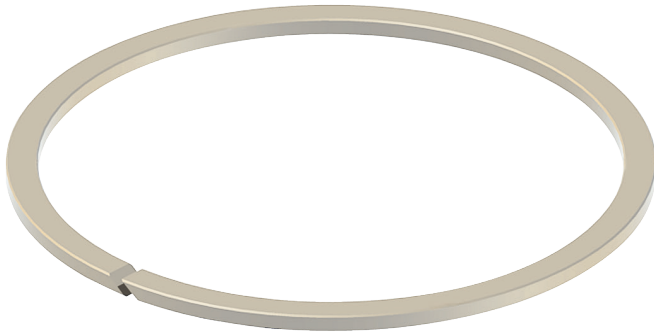


Back-Up Rings



| Materials | Temp. Range | | |
|---------------------|-------------|----|-------|
| Nitrile | -40°C | to | 120°C |
| Viton™/Fluorocarbon | -26°C | to | 204°C |
| PTFE | -268°C | to | 232°C |
| PEEK | -70°C | to | 260°C |
| Hytrel® | -54°C | to | 149°C |
| Urethane | -54°C | to | 105°C |



Solid Flat
(27595)



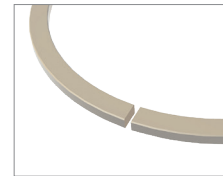
Scarf Cut
(28774)



Spiral Cut
(28782)



Solid Contoured

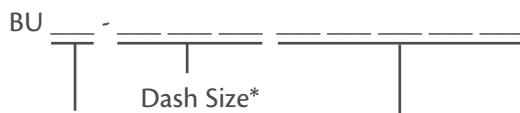


Butt Cut

Product Description

Back-up rings are plastic or rubber rings used to prevent the O-ring from entering the clearance gap. When high pressures are exerted on the O-ring, its soft rubber material can be forced into the clearance gap causing the O-ring to extrude (see our O-ring brochure for examples of O-ring failure). The hard back-up ring material will keep the O-ring material from flowing into the gap, which will prevent premature failure. MIL spec numbers 27595, 28774, and 28782 are for reference purposes only. PTFE back-up rings are manufactured to our specifications.

Part Numbers:



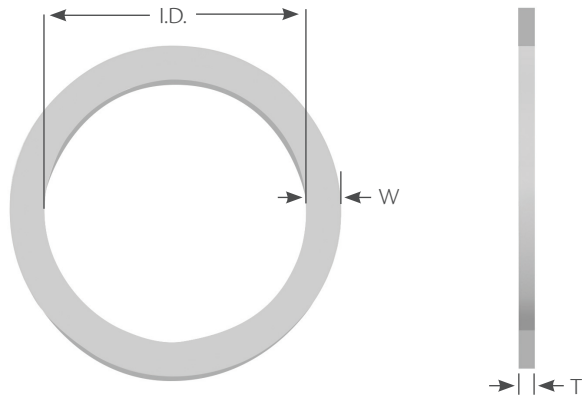
- N - Nitrile
- V - Viton™
- T - PTFE
- P - PEEK
- H - Hytrel®
- U - Urethane

Cut Style for PTFE Back-Ups:

- 27595 - Solid Flat
- 28774 - Scarf Cut
- 28782 - Spiral Cut
- Blank - Elastomer Rings

Back-Up Rings

Solid PTFE (MS 27595)



Back-Up Rings

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|-------|--------------|--------------|
| BUT 001 27595 | 0.041 | 0.040 | 0.030 |
| BUT 002 27595 | 0.054 | 0.045 | 0.040 |
| BUT 003 27595 | 0.068 | | 0.047 |
| BUT 004 27595 | 0.082 | ± 0.003 | 0.050 |
| BUT 005 27595 | 0.113 | | |
| BUT 006 27595 | 0.127 | | |
| BUT 007 27595 | 0.158 | | |
| BUT 008 27595 | 0.189 | | |
| BUT 009 27595 | 0.221 | | |
| BUT 010 27595 | 0.252 | | |
| BUT 011 27595 | 0.314 | | |
| BUT 012 27595 | 0.377 | | |
| BUT 013 27595 | 0.442 | | |
| BUT 014 27595 | 0.505 | | |
| BUT 015 27595 | 0.567 | | |
| BUT 016 27595 | 0.630 | | |
| BUT 017 27595 | 0.692 | | |
| BUT 018 27595 | 0.755 | | |
| BUT 019 27595 | 0.817 | | |
| BUT 020 27595 | 0.883 | | |
| BUT 021 27595 | 0.945 | | |
| BUT 022 27595 | 1.008 | | |
| BUT 023 27595 | 1.070 | | |
| BUT 024 27595 | 1.133 | | |
| BUT 025 27595 | 1.195 | | |
| BUT 026 27595 | 1.258 | | |
| BUT 027 27595 | 1.320 | | |
| BUT 028 27595 | 1.383 | | |
| BUT 029 27595 | 1.508 | | |
| BUT 030 27595 | 1.633 | | |
| BUT 031 27595 | 1.758 | | |
| BUT 032 27595 | 1.883 | | |
| BUT 033 27595 | 2.088 | | |
| BUT 034 27595 | 2.133 | | |
| BUT 035 27595 | 2.258 | | |
| BUT 036 27595 | 2.383 | | |

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|-------|--------------|--------------|
| BUT 037 27595 | 2.508 | ± 0.003 | 0.050 |
| BUT 038 27595 | 2.633 | | |
| BUT 039 27595 | 2.758 | | |
| BUT 040 27595 | 2.883 | | |
| BUT 041 27595 | 3.008 | | |
| BUT 042 27595 | 3.258 | | |
| BUT 043 27595 | 3.508 | | |
| BUT 044 27595 | 3.758 | | |
| BUT 045 27595 | 4.008 | | |
| BUT 046 27595 | 4.258 | | |
| BUT 047 27595 | 4.508 | | |
| BUT 048 27595 | 4.758 | | |
| BUT 049 27595 | 5.008 | | |
| BUT 050 27595 | 5.258 | | |
| | | | |
| BUT 102 27595 | 0.063 | ± 0.003 | 0.050 |
| BUT 103 27595 | 0.095 | | |
| BUT 104 27595 | 0.126 | | |
| BUT 105 27595 | 0.157 | | |
| BUT 106 27595 | 0.188 | | |
| BUT 107 27595 | 0.220 | | |
| BUT 108 27595 | 0.251 | | |
| BUT 109 27595 | 0.313 | | |
| BUT 110 27595 | 0.376 | | |
| BUT 111 27595 | 0.439 | | |
| BUT 112 27595 | 0.501 | | |
| BUT 113 27595 | 0.564 | | |
| BUT 114 27595 | 0.626 | | |
| BUT 115 27595 | 0.689 | | |
| BUT 116 27595 | 0.751 | | |
| BUT 117 27595 | 0.817 | | |
| BUT 118 27595 | 0.879 | | |
| BUT 119 27595 | 0.942 | | |
| BUT 120 27595 | 1.004 | | |
| BUT 121 27595 | 1.067 | | |
| BUT 122 27595 | 1.129 | | |

Back-Up Rings

IMPERIAL SEALS

Solid PTFE (MS 27595)

