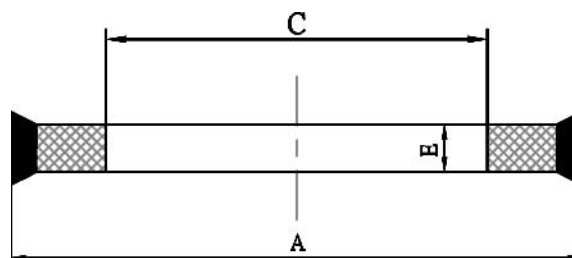
All dimensions in mm

Note: There is a permitted moulding flashline on the inner diameter C in accordance with AGS 1186

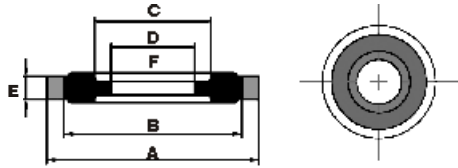
| PG REF. | THREAD DIA | A $+0.13$ -0.00 | B ± 0.10 | C ± 0.10 | D | E ± 0.15 | F ± 0.20 |
|---------|------------|-------------------------|-----------------|-----------------|-------|-----------------|-----------------|
| 301 | M3 | 7.50 | 5.00 | 3.60 | 0.30 | 1.00 | - |
| 302 | M4 | 9.00 | 6.00 | 4.60 | | | 3.40 |
| 303 | M5 | 10.00 | 7.00 | 5.60 | | | 4.50 |
| 304 | M6 | 11.00 | 8.00 | 6.60 | | | 4.70 |
| 306 | M6 | 11.40 | 8.40 | 7.00 | | | 4.70 |
| 307 | M8 | 13.00 | 10.00 | 8.60 | | | 6.40 |
| 310 | M10 | 17.00 | 12.10 | 10.70 | | 1.50 | 8.56 |
| 312 | M11 | 18.10 | 13.20 | 11.80 | | | 9.80 |
| 313 | M12 | 19.00 | 14.10 | 12.70 | | | 9.73 |
| 315 | M13 | 20.10 | 15.20 | 13.80 | | 0.40 | 10.80 |
| 316 | M14 | 21.00 | 16.10 | 14.70 | 0.30 | | 11.38 |
| 317 | M16 | 23.00 | 18.10 | 16.70 | | 11.41 | |
| 318 | M17 | 23.70 | 18.80 | 17.40 | 0.40 | 13.08 | |
| 320 | M18 | 27.00 | 20.40 | 18.70 | 0.30 | 2.00 | 14.76 |
| 321 | M20 | 29.00 | 22.40 | 20.70 | | | 16.76 |
| 322 | M20.63 | 28.60 | 23.00 | 21.50 | 0.40 | 2.50 | |
| 323 | M21 | 30.00 | 23.40 | 21.70 | | 2.00 | 17.80 |
| 324 | M22 | 31.00 | 24.40 | 22.70 | | | 18.74 |
| 325 | M23 | 32.00 | 25.40 | 23.70 | | | 19.30 |
| 326 | M24 | 33.00 | 26.40 | 24.70 | | | 20.11 |
| 327 | M26 | 35.30 | 28.70 | 27.00 | | | 22.30 |
| 328 | M27 | 36.00 | 29.40 | 27.70 | | | 23.30 |
| 329 | M28 | 36.00 | 30.30 | 28.60 | | | 24.80 |
| 331 | M30 | 39.00 | 32.40 | 30.70 | | | 25.70 |
| 332 | M33 | 42.00 | 35.40 | 33.70 | | 2.50 | 28.70 |
| 333 | M36 | 48.00 | 39.60 | 37.00 | 31.10 | | |
| 334 | M39 | 51.00 | 42.60 | 40.00 | +0.15 | | 34.10 |
| 335 | M42 | 54.00 | 45.60 | 43.00 | -0.15 | | 36.50 |
| 336 | M45 | 57.00 | 48.60 | 46.00 | | 39.50 | |
| 337 | M48 | 60.00 | 51.60 | 49.00 | | 41.90 | |