Back-Up Rings

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|---------|--------------|--------------|
| BUT 123 27595 | 1.192 | ± 0.003 | 0.050 |
| BUT 124 27595 | 1.254 | | |
| BUT 125 27595 | 1.317 | | |
| BUT 126 27595 | 1.379 | | |
| BUT 127 27595 | 1.442 | | |
| BUT 128 27595 | 1.504 | | |
| BUT 129 27595 | 1.567 | | |
| BUT 130 27595 | 1.631 | | |
| BUT 131 27595 | 1.693 | | |
| BUT 132 27595 | 1.756 | | |
| BUT 133 27595 | 1.818 | | |
| BUT 134 27595 | 1.881 | | |
| BUT 135 27595 | 1.944 | | |
| BUT 136 27595 | 2.006 | | |
| BUT 137 27595 | 2.069 | | |
| BUT 138 27595 | 2.131 | | |
| BUT 139 27595 | 2.194 | | |
| BUT 140 27595 | 2.256 | | |
| BUT 141 27595 | 2.319 | | |
| BUT 142 27595 | 2.381 | | |
| BUT 143 27595 | 2.444 | | |
| BUT 144 27595 | 2.506 | | |
| BUT 145 27595 | 2.569 | | |
| BUT 146 27595 | 2.631 | | |
| BUT 147 27595 | 2.694 | | |
| BUT 148 27595 | 2.756 | | |
| BUT 149 27595 | 2.819 | | |
| BUT 150 27595 | 2.881 | | |
| BUT 151 27595 | 3.006 | | |
| BUT 152 27595 | 3.256 | | |
| BUT 153 27595 | 3.506 | | |
| BUT 154 27595 | 3.756 | | |
| BUT 155 27595 | 4.006 | | |
| BUT 156 27595 | 4.256 | | |
| BUT 157 27595 | 4.506 | | |
| BUT 158 27595 | 4.756 | | |
| BUT 159 27595 | 5.006 | | |
| BUT 160 27595 | 5.256 | | |
| BUT 161 27595 | 5.506 | | |
| BUT 162 27595 | 5.756 | | |
| BUT 163 27595 | 6.006 | | |
| BUT 164 27595 | 6.256 | | |
| BUT 165 27595 | 6.506 | | |
| BUT 166 27595 | 6.756 | | |
| BUT 167 27595 | 7.006 | | |
| BUT 168 27595 | 7.256 | | |
| BUT 169 27595 | 7.506 | | |
| BUT 170 27595 | 7.756 | | |
| BUT 171 27595 | 8.006 | | |
| BUT 172 27595 | 8.256 | | |
| BUT 173 27595 | 8.506 | | |
| | ± 0.005 | | |

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|-------|--------------|--------------|
| BUT 174 27595 | 8.756 | ± 0.005 | 0.050 |
| BUT 175 27595 | 9.006 | | |
| BUT 176 27595 | 9.256 | | |
| BUT 177 27595 | 9.506 | | |
| BUT 178 27595 | 9.756 | | |
| | | | 0.088 |
| | | | |
| BUT 201 27595 | 0.193 | ± 0.003 | 0.050 |
| BUT 202 27595 | 0.255 | | |
| BUT 203 27595 | 0.318 | | |
| BUT 204 27595 | 0.380 | | |
| BUT 205 27595 | 0.443 | | |
| BUT 206 27595 | 0.505 | | |
| BUT 207 27595 | 0.568 | | |
| BUT 208 27595 | 0.630 | | |
| BUT 209 27595 | 0.693 | | |
| BUT 210 27595 | 0.755 | | |
| BUT 211 27595 | 0.817 | | |
| BUT 212 27595 | 0.880 | | |
| BUT 213 27595 | 0.942 | | |
| BUT 214 27595 | 1.005 | | |
| BUT 215 27595 | 1.067 | | |
| BUT 216 27595 | 1.130 | | |
| BUT 217 27595 | 1.192 | | |
| BUT 218 27595 | 1.255 | | |
| BUT 219 27595 | 1.317 | | |
| BUT 220 27595 | 1.380 | | |
| BUT 221 27595 | 1.442 | | |
| BUT 222 27595 | 1.505 | | |
| BUT 223 27595 | 1.631 | | |
| BUT 224 27595 | 1.756 | | |
| BUT 225 27595 | 1.882 | | |
| BUT 226 27595 | 2.007 | | |
| BUT 227 27595 | 2.132 | | |
| BUT 228 27595 | 2.257 | | |
| BUT 229 27595 | 2.382 | | |
| BUT 230 27595 | 2.507 | | |
| BUT 231 27595 | 2.632 | | |
| BUT 232 27595 | 2.757 | | |
| BUT 233 27595 | 2.882 | | |
| BUT 234 27595 | 3.007 | | |
| BUT 235 27595 | 3.132 | | |
| BUT 236 27595 | 3.257 | | |
| BUT 237 27595 | 3.382 | | |
| BUT 238 27595 | 3.507 | | |
| BUT 239 27595 | 3.632 | | |
| BUT 240 27595 | 3.757 | | |
| BUT 241 27595 | 3.882 | | |
| BUT 242 27595 | 4.007 | | |
| BUT 243 27595 | 4.132 | | |
| BUT 244 27595 | 4.257 | | |
| BUT 245 27595 | 4.382 | | |
| | | | |

Back-Up Rings

Solid PTFE (MS 27595)

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|--------|--------------|--------------|
| BUT 246 27595 | 4.507 | 0.050 | 0.119 |
| BUT 247 27595 | 4.632 | | |
| BUT 248 27595 | 4.757 | | |
| BUT 249 27595 | 4.882 | | |
| BUT 250 27595 | 5.007 | | |
| BUT 251 27595 | 5.132 | | |
| BUT 252 27595 | 5.257 | | |
| BUT 253 27595 | 5.382 | | |
| BUT 254 27595 | 5.507 | | |
| BUT 255 27595 | 5.632 | | |
| BUT 256 27595 | 5.757 | | |
| BUT 257 27595 | 5.882 | | |
| BUT 258 27595 | 6.007 | | |
| BUT 259 27595 | 6.257 | | |
| BUT 260 27595 | 6.507 | | |
| BUT 261 27595 | 6.757 | | |
| BUT 262 27595 | 7.007 | | |
| BUT 263 27595 | 7.257 | | |
| BUT 264 27595 | 7.507 | | |
| BUT 265 27595 | 7.757 | | |
| BUT 266 27595 | 8.007 | | |
| BUT 267 27595 | 8.257 | | |
| BUT 268 27595 | 8.507 | | |
| BUT 269 27595 | 8.757 | | |
| BUT 270 27595 | 9.007 | | |
| BUT 271 27595 | 9.257 | | |
| BUT 272 27595 | 9.507 | | |
| BUT 273 27595 | 9.757 | | |
| BUT 274 27595 | 10.007 | | |
| BUT 275 27595 | 10.507 | | |
| BUT 276 27595 | 11.007 | | |
| BUT 277 27595 | 11.507 | | |
| BUT 278 27595 | 12.007 | | |
| BUT 279 27595 | 13.007 | | |
| BUT 280 27595 | 14.007 | | |
| BUT 281 27595 | 15.007 | | |
| BUT 282 27595 | 16.007 | | |
| BUT 283 27595 | 17.007 | | |
| BUT 284 27595 | 18.007 | | |
| | | | |
| BUT 309 27595 | 0.437 | ± 0.003 | 0.185 |
| BUT 310 27595 | 0.499 | | |
| BUT 311 27595 | 0.562 | | |
| BUT 312 27595 | 0.624 | | |
| BUT 313 27595 | 0.687 | | |
| BUT 314 27595 | 0.749 | | |
| BUT 315 27595 | 0.812 | | |
| BUT 316 27595 | 0.874 | | |
| BUT 317 27595 | 0.937 | | |
| BUT 318 27595 | 0.999 | | |
| BUT 319 27595 | 1.062 | | |

| Part Number | I.D. | T ± 0.002 | W ± 0.002 |
|---------------|-------|--------------|--------------|
| BUT 320 27595 | 1.124 | 0.073 | 0.185 |
| BUT 321 27595 | 1.187 | | |
| BUT 322 27595 | 1.249 | | |
| BUT 323 27595 | 1.312 | | |
| BUT 324 27595 | 1.374 | | |
| BUT 325 27595 | 1.499 | | |
| BUT 326 27595 | 1.624 | | |
| BUT 327 27595 | 1.750 | | |
| BUT 328 27595 | 1.875 | | |
| BUT 329 27595 | 2.000 | | |
| BUT 330 27595 | 2.125 | | |
| BUT 331 27595 | 2.250 | | |
| BUT 332 27595 | 2.375 | | |
| BUT 333 27595 | 2.500 | | |
| BUT 334 27595 | 2.625 | | |
| BUT 335 27595 | 2.750 | | |
| BUT 336 27595 | 2.875 | | |
| BUT 337 27595 | 3.000 | | |
| BUT 338 27595 | 3.125 | | |
| BUT 339 27595 | 3.250 | | |
| BUT 340 27595 | 3.375 | | |
| BUT 341 27595 | 3.500 | | |
| BUT 342 27595 | 3.625 | | |
| BUT 343 27595 | 3.750 | | |
| BUT 344 27595 | 3.875 | | |
| BUT 345 27595 | 4.000 | | |
| BUT 346 27595 | 4.125 | | |
| BUT 347 27595 | 4.250 | | |
| BUT 348 27595 | 4.375 | | |
| BUT 349 27595 | 4.500 | | |
| BUT 350 27595 | 4.625 | | |
| BUT 351 27595 | 4.750 | | |
| BUT 352 27595 | 4.875 | | |
| BUT 353 27595 | 5.000 | | |
| BUT 354 27595 | 5.125 | | |
| BUT 355 27595 | 5.250 | | |
| BUT 356 27595 | 5.375 | | |
| BUT 357 27595 | 5.500 | | |
| BUT 358 27595 | 5.625 | | |
| BUT 359 27595 | 5.750 | | |
| BUT 360 27595 | 5.875 | | |
| BUT 361 27595 | 6.000 | | |
| BUT 362 27595 | 6.250 | | |
| BUT 363 27595 | 6.500 | | |
| BUT 364 27595 | 6.750 | | |
| BUT 365 27595 | 7.000 | | |
| BUT 366 27595 | 7.250 | | |
| BUT 367 27595 | 7.500 | | |
| BUT 368 27595 | 7.750 | | |
| BUT 369 27595 | 8.000 | | |
| BUT 370 27595 | 8.251 | | |

Back-Up Rings

Back-Up Rings

IMPERIAL SEALS

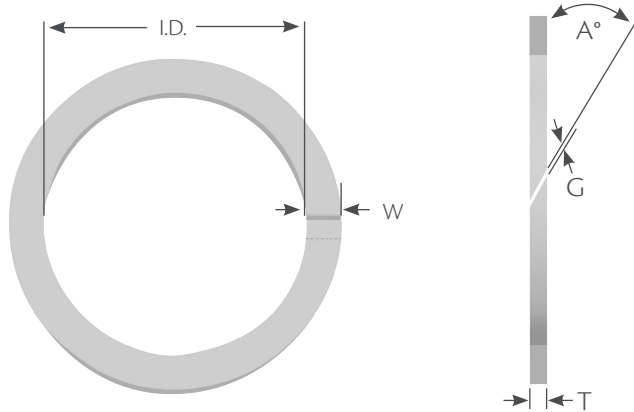
Solid PTFE (MS 27595)

| Part Number | I.D. | T ± 0.002 | W ± 0.002 | | |
|---------------|--------|--------------|--------------|---------|-------|
| BUT 371 27595 | 8.501 | ± 0.005 | 0.073 | | |
| BUT 372 27595 | 8.751 | | | | |
| BUT 373 27595 | 9.001 | | | | |
| BUT 374 27595 | 9.251 | | | | |
| BUT 375 27595 | 9.501 | | | | |
| BUT 376 27595 | 9.751 | | | | |
| BUT 377 27595 | 10.001 | | | | |
| BUT 378 27595 | 10.501 | | | | |
| BUT 379 27595 | 11.001 | | | | |
| BUT 380 27595 | 11.501 | | | | |
| BUT 381 27595 | 12.001 | | | | |
| BUT 382 27595 | 13.001 | | | | |
| BUT 383 27595 | 14.001 | | | | |
| BUT 384 27595 | 15.001 | | | | |
| BUT 385 27595 | 16.001 | | | | |
| BUT 386 27595 | 17.001 | | | | |
| BUT 387 27595 | 18.001 | | | | |
| BUT 388 27595 | 19.001 | | | | |
| BUT 389 27595 | 20.001 | | | | |
| BUT 390 27595 | 21.001 | | | | |
| BUT 391 27595 | 22.001 | | | | |
| BUT 392 27595 | 23.001 | | | | |
| BUT 393 27595 | 24.001 | | | | |
| BUT 394 27595 | 25.001 | | | | |
| BUT 395 27595 | 26.001 | | | | |
| | | | | | |
| BUT 400 27595 | 1.379 | | | ± 0.003 | 0.108 |
| BUT 401 27595 | 1.504 | | | | |
| BUT 402 27595 | 1.629 | | | | |
| BUT 403 27595 | 1.754 | | | | |
| BUT 404 27595 | 1.879 | | | | |
| BUT 405 27595 | 2.004 | | | | |
| BUT 406 27595 | 2.129 | | | | |
| BUT 407 27595 | 2.254 | | | | |
| BUT 408 27595 | 2.379 | | | | |
| BUT 409 27595 | 2.504 | | | | |
| BUT 410 27595 | 2.629 | | | | |
| BUT 411 27595 | 2.754 | | | | |
| BUT 412 27595 | 2.879 | | | | |
| BUT 413 27595 | 3.004 | | | | |
| BUT 414 27595 | 3.129 | | | | |
| BUT 415 27595 | 3.254 | | | | |
| BUT 416 27595 | 3.379 | | | | |
| BUT 417 27595 | 3.504 | | | | |
| BUT 418 27595 | 3.629 | | | | |
| BUT 419 27595 | 3.754 | | | | |
| BUT 420 27595 | 3.879 | | | | |
| BUT 421 27595 | 4.004 | | | | |
| BUT 422 27595 | 4.129 | | | | |
| BUT 423 27595 | 4.254 | | | | |
| BUT 424 27595 | 4.379 | | | | |

| Part Number | I.D. | T ± 0.002 | W ± 0.002 | | |
|---------------|--------|--------------|--------------|---------|-------|
| BUT 425 27595 | 4.504 | ± 0.003 | 0.108 | | |
| BUT 426 27595 | 4.629 | | | | |
| BUT 427 27595 | 4.754 | | | | |
| BUT 428 27595 | 4.879 | | | | |
| BUT 429 27595 | 5.004 | | | | |
| BUT 430 27595 | 5.129 | | | | |
| BUT 431 27595 | 5.254 | | | | |
| BUT 432 27595 | 5.379 | | | | |
| BUT 433 27595 | 5.504 | | | | |
| BUT 434 27595 | 5.629 | | | | |
| BUT 435 27595 | 5.754 | | | | |
| BUT 436 27595 | 5.879 | | | | |
| BUT 437 27595 | 6.004 | | | | |
| BUT 438 27595 | 6.254 | | | | |
| BUT 439 27595 | 6.504 | | | | |
| BUT 440 27595 | 6.754 | | | | |
| BUT 441 27595 | 7.004 | | | | |
| BUT 442 27595 | 7.254 | | | | |
| BUT 443 27595 | 7.504 | | | | |
| BUT 444 27595 | 7.754 | | | | |
| BUT 445 27595 | 8.004 | | | | |
| BUT 446 27595 | 8.505 | | | ± 0.005 | 0.236 |
| BUT 447 27595 | 9.005 | | | | |
| BUT 448 27595 | 9.505 | | | | |
| BUT 449 27595 | 10.005 | | | | |
| BUT 450 27595 | 10.505 | | | | |
| BUT 451 27595 | 11.005 | | | | |
| BUT 452 27595 | 11.505 | | | | |
| BUT 453 27595 | 12.005 | | | | |
| BUT 454 27595 | 12.505 | | | | |
| BUT 455 27595 | 13.005 | | | | |
| BUT 456 27595 | 13.505 | | | | |
| BUT 457 27595 | 14.005 | | | | |
| BUT 458 27595 | 14.505 | | | | |
| BUT 459 27595 | 15.005 | | | | |
| BUT 460 27595 | 15.505 | | | | |
| BUT 461 27595 | 16.005 | | | | |
| BUT 462 27595 | 16.505 | | | | |
| BUT 463 27595 | 17.005 | | | | |
| BUT 464 27595 | 17.505 | | | | |
| BUT 465 27595 | 18.005 | | | | |
| BUT 466 27595 | 18.505 | | | | |
| BUT 467 27595 | 19.005 | | | | |
| BUT 468 27595 | 19.505 | | | | |
| BUT 469 27595 | 20.005 | | | | |
| BUT 470 27595 | 21.005 | | | | |
| BUT 471 27595 | 22.005 | | | | |
| BUT 472 27595 | 23.005 | | | | |
| BUT 473 27595 | 24.005 | | | | |
| BUT 474 27595 | 25.005 | | | | |
| BUT 475 27595 | 26.005 | | | | |

Back-Up Rings

Scarf PTFE (MS 28774)