☆ Outside sealings / UA Bonded Seals

| PG REF. | THREAD DIA | A $+0.00$ -0.20 | C $+0.20$ -0.00 | E $+0.15$ -0.15 |
|---------|------------|-------------------------|-------------------------|-------------------------|
| UA001 | - | 12.00 | 8.20 | 1.00 |
| UA002 | 10 | 18.00 | 12.00 | 1.50 |
| UA003 | 9 | 16.00 | 10.00 | 1.50 |
| UA004 | - | 14.00 | 8.00 | 1.00 |
| UA005 | - | 22.00 | 16.20 | 1.50 |
| UA006 | 12 | 21.60 | 13.30 | 1.50 |
| UA007 | 14 | 22.00 | 16.00 | 1.50 |
| UA008 | 14 | 24.00 | 14.20 | 2.00 |
| UA009 | 18 | 28.00 | 20.50 | 2.00 |

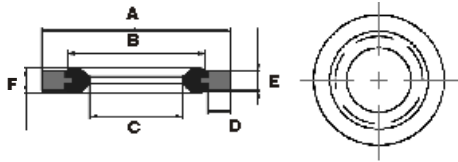


☆ **600 Series RANGE**



| PG REF. | SIZE | A ±0.20 | B ±0.20 | C ±0.20 | D ±0.20 | E ±0.20 |
|---------|------|------------|------------|------------|------------|------------|
| 600-001 | | 15.49 | 13.00 | 8.50 | 6.10 | 1.70 |

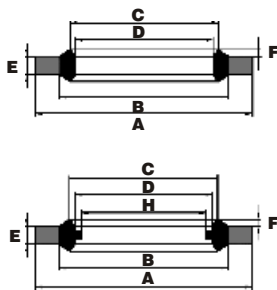
☆ **610 Series RANGE**



| PG REF. | SIZE | A ±0.20 | B ±0.20 | C ±0.20 | D ±0.20 | E ±0.20 | F ±0.10 |
|---------|------|------------|------------|------------|------------|------------|------------|
| 610-001 | | 9.84 | 7.38 | 4.83 | 1.20 | 1.00 | 1.32 |
| 610-002 | 3/8" | 16.00 | 10.80 | 8.13 | 1.78 | 1.27 | 2.03 |
| 610-003 | 1/2" | 19.10 | 13.79 | 11.18 | 1.78 | | |
| 610-004 | 5/8" | 28.00 | 20.70 | 15.37 | 1.90 | | |
| 610-005 | 3/4" | 25.27 | 20.71 | 17.16 | 1.78 | | |
| | | | | | | | |
| | | | | | | | 2.13 |

Note: There is a permitted moulding flashline on the inner diameter C in accordance with AGS 1186
All dimensions in mm

☆ **620 Series RANGE (METRIC)**



| PG REF. | SIZE | A ±0.20 | B ±0.20 | C ±0.20 | D ±0.20 | E ±0.20 | F ±0.10 | H ±0.20 | MIN. BURST PRESSURE (BAR) |
|---------|------|------------|------------|------------|------------|------------|------------|------------|---------------------------|
| 620-001 | M6 | 10.00 | 8.00 | 7.40 | 6.00 | 1.00 | 0.40 | 4.70 | 1130 |
| 620-002 | M8 | 14.00 | 11.00 | 10.00 | 8.00 | | | 6.40 | 1200 |
| 620-003 | M10 | 17.00 | 13.00 | 12.00 | 10.00 | 1.50 | 0.50 | 8.56 | 1250 |
| 620-004 | M12 | 19.00 | 16.00 | 15.00 | 12.00 | | | 9.73 | 1250 |
| 620-005 | M14 | 22.00 | 18.00 | 17.00 | 14.00 | | | 11.38 | 1100 |
| 620-006 | M16 | 24.00 | 20.00 | 19.00 | 16.00 | 2.00 | 0.50 | 13.41 | 1050 |
| 620-007 | M18 | 27.00 | 22.00 | 21.00 | 18.00 | | | 14.76 | 1100 |
| 620-008 | M20 | 30.00 | 25.00 | 24.00 | 20.00 | | | 16.76 | 1050 |
| 620-009 | M22 | 32.00 | 27.00 | 26.00 | 22.00 | | | 18.74 | 1000 |
| 620-010 | M24 | 36.00 | 29.00 | 28.00 | 24.00 | | | 20.11 | 1130 |
| 620-011 | M26 | 35.00 | 30.50 | 30.00 | 26.00 | | | 22.30 | 850 |