Back-Up Rings

| Part Number | I.D. | T | W ± 0.002 | G | A° |
|---------------|-------|---------|--------------|----------------|----------|
| BUT 001 28774 | 0.072 | ± 0.003 | 0.030 | 0.005 to 0.000 | 39 +0 -4 |
| BUT 002 28774 | 0.085 | | 0.038 | | |
| BUT 003 28774 | 0.097 | | 0.045 | | |
| BUT 004 28774 | 0.111 | | | | |
| BUT 005 28774 | 0.126 | | | | 33 +0 -3 |
| BUT 006 28774 | 0.142 | | | | 30 +0 -3 |
| BUT 007 28774 | 0.173 | | | | 26 +0 -3 |
| BUT 008 28774 | 0.204 | | | | |
| BUT 009 28774 | 0.236 | | | | |
| BUT 010 28774 | 0.267 | | | | |
| BUT 011 28774 | 0.329 | | | | |
| BUT 012 28774 | 0.392 | | | | |
| BUT 013 28774 | 0.457 | | | | |
| BUT 014 28774 | 0.520 | | | | |
| BUT 015 28774 | 0.582 | | | | |
| BUT 016 28774 | 0.645 | | | | |
| BUT 017 28774 | 0.707 | | | | |
| BUT 018 28774 | 0.770 | | | | |
| BUT 019 28774 | 0.832 | | | | |
| BUT 020 28774 | 0.900 | | | | |
| BUT 021 28774 | 0.962 | | | | |
| BUT 022 28774 | 1.025 | | | | |
| BUT 023 28774 | 1.087 | | | | |
| BUT 024 28774 | 1.150 | | | | |
| BUT 025 28774 | 1.212 | | | | |
| BUT 026 28774 | 1.275 | | | | |
| BUT 027 28774 | 1.337 | | | | |
| BUT 028 28774 | 1.400 | | | | |
| BUT 029 28774 | 1.525 | | | | |
| BUT 030 28774 | 1.650 | | | | |
| BUT 031 28774 | 1.775 | | | | |
| BUT 032 28774 | 1.900 | | | | |
| BUT 033 28774 | 2.025 | | | | |
| BUT 034 28774 | 2.150 | | | | |
| BUT 035 28774 | 2.275 | | | | |

| Part Number | I.D. | T | W ± 0.002 | G | A° |
|---------------|-------|----------------|--------------|----------------|----------|
| BUT 036 28774 | 2.400 | ± 0.003 | 0.053 | 0.005 to 0.000 | 22 +0 -3 |
| BUT 037 28774 | 2.525 | | | | |
| BUT 038 28774 | 2.650 | | | | |
| BUT 039 28774 | 2.775 | | | | |
| BUT 040 28774 | 2.900 | | | | |
| BUT 041 28774 | 3.025 | | | | |
| BUT 042 28774 | 3.275 | | | | |
| BUT 043 28774 | 3.525 | | | | |
| BUT 044 28774 | 3.775 | | | | |
| BUT 045 28774 | 4.025 | | | | |
| BUT 046 28774 | 4.275 | | | | |
| BUT 047 28774 | 4.525 | | | | |
| BUT 048 28774 | 4.775 | | | | |
| BUT 049 28774 | 5.025 | | | | |
| BUT 050 28774 | 5.275 | | | | |
| BUT 102 28774 | 0.080 | 0.052 to 0.045 | 0.086 | 0.006 to 0.000 | 22 +0 -3 |
| BUT 103 28774 | 0.111 | | | | |
| BUT 104 28774 | 0.142 | | | | |
| BUT 105 28774 | 0.173 | | | | |
| BUT 106 28774 | 0.205 | | | | |
| BUT 107 28774 | 0.236 | | | | |
| BUT 108 28774 | 0.267 | | | | |
| BUT 109 28774 | 0.330 | | | | |
| BUT 110 28774 | 0.392 | | | | |
| BUT 111 28774 | 0.454 | | | | |
| BUT 112 28774 | 0.517 | | | | |
| BUT 113 28774 | 0.579 | | | | |
| BUT 114 28774 | 0.642 | | | | |
| BUT 115 28774 | 0.704 | | | | |
| BUT 116 28774 | 0.767 | | | | |
| BUT 117 28774 | 0.834 | | | | |
| BUT 118 28774 | 0.897 | | | | |
| BUT 119 28774 | 0.959 | | | | |
| BUT 120 28774 | 1.022 | | | | |
| BUT 121 28774 | 1.084 | | | | |

Back-Up Rings

IMPERIAL SEALS

Scarf PTFE (MS 28774)

Back-Up Rings

| Part Number | I.D. | T | W ± 0.002 | G | A° | |
|---------------|-------|---------|--------------|-------|-------|----------|
| BUT 122 28774 | 1.147 | | | | | |
| BUT 123 28774 | 1.209 | | | | | |
| BUT 124 28774 | 1.272 | | | | | |
| BUT 125 28774 | 1.334 | | | | | |
| BUT 126 28774 | 1.399 | | | | | |
| BUT 127 28774 | 1.461 | | | | | |
| BUT 128 28774 | 1.524 | | | | | |
| BUT 129 28774 | 1.586 | | | | | |
| BUT 130 28774 | 1.649 | | | | | |
| BUT 131 28774 | 1.711 | | | | | |
| BUT 132 28774 | 1.774 | | | | | |
| BUT 133 28774 | 1.836 | | | | | |
| BUT 134 28774 | 1.899 | | | | | |
| BUT 135 28774 | 1.961 | | | | | |
| BUT 136 28774 | 2.024 | | | | | |
| BUT 137 28774 | 2.086 | | | | | |
| BUT 138 28774 | 2.149 | | | | | |
| BUT 139 28774 | 2.211 | | | | | |
| BUT 140 28774 | 2.260 | | | | | |
| BUT 141 28774 | 2.322 | | | | | |
| BUT 142 28774 | 2.385 | | | | | |
| BUT 143 28774 | 2.447 | | | | | |
| BUT 144 28774 | 2.510 | | | | | |
| BUT 145 28774 | 2.572 | | | | | |
| BUT 146 28774 | 2.635 | ± 0.003 | 0.052 | 0.086 | 0.006 | 22 +0 -3 |
| BUT 147 28774 | 2.697 | | to | | to | |
| BUT 148 28774 | 2.760 | | 0.045 | | 0.000 | |
| BUT 149 28774 | 2.822 | | | | | |
| BUT 150 28774 | 2.947 | | | | | |
| BUT 151 28774 | 3.197 | | | | | |
| BUT 152 28774 | 3.447 | | | | | |
| BUT 153 28774 | 3.697 | | | | | |
| BUT 154 28774 | 3.947 | | | | | |
| BUT 155 28774 | 4.197 | | | | | |
| BUT 156 28774 | 4.447 | | | | | |
| BUT 157 28774 | 4.697 | | | | | |
| BUT 158 28774 | 4.947 | | | | | |
| BUT 159 28774 | 5.197 | | | | | |
| BUT 160 28774 | 5.447 | | | | | |
| BUT 161 28774 | 5.697 | | | | | |
| BUT 162 28774 | 5.947 | | | | | |
| BUT 163 28774 | 6.197 | | | | | |
| BUT 164 28774 | 6.447 | | | | | |
| BUT 165 28774 | 6.697 | | | | | |
| BUT 166 28774 | 6.947 | | | | | |
| BUT 167 28774 | 7.197 | | | | | |
| BUT 168 28774 | 7.447 | | | | | |
| BUT 169 28774 | 7.697 | | | | | |
| BUT 170 28774 | 7.947 | | | | | |
| BUT 171 28774 | 8.197 | | | | | |