WHEN ORDERING SELF-CENTRALISING BONDED SEALS ADD SC TO PAMARGAN REFERENCE, E.G. 620-SC001

☆ **Sealing Components - Sealing Washers**

| | | | |
|--|---|--|--|
| <p>GM/Harrison Black Sealing Washer</p>  <p>5/8" Thick</p> | <p>GM/Harrison Silver Sealing Washer</p>  <p>3/4" Thin</p> | <p>Chrysler & GM/Harrison Silver Sealing Washer</p>  <p>5/8" Thin</p> | <p>Chrysler Discharge Hook Washer</p>  <p>56005915</p> |
| <p>Chrysler Suction Hook Washer</p>  <p>56003881</p> | <p>GM/Harrison Red Sealing Washer</p>  | <p>GM/Harrison Yellow Sealing Washer</p>  | <p>GM/Harrison Green Sealing Washer</p>  |
| <p>GM Slim-Line Black Fitting Sealing Washer - 8mm</p>  <p>15-31054</p> | <p>GM Slim-Line Black Fitting Sealing Washer - 11mm</p>  <p>15-31055</p> | <p>GM Slim-Line Black Fitting Sealing Washer - 15mm</p>  <p>15-30917</p> | <p>GM Slim-Line Black Fitting Sealing Washer - 17mm</p>  <p>15-31056 15-31101</p> |

IV. Typical Aeronautical Applications

Electrical Equipment

Electric motors for aircraft, sealed against gases.

Electronic Equipment

Pressure sealing of relays, gyroscopes, delicate instruments and mechanisms.

Hydraulic Equipment

A variety of applications for connectors and plugs. Sealing of valves, mixture controls and associated parts where screwed fittings are employed.

All-Weather Equipment

Navigation lights, landing lights, aerial units.

Pneumatic Equipment

Compressors, flying controls, and similar equipment for dangerous vapour exclusion. Sealing of components between electrical connections, cylinder seals, couplings, all types of tube joints, rotating and pivoting units, air valves, gauges, regulators, stabilizers, fuel valves, etc.

Cabin Pressurization

Rivet heads, bulkhead fittings, flanges, regulators.

Fuel Systems

Carburetors, fuel pumps, transfer valves, selector valves, control valves, decompression valves, re-fuelling equipment, fuel pipe couplings.

IV. Típicas aplicaciones en aeronáutica

Equipamiento eléctrico

Motor eléctrico para aviones, sellado de gases.

Equipamiento electrónico

Sellado a presión de transmisiones, giroscopios, instrumentos delicados y mecanismos.

Equipamiento hidráulico

Variación de aplicaciones para conectores y tapones. Sellado de válvulas, controles mixtos y partes asociadas donde se precisa apropiados enroscados.

Equipamiento meteorológico

Luces de navegación, luces de aterrizaje, unidades aéreas.

Equipamiento neumático

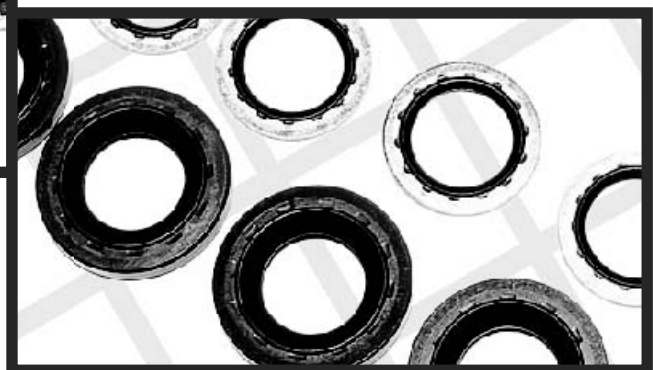
Compresores, controles aéreos y equipamientos similares para emisiones peligrosas de vapor. Sellado de componentes entre conexiones eléctricas, sellado de cilindros, acoplamientos, toda clase de uniones de tuberías, unidades de rotación y giro, válvulas de aire, indicadores, reguladores, estabilizadores, válvulas de combustible, etc.