| Part Number | I.D. | T | W ± 0.002 | G | A° | |
|---------------|-------|---------|--------------|-------|-------|----------|
| BUT 172 28774 | 8.447 | | | | | |
| BUT 173 28774 | 8.697 | | | | | |
| BUT 174 28774 | 8.947 | | | | | |
| BUT 175 28774 | 9.197 | ± 0.003 | 0.052 | 0.086 | 0.006 | 22 +0 -3 |
| BUT 176 28774 | 9.447 | | to | | to | |
| BUT 177 28774 | 9.697 | | 0.045 | | 0.000 | |
| BUT 178 28774 | 9.947 | | | | | |
| BUT 201 28774 | 0.196 | | | | | |
| BUT 202 28774 | 0.258 | | | | | |
| BUT 203 28774 | 0.321 | | | | | |
| BUT 204 28774 | 0.383 | | | | | |
| BUT 205 28774 | 0.446 | | | | | |
| BUT 206 28774 | 0.508 | | | | | |
| BUT 207 28774 | 0.571 | | | | | |
| BUT 208 28774 | 0.633 | | | | | |
| BUT 209 28774 | 0.696 | | | | | |
| BUT 210 28774 | 0.758 | | | | | |
| BUT 211 28774 | 0.821 | | | | | |
| BUT 212 28774 | 0.883 | | | | | 0.006 |
| BUT 213 28774 | 0.946 | | | | | to |
| BUT 214 28774 | 1.008 | | | | | 0.000 |
| BUT 215 28774 | 1.071 | | | | | |
| BUT 216 28774 | 1.133 | | | | | |
| BUT 217 28774 | 1.196 | | | | | |
| BUT 218 28774 | 1.258 | | | | | |
| BUT 219 28774 | 1.321 | | | | | |
| BUT 220 28774 | 1.383 | | | | | |
| BUT 221 28774 | 1.446 | ± 0.003 | 0.052 | 0.119 | | 22 +0 -3 |
| BUT 222 28774 | 1.508 | | to | | | |
| BUT 223 28774 | 1.633 | | 0.045 | | | |
| BUT 224 28774 | 1.758 | | | | | |
| BUT 225 28774 | 1.883 | | | | | |
| BUT 226 28774 | 2.008 | | | | | |
| BUT 227 28774 | 2.133 | | | | | |
| BUT 228 28774 | 2.258 | | | | | |
| BUT 229 28774 | 2.383 | | | | | |
| BUT 230 28774 | 2.508 | | | | | |
| BUT 231 28774 | 2.633 | | | | | |
| BUT 232 28774 | 2.758 | | | | | |
| BUT 233 28774 | 2.883 | | | | | |
| BUT 234 28774 | 3.008 | | | | | |
| BUT 235 28774 | 3.133 | | | | | |
| BUT 236 28774 | 3.258 | | | | | |
| BUT 237 28774 | 3.383 | | | | | |
| BUT 238 28774 | 3.508 | | | | | |
| BUT 239 28774 | 3.633 | | | | | |
| BUT 240 28774 | 3.758 | | | | | |
| BUT 241 28774 | 3.883 | | | | | |
| BUT 242 28774 | 4.008 | | | | | 0.007 |
| | | | | | | to |
| | | | | | | 0.000 |

Back-Up Rings

Scarf PTFE (MS 28774)

| Part Number | I.D. | T ± 0.005 | W ± 0.002 | G | A° | |
|---------------|--------|--------------|----------------|-------|----------------|----------|
| BUT 243 28774 | 4.133 | | | | | |
| BUT 244 28774 | 4.258 | | | | | |
| BUT 245 28774 | 4.383 | | | | | |
| BUT 246 28774 | 4.508 | | | | | |
| BUT 247 28774 | 4.633 | | | | | |
| BUT 248 28774 | 4.758 | | | | | |
| BUT 249 28774 | 4.883 | | | | | |
| BUT 250 28774 | 5.008 | | | | | |
| BUT 251 28774 | 5.133 | | | | | |
| BUT 252 28774 | 5.258 | | | | | |
| BUT 253 28774 | 5.383 | | | | | |
| BUT 254 28774 | 5.508 | | | | | |
| BUT 255 28774 | 5.633 | | | | | |
| BUT 256 28774 | 5.758 | | | | | |
| BUT 257 28774 | 5.883 | | | | | |
| BUT 258 28774 | 6.008 | | | | | |
| BUT 259 28774 | 6.258 | | | | | |
| BUT 260 28774 | 6.508 | | | | | |
| BUT 261 28774 | 6.758 | | | | | |
| BUT 262 28774 | 7.008 | | | | | |
| BUT 263 28774 | 7.258 | | | | | |
| BUT 264 28774 | 7.508 | ± 0.003 | 0.052 to 0.045 | 0.119 | 0.007 to 0.000 | 22 +0 -3 |
| BUT 265 28774 | 7.758 | | | | | |
| BUT 266 28774 | 8.008 | | | | | |
| BUT 267 28774 | 8.258 | | | | | |
| BUT 268 28774 | 8.508 | | | | | |
| BUT 269 28774 | 8.758 | | | | | |
| BUT 270 28774 | 9.008 | | | | | |
| BUT 271 28774 | 9.258 | | | | | |
| BUT 272 28774 | 9.508 | | | | | |
| BUT 273 28774 | 9.758 | | | | | |
| BUT 274 28774 | 10.008 | | | | | |
| BUT 275 28774 | 10.508 | | | | | |
| BUT 276 28774 | 11.008 | | | | | |
| BUT 277 28774 | 11.508 | | | | | |
| BUT 278 28774 | 12.008 | | | | | |
| BUT 279 28774 | 13.008 | | | | | |
| BUT 280 28774 | 14.008 | | | | | |
| BUT 281 28774 | 15.008 | | | | | |
| BUT 282 28774 | 16.008 | | | | | |
| BUT 283 28774 | 17.008 | | | | | |
| BUT 284 28774 | 18.008 | | | | | |
| BUT 309 28774 | 0.453 | | | | | |
| BUT 310 28774 | 0.515 | | | | | |
| BUT 311 28774 | 0.578 | ± 0.003 | 0.070 | 0.183 | 0.007 to 0.000 | 22 +0 -3 |
| BUT 312 28774 | 0.640 | | | | | |
| BUT 313 28774 | 0.703 | | | | | |
| BUT 314 28774 | 0.765 | | | | | |
| BUT 315 28774 | 0.828 | | | | | |
| BUT 316 28774 | 0.890 | | | | | |
| BUT 317 28774 | 0.953 | | | | | |
| BUT 318 28774 | 1.015 | | | | | |
| BUT 319 28774 | 1.078 | | | | | |
| BUT 320 28774 | 1.140 | | | | | |
| BUT 321 28774 | 1.203 | | | | | |
| BUT 322 28774 | 1.265 | | | | | |
| BUT 323 28774 | 1.328 | | | | | |
| BUT 324 28774 | 1.390 | | | | | |
| BUT 325 28774 | 1.515 | | | | | |
| BUT 326 28774 | 1.640 | | | | | |
| BUT 327 28774 | 1.765 | | | | | |
| BUT 328 28774 | 1.890 | | | | | |
| BUT 329 28774 | 2.015 | | | | | |
| BUT 330 28774 | 2.140 | | | | | |
| BUT 331 28774 | 2.270 | | | | | |
| BUT 332 28774 | 2.395 | | | | | |
| BUT 333 28774 | 2.520 | | | | | |
| BUT 334 28774 | 2.645 | | | | | |
| BUT 335 28774 | 2.770 | | | | | |
| BUT 336 28774 | 2.895 | | | | | |
| BUT 337 28774 | 3.020 | | | | | |
| BUT 338 28774 | 3.145 | | | | | |
| BUT 339 28774 | 3.275 | | | | | |
| BUT 340 28774 | 3.400 | ± 0.003 | 0.070 | 0.183 | 0.007 to 0.000 | 22 +0 -3 |
| BUT 341 28774 | 3.525 | | | | | |
| BUT 342 28774 | 3.650 | | | | | |
| BUT 343 28774 | 3.775 | | | | | |
| BUT 344 28774 | 3.900 | | | | | |
| BUT 345 28774 | 4.030 | | | | | |
| BUT 346 28774 | 4.155 | | | | | |
| BUT 347 28774 | 4.280 | | | | | |
| BUT 348 28774 | 4.405 | | | | | |
| BUT 349 28774 | 4.530 | | | | | |
| BUT 350 28774 | 4.655 | | | | | |
| BUT 351 28774 | 4.780 | | | | | |
| BUT 352 28774 | 4.905 | | | | | |
| BUT 353 28774 | 5.030 | | | | | |
| BUT 354 28774 | 5.155 | | | | | |
| BUT 355 28774 | 5.280 | | | | | |
| BUT 356 28774 | 5.405 | | | | | |
| BUT 357 28774 | 5.530 | | | | | |
| BUT 358 28774 | 5.655 | | | | | |
| BUT 359 28774 | 5.780 | | | | | |
| BUT 360 28774 | 5.905 | | | | | |
| BUT 361 28774 | 6.030 | | | | | |
| BUT 362 28774 | 6.280 | | | | | |
| BUT 363 28774 | 6.530 | | | | | |
| BUT 364 28774 | 6.780 | | | | | |
| BUT 365 28774 | 7.030 | | | | | |

Back-Up Rings

Back-Up Rings

IMPERIAL SEALS

Scarfed PTFE (MS 28774)

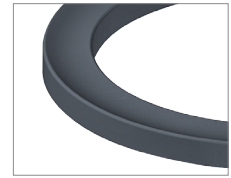
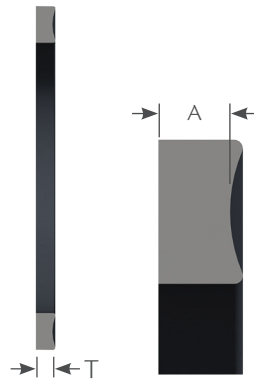
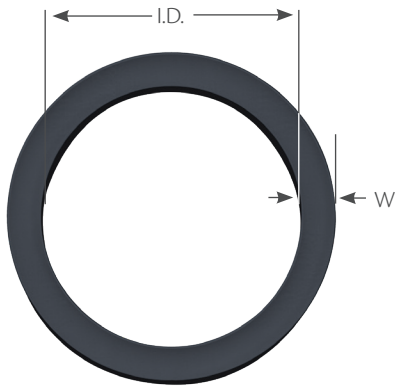
| Part Number | I.D. | T ± 0.005 | W ± 0.002 | G | A° |
|---------------|--------|--------------|--------------|-------|----------------------|
| BUT 366 28774 | 7.280 | | | | |
| BUT 367 28774 | 7.530 | | | | |
| BUT 368 28774 | 7.780 | | | | |
| BUT 369 28774 | 8.030 | | | | |
| BUT 370 28774 | 8.280 | | | | |
| BUT 371 28774 | 8.530 | | | | |
| BUT 372 28774 | 8.780 | | | | |
| BUT 373 28774 | 9.030 | | | | |
| BUT 374 28774 | 9.280 | | | | |
| BUT 375 28774 | 9.530 | | | | |
| BUT 376 28774 | 9.780 | | | | |
| BUT 377 28774 | 10.030 | | | | |
| BUT 378 28774 | 10.530 | | | | |
| BUT 379 28774 | 11.030 | | | | |
| BUT 380 28774 | 11.530 | ± 0.003 | 0.070 | 0.183 | 0.007 to 0.000 |
| BUT 381 28774 | 12.030 | | | | |
| BUT 382 28774 | 13.030 | | | | |
| BUT 383 28774 | 14.030 | | | | |
| BUT 384 28774 | 15.030 | | | | |
| BUT 385 28774 | 16.030 | | | | |
| BUT 386 28774 | 17.030 | | | | |
| BUT 387 28774 | 18.030 | | | | |
| BUT 388 28774 | 19.030 | | | | |
| BUT 389 28774 | 20.030 | | | | |
| BUT 390 28774 | 21.030 | | | | |
| BUT 391 28774 | 22.030 | | | | |
| BUT 392 28774 | 23.030 | | | | |
| BUT 393 28774 | 24.030 | | | | |
| BUT 394 28774 | 25.030 | | | | |
| BUT 395 28774 | 26.030 | | | | |
| | | | | | |
| BUT 425 28774 | 4.553 | ± 0.003 | 0.105 | 0.236 | 0.008 to 0.000 |
| BUT 426 28774 | 4.678 | | | | |
| BUT 427 28774 | 4.803 | | | | |
| BUT 428 28774 | 4.928 | | | | |
| BUT 429 28774 | 5.053 | | | | |
| BUT 430 28774 | 5.178 | | | | |
| BUT 431 28774 | 5.303 | | | | |
| BUT 432 28774 | 5.428 | | | | |
| BUT 433 28774 | 5.553 | | | | |
| BUT 434 28774 | 5.678 | | | | |
| BUT 435 28774 | 5.803 | | | | |
| BUT 436 28774 | 5.928 | | | | |
| BUT 437 28774 | 6.053 | | | | |
| BUT 438 28774 | 6.276 | | | | |
| BUT 439 28774 | 6.526 | | | | |
| BUT 440 28774 | 6.776 | | | | |
| BUT 441 28774 | 7.026 | | | | |

| Part Number | I.D. | T ± 0.005 | W ± 0.002 | G | A° |
|---------------|--------|--------------|--------------|-------|----------------------|
| BUT 442 28774 | 7.276 | | | | |
| BUT 443 28774 | 7.526 | | | | |
| BUT 444 28774 | 7.776 | | | | |
| BUT 445 28774 | 8.026 | | | | |
| BUT 446 28774 | 8.526 | | | | |
| BUT 447 28774 | 9.026 | | | | |
| BUT 448 28774 | 9.526 | | | | |
| BUT 449 28774 | 10.026 | | | | |
| BUT 450 28774 | 10.526 | | | | |
| BUT 451 28774 | 11.026 | | | | |
| BUT 452 28774 | 11.526 | | | | |
| BUT 453 28774 | 12.026 | | | | |
| BUT 454 28774 | 12.526 | | | | |
| BUT 455 28774 | 13.026 | | | | |
| BUT 456 28774 | 13.526 | | | | |
| BUT 457 28774 | 14.026 | | | | |
| BUT 458 28774 | 14.526 | ± 0.003 | 0.105 | 0.236 | 0.010 to 0.000 |
| BUT 459 28774 | 15.026 | | | | |
| BUT 460 28774 | 15.526 | | | | |
| BUT 461 28774 | 16.026 | | | | |
| BUT 462 28774 | 16.526 | | | | |
| BUT 463 28774 | 17.026 | | | | |
| BUT 464 28774 | 17.526 | | | | |
| BUT 465 28774 | 18.026 | | | | |
| BUT 466 28774 | 18.526 | | | | |
| BUT 467 28774 | 19.026 | | | | |
| BUT 468 28774 | 19.526 | | | | |
| BUT 469 28774 | 20.026 | | | | |
| BUT 470 28774 | 21.026 | | | | |
| BUT 471 28774 | 22.026 | | | | |
| BUT 472 28774 | 23.026 | | | | |
| BUT 473 28774 | 24.026 | | | | |
| BUT 474 28774 | 25.026 | | | | |
| BUT 475 28774 | 26.026 | | | | |

Back-Up Rings

Back-Up Rings

Contoured Sizes



Back-Up Rings

| Dash No. | I.D. | W | T | A | | | |
|----------|-------|---------|-------|------------------|---------|------------------|------------------|
| 004 | 0.096 | ± 0.005 | 0.049 | 0.045 ± 0.003 | | | |
| 005 | 0.127 | | | | | | |
| 006 | 0.140 | | | | | | |
| 007 | 0.171 | | | | | | |
| 008 | 0.202 | | | | | | |
| 009 | 0.234 | | | | | | |
| 010 | 0.265 | | | | | | |
| 011 | 0.327 | | | | | | |
| 012 | 0.390 | | | | | | |
| 013 | 0.455 | | | | | | |
| 014 | 0.518 | | | | | | |
| 015 | 0.580 | | | | | | |
| 016 | 0.643 | | | | ± 0.009 | 0.053 ± 0.003 | 0.045 ± 0.003 |
| 017 | 0.705 | | | | | | |
| 018 | 0.768 | | | | | | |
| 019 | 0.830 | | | | | | |
| 020 | 0.893 | | | | | | |
| 021 | 0.955 | | | | | | |
| 022 | 1.018 | ± 0.010 | 0.049 | 0.045 ± 0.003 | | | |
| 023 | 1.080 | | | | | | |
| 024 | 1.143 | | | | | | |
| 025 | 1.205 | ± 0.011 | 0.049 | 0.045 ± 0.003 | | | |
| 026 | 1.268 | | | | | | |
| 027 | 1.330 | ± 0.013 | 0.049 | 0.045 ± 0.003 | | | |
| 028 | 1.393 | | | | | | |
| 029 | 1.518 | | | | | | |
| 030 | 1.643 | ± 0.015 | 0.049 | 0.045 ± 0.003 | | | |
| 031 | 1.768 | | | | | | |
| 032 | 1.893 | | | | | | |
| 033 | 2.018 | ± 0.018 | 0.049 | 0.045 ± 0.003 | | | |
| 034 | 2.143 | | | | | | |
| 035 | 2.268 | | | | | | |
| 036 | 2.393 | | | | | | |
| 037 | 2.519 | | | | | | |
| 038 | 2.643 | | | | | | |
| 039 | 2.768 | ± 0.020 | 0.049 | 0.045 ± 0.003 | | | |