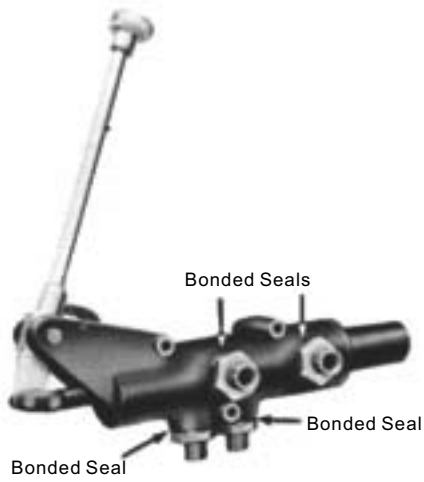
Cabina de Presurización

Cabezales de remaches, ajuste de mamparas, rebordes, reguladores.

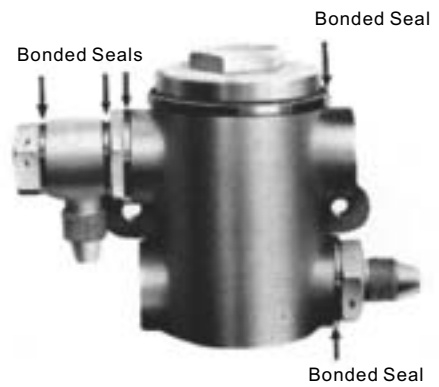
Sistemas de alimentación

Carburadores, bombas de alimentación, válvulas de transferencia, válvulas de selección, válvulas de control, válvulas de descompresión, equipamiento de re-alimentación, conexiones de tuberías.



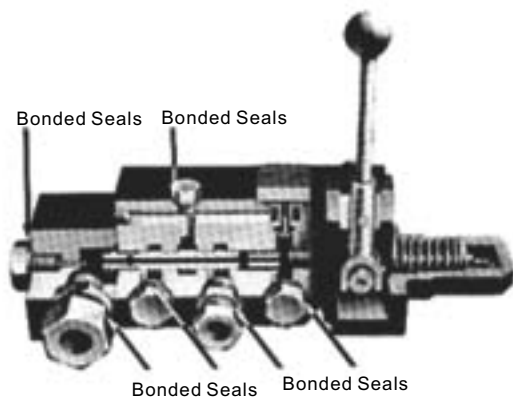
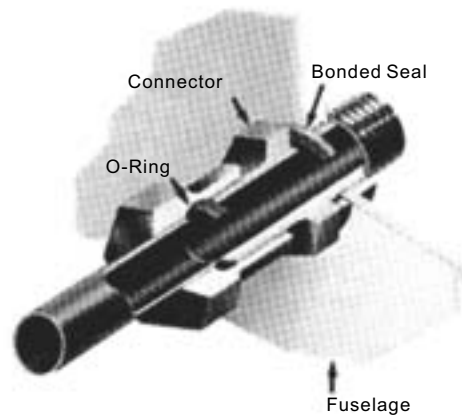
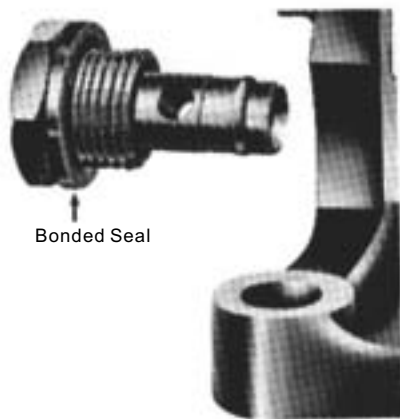


Control Valve



Hydraulic Filter

Valve Seat



Hydraulic Regulator



Stop Valve