| Dash No. | I.D. | W | T | A |
|----------|-------|------------------|-------|------------------|
| 040 | 2.893 | 0.053 ± 0.003 | 0.049 | 0.045 ± 0.003 |
| 041 | 3.018 | | | |
| 042 | 3.268 | | | |
| 043 | 3.518 | | | |
| 044 | 3.768 | | | |
| 045 | 4.018 | | | |
| 046 | 4.268 | | | |
| 047 | 4.518 | | | |
| 048 | 4.768 | | | |
| 049 | 5.018 | | | |
| 050 | 5.268 | | | |
| 102 | 0.077 | 0.086 ± 0.003 | 0.053 | 0.045 ± 0.003 |
| 103 | 0.109 | | | |
| 104 | 0.140 | | | |
| 105 | 0.171 | | | |
| 106 | 0.202 | | | |
| 107 | 0.234 | | | |
| 108 | 0.265 | | | |
| 109 | 0.327 | | | |
| 110 | 0.390 | | | |
| 111 | 0.452 | | | |
| 112 | 0.515 | | | |
| 113 | 0.577 | | | |
| 114 | 0.640 | | | |
| 115 | 0.702 | | | |
| 116 | 0.765 | | | |
| 117 | 0.831 | | | |
| 118 | 0.893 | | | |
| 119 | 0.956 | | | |
| 120 | 1.018 | | | |
| 121 | 1.081 | | | |
| 122 | 1.143 | | | |
| 123 | 1.206 | | | |
| 124 | 1.268 | | | |
| 125 | 1.331 | | | |

Back-Up Rings

IMPERIAL SEALS

Contoured Sizes

Back-Up Rings

| Dash No. | I.D. | W | T | A |
|----------|-------|------------------|-------|------------------|
| 126 | 1.393 | | | |
| 127 | 1.456 | | | |
| 128 | 1.518 | | | |
| 129 | 1.581 | | | |
| 130 | 1.643 | | | |
| 131 | 1.706 | | | |
| 132 | 1.768 | | | |
| 133 | 1.831 | | | |
| 134 | 1.893 | | | |
| 135 | 1.956 | | | |
| 136 | 2.018 | | | |
| 137 | 2.081 | | | |
| 138 | 2.143 | | | |
| 139 | 2.206 | | | |
| 140 | 2.268 | | | |
| 141 | 2.331 | | | |
| 142 | 2.393 | | | |
| 143 | 2.456 | | | |
| 144 | 2.518 | | | |
| 145 | 2.581 | | | |
| 146 | 2.643 | | | |
| 147 | 2.706 | | | |
| 148 | 2.768 | | | |
| 149 | 2.831 | | | |
| 150 | 2.893 | 0.086 ± 0.003 | 0.053 | 0.045 ± 0.003 |
| 151 | 3.018 | | | |
| 152 | 3.268 | | | |
| 153 | 3.518 | | | |
| 154 | 3.768 | | | |
| 155 | 4.018 | | | |
| 156 | 4.268 | | | |
| 157 | 4.518 | | | |
| 158 | 4.768 | | | |
| 159 | 5.018 | | | |
| 160 | 5.268 | | | |
| 161 | 5.518 | | | |
| 162 | 5.768 | | | |
| 163 | 6.018 | | | |
| 164 | 6.268 | | | |
| 165 | 6.518 | | | |
| 166 | 6.768 | | | |
| 167 | 7.018 | | | |
| 168 | 7.268 | | | |
| 169 | 7.518 | | | |
| 170 | 7.768 | | | |
| 171 | 8.018 | | | |

| Dash No. | I.D. | W | T | A |
|----------|-------|------------------|-------|------------------|
| 172 | 8.268 | 0.086 ± 0.003 | 0.053 | 0.045 ± 0.003 |
| 173 | 8.518 | | | |
| 174 | 8.768 | | | |
| 175 | 9.018 | | | |
| 176 | 9.268 | | | |
| 177 | 9.518 | | | |
| 178 | 9.768 | | | |
| | | | | |
| 201 | 0.202 | 0.118 ± 0.004 | 0.050 | 0.040 ± 0.003 |
| 202 | 0.265 | | | |
| 203 | 0.327 | | | |
| 204 | 0.390 | | | |
| 205 | 0.455 | | | |
| 206 | 0.518 | | | |
| 207 | 0.580 | | | |
| 208 | 0.643 | | | |
| 209 | 0.705 | | | |
| 210 | 0.765 | | | |
| 211 | 0.828 | | | |
| 212 | 0.891 | | | |
| 213 | 0.953 | | | |
| 214 | 1.016 | | | |
| 215 | 1.078 | | | |
| 216 | 1.141 | | | |
| 217 | 1.203 | | | |
| 218 | 1.266 | | | |
| 219 | 1.334 | | | |
| 220 | 1.397 | | | |
| 221 | 1.459 | | | |
| 222 | 1.522 | | | |
| 223 | 1.647 | | | |
| 224 | 1.772 | | | |
| 225 | 1.897 | | | |
| 226 | 2.022 | | | |
| 227 | 2.147 | | | |
| 228 | 2.272 | | | |
| 229 | 2.397 | | | |
| 230 | 2.522 | | | |
| 231 | 2.631 | | | |
| 232 | 2.756 | | | |
| 233 | 2.881 | | | |
| 234 | 3.006 | | | |
| 235 | 3.131 | | | |
| 236 | 3.256 | | | |
| 237 | 3.381 | | | |
| 238 | 3.506 | | | |

Back-Up Rings

Contoured Sizes

| Dash No. | I.D. | W | T | A | |
|----------|--------|------------------|-------|------------------|---------|
| 239 | 3.631 | 0.118 ± 0.004 | 0.050 | 0.040 ± 0.003 | |
| 240 | 3.756 | | | | |
| 241 | 3.881 | | | | ± 0.028 |
| 242 | 4.006 | | | | |
| 243 | 4.131 | | | | |
| 244 | 4.256 | | | | |
| 245 | 4.381 | | | | |
| 246 | 4.506 | | | | ± 0.030 |
| 247 | 4.631 | | | | |
| 248 | 4.768 | | | | |
| 249 | 4.893 | | | | |
| 250 | 5.018 | | | | |
| 251 | 5.143 | | | | |
| 252 | 5.268 | | | | |
| 253 | 5.393 | | | | |
| 254 | 5.518 | | | | ± 0.035 |
| 255 | 5.643 | | | | |
| 256 | 5.768 | | | | |
| 257 | 5.893 | | | | |
| 258 | 6.018 | | | | |
| 259 | 6.268 | | | | ± 0.040 |
| 260 | 6.518 | | | | |
| 261 | 6.768 | | | | |
| 262 | 7.018 | | | | |
| 263 | 7.268 | ± 0.045 | | | |
| 264 | 7.518 | | | | |
| 265 | 7.768 | | | | |
| 266 | 8.018 | | | | |
| 267 | 8.268 | ± 0.050 | | | |
| 268 | 8.518 | | | | |
| 269 | 8.768 | | | | |
| 270 | 9.018 | | | | |
| 271 | 9.268 | | | | |
| 272 | 9.518 | ± 0.055 | | | |
| 273 | 9.768 | | | | |
| 274 | 10.018 | | | | |
| 275 | 10.518 | | | | |
| 276 | 11.018 | | | | |
| 277 | 11.518 | ± 0.065 | | | |
| 278 | 12.018 | | | | |
| 279 | 13.018 | | | | |
| 280 | 14.018 | | | | |
| 281 | 15.018 | | | | |
| 282 | 15.989 | ± 0.075 | | | |
| 283 | 16.989 | ± 0.080 | | | |
| 284 | 17.989 | ± 0.085 | | | |

| Dash No. | I.D. | W | T | A | |
|----------|-------|---------------|-------|---------------|---------|
| 309 | 0.450 | 0.183 ± 0.005 | 0.076 | 0.060 ± 0.004 | |
| 310 | 0.513 | | | | ± 0.005 |
| 311 | 0.575 | | | | ± 0.007 |
| 312 | 0.638 | | | | ± 0.009 |
| 313 | 0.700 | | | | |
| 314 | 0.763 | | | | |
| 315 | 0.825 | | | | |
| 316 | 0.888 | | | | |
| 317 | 0.950 | | | | ± 0.010 |
| 318 | 1.013 | | | | |
| 319 | 1.075 | | | | |
| 320 | 1.138 | | | | |
| 321 | 1.200 | | | | |
| 322 | 1.263 | | | | ± 0.012 |
| 323 | 1.316 | | | | |
| 324 | 1.388 | | | | |
| 325 | 1.513 | | | | |
| 326 | 1.638 | | | | |
| 327 | 1.763 | | | | ± 0.015 |
| 328 | 1.888 | | | | |
| 329 | 2.013 | | | | |
| 330 | 2.138 | | | | ± 0.018 |
| 331 | 2.268 | | | | |
| 332 | 2.393 | | | | |
| 333 | 2.518 | | | | |
| 334 | 2.643 | | | | ± 0.020 |
| 335 | 2.768 | | | | |
| 336 | 2.893 | | | | |
| 337 | 3.018 | | | | |
| 338 | 3.143 | | | | |
| 339 | 3.273 | | | | ± 0.024 |
| 340 | 3.398 | | | | |
| 341 | 3.523 | | | | |
| 342 | 3.648 | | | | |
| 343 | 3.773 | | | | |
| 344 | 3.898 | ± 0.028 | | | |
| 345 | 4.028 | | | | |
| 346 | 4.153 | | | | |
| 347 | 4.278 | | | | |
| 348 | 4.403 | | | | |
| 349 | 4.528 | ± 0.030 | | | |
| 350 | 4.653 | | | | |
| 351 | 4.778 | | | | |
| 352 | 4.903 | | | | |
| 353 | 5.028 | ± 0.037 | | | |
| 354 | 5.153 | | | | |

Back-Up Rings

Back-Up Rings

IMPERIAL SEALS

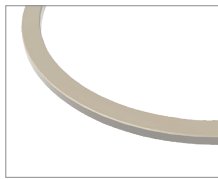
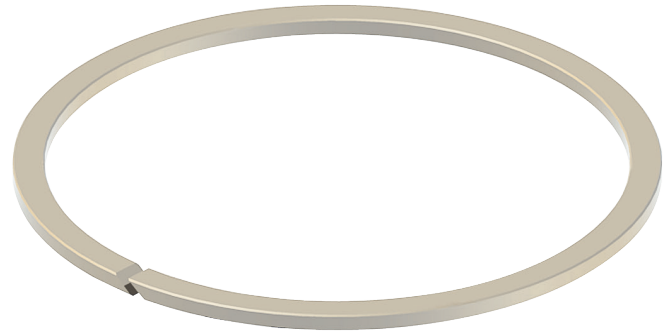
Contoured Sizes

Back-Up Rings

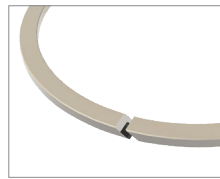
| Dash No. | I.D. | W | T | A |
|----------|--------|------------------|-------|------------------|
| 355 | 5.278 | 0.183 ± 0.005 | 0.076 | 0.060 ± 0.004 |
| 356 | 5.403 | | | |
| 357 | 5.528 | | | |
| 358 | 5.653 | | | |
| 359 | 5.778 | | | |
| 360 | 5.903 | | | |
| 361 | 6.028 | | | |
| 362 | 6.278 | | | |
| 363 | 6.528 | | | |
| 364 | 6.778 | | | |
| 365 | 7.028 | | | |
| 366 | 7.278 | | | |
| 367 | 7.528 | | | |
| 368 | 7.778 | | | |
| 369 | 8.028 | | | |
| 370 | 8.278 | | | |
| 371 | 8.528 | | | |
| 372 | 8.778 | | | |
| 373 | 9.028 | | | |
| 374 | 9.278 | | | |
| 375 | 9.528 | | | |
| 376 | 9.778 | | | |
| 377 | 10.028 | | | |
| 378 | 10.528 | | | |
| 379 | 11.028 | | | |
| 380 | 11.528 | | | |
| 381 | 12.028 | | | |
| 382 | 13.028 | | | |
| 383 | 14.028 | | | |
| 384 | 15.028 | | | |
| 385 | 16.008 | | | |
| 386 | 17.008 | | | |
| 387 | 18.008 | | | |
| 388 | 19.006 | | | |
| 389 | 20.006 | | | |
| 390 | 21.006 | | | |
| 391 | 22.006 | | | |
| 392 | 22.993 | | | |
| 393 | 23.993 | | | |
| 394 | 24.993 | | | |
| 395 | 25.993 | | | |
| 425 | 4.551 | 0.236 ± 0.006 | 0.117 | 0.096 ± 0.005 |
| 426 | 4.676 | | | |
| 427 | 4.801 | | | |
| 428 | 4.926 | | | |

| Dash No. | I.D. | W | T | A |
|----------|--------|------------------|-------|------------------|
| 429 | 5.051 | 0.236 ± 0.006 | 0.117 | 0.096 ± 0.005 |
| 430 | 5.176 | | | |
| 431 | 5.301 | | | |
| 432 | 5.426 | | | |
| 433 | 5.551 | | | |
| 434 | 5.676 | | | |
| 435 | 5.801 | | | |
| 436 | 5.926 | | | |
| 437 | 6.051 | | | |
| 438 | 6.274 | | | |
| 439 | 6.525 | | | |
| 440 | 6.774 | | | |
| 441 | 7.024 | | | |
| 442 | 7.274 | | | |
| 443 | 7.524 | | | |
| 444 | 7.774 | | | |
| 445 | 8.024 | | | |
| 446 | 8.524 | | | |
| 447 | 9.024 | | | |
| 448 | 9.524 | | | |
| 449 | 10.024 | | | |
| 450 | 10.524 | | | |
| 451 | 11.024 | | | |
| 452 | 11.524 | | | |
| 453 | 12.024 | | | |
| 454 | 12.524 | | | |
| 455 | 13.024 | | | |
| 456 | 13.524 | | | |
| 457 | 14.024 | | | |
| 458 | 14.524 | | | |
| 459 | 15.024 | | | |
| 460 | 15.524 | | | |
| 461 | 16.004 | | | |
| 462 | 16.504 | | | |
| 463 | 17.004 | | | |
| 464 | 17.504 | | | |
| 465 | 18.004 | | | |
| 466 | 18.504 | | | |
| 467 | 19.004 | | | |
| 468 | 19.504 | | | |
| 469 | 20.004 | | | |
| 470 | 21.004 | | | |
| 471 | 22.004 | | | |
| 472 | 23.004 | | | |
| 473 | 24.004 | | | |
| 474 | 25.004 | | | |
| 475 | 26.004 | | | |

| Materials | Temp. Range |
|---------------------|-----------------|
| Nylon | -30°C to 93°C |
| Nitrile | -40°C to 120°C |
| Viton™/Fluorocarbon | -26°C to 204°C |
| PTFE | -268°C to 232°C |
| PEEK | -70°C to 260°C |
| Hytrel® | -54°C to 149°C |
| Urethane | -54°C to 105°C |



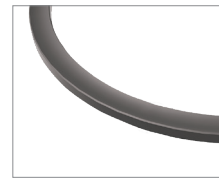
Solid Flat



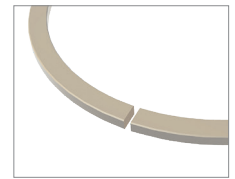
Scarf Cut



Spiral Cut



Solid Contoured

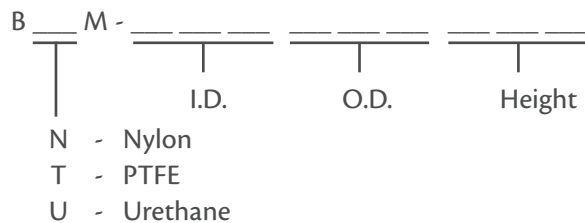


Butt Cut

Product Description

Back-up rings are plastic or rubber rings used to prevent the O-ring from entering the clearance gap. When high pressures are exerted on the O-ring, its soft rubber material can be forced into the clearance gap causing the O-ring to extrude (see our O-ring brochure for examples of O-ring failure). The hard back-up rings' material will keep the O-ring material from flowing into the gap which will prevent premature failure.

Part Numbers:



Example: BNM 1251453 - Back-Up Ring, Nylon, 125.00 mm I.D. 145.000 mm O.D. 3.00 mm Height