

TECHNICAL REPORT II



Kuriyama of America, Inc.

Custom Moldless Rubber Manufacturing

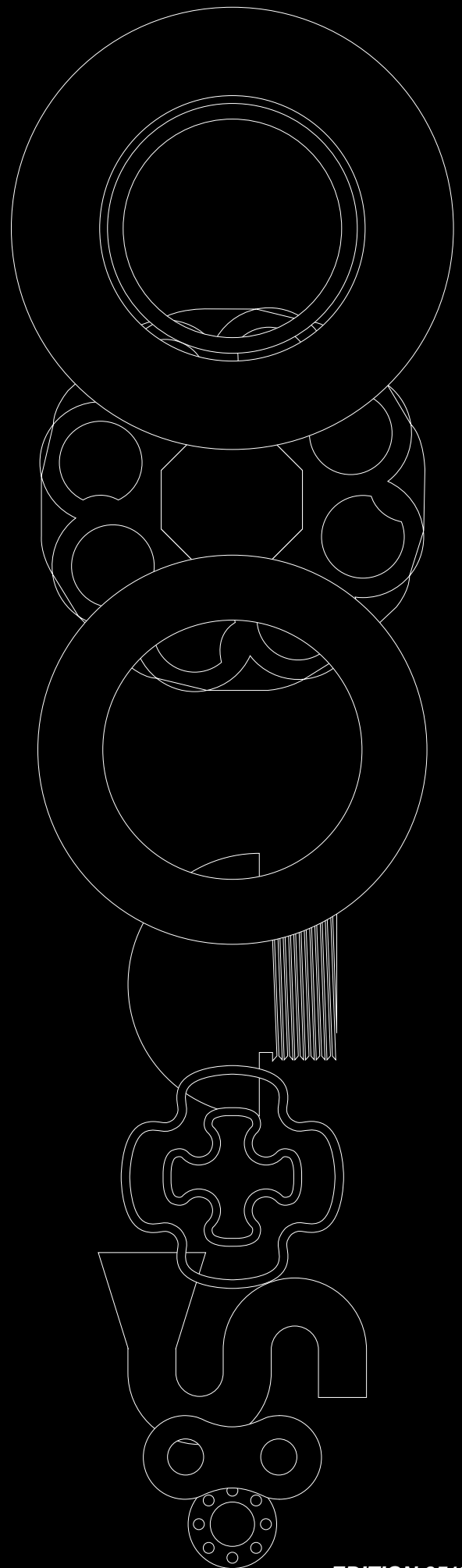
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TECHNICAL REPORT II

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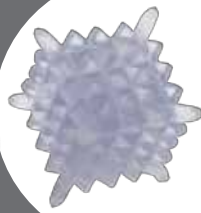
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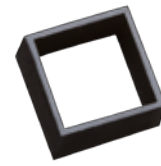
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Five Value

Custom Moldless Rubber Manufacturing Ensures a Response to Advanced and Diverse Needs

We have its sights set on expanding its business worldwide, and sees its proprietary Moldless Processing - a production system that does away with metal molds - as a value-added solution for offering customers an advantage in markets in the future. Thanks to this system, we can meet all order and production requirements:

- All kinds of shapes
- Small lots
- Extensive variety of blanks
- Low cost
- Short deadlines

Value.1 Builds Wide Range of Shapes Without Metal Mold

Blanks made of rubber materials are machined, cut and bonded by the very latest machines and experienced crafts-men. We can produce a range of rubber materials with variety of shapes to be used for large-sized machines or even small size equipment without a metal mold.

Value.2 No Minimum Order

We can meet the demand for even small-lot orders since no metal molds are used. So, you can order only the required number of products, even one piece such as special parts or prototypes.

Value.3 Great Variety of Stocked Materials

We stock a wide range of blanks rubber materials with variety of hardness. We analyze product type and past production performance data to ensure the selection of optimum material for the job

Value.5 Quick Delivery

Production is possible within a short timeframe to meet your schedule with Moldless process.

Value.4 No Tooling Cost

We provide outstanding products as cost effective as possible. This is achieved by not only being able to eliminate the costs of producing a metal mold. The result is highly cost-effective products for our customers.



Parts of all "shapes and hardnesses" can be produced in small lots, with in short delivery schedules and at low cost without the need for metal molds

Spinning Lathe and Lathe Machining

Experienced and skilled craftsmen finish products quickly and to high precision. Complex products take shape thanks to a technician's skills and advanced machine technology.



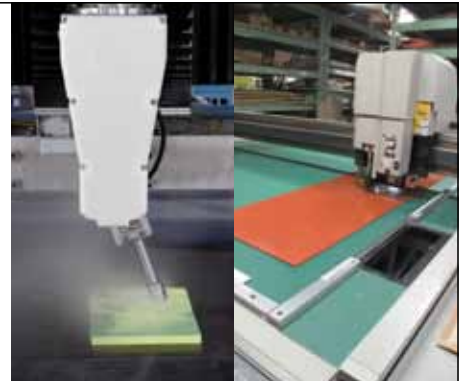
Cutting of Solid Blocks

Parts with subtle curved edges and surfaces, and parts requiring high-grade precision are made by expert craftsmen.



Water Jet & Cutting Plotter Processing

This leading-edge technology achieves the accurate finishing of irregular shaped products. Even if the product is complexly shaped, computerized control produces almost error-free, accurately cut products.



NC Lathes and Machining Centers

Large products that would normally require a metal die can be processed. Installed at our manufacturing sites are machining centers for creating NC data based on CAD data, for example. And, NC lathes generate NC data from CAD data to drive special cutting tools and create precision products.





Urethane Pouring (metal mold not required)

Products are molded by pouring liquid material into a pre-formed shape. Cutting is a highly accurate process that originated with the manual work of experienced technicians. We also accept orders for small lots made by hand pouring.



Plural Processing

Molding is performed using a combination of diverse technologies. The proprietary technology of incorporating machining, cutting, bonding, and other techniques at all stages of the production process to finish products to the optimum shape can be called our greatest achievement.



Micro-Processing

We can finish rubber processed products in a variety of shapes, such as ultra-precision micro-packings, to meet customers' specific requirements.



Clean Room Processing

We process products, such as electronic parts and products for the medical and food industries, that must not be subjected to dust or static electricity in a carefully controlled environment.



Surface Polishing

We conduct surface polishing suited to each of the various blanks we stock. For example, precision rubber processed parts can be given a standard ground finish or even polished to have a mirror finish.

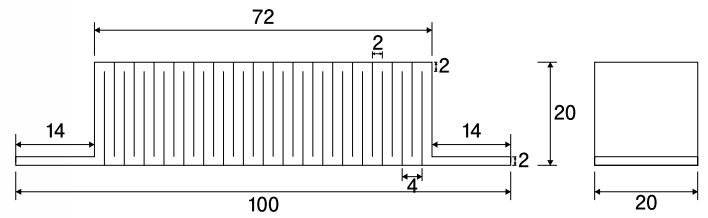


Square bellows

1-1

Cutting of Solid Blocks

[Material] Urethane
[Hardness] 90°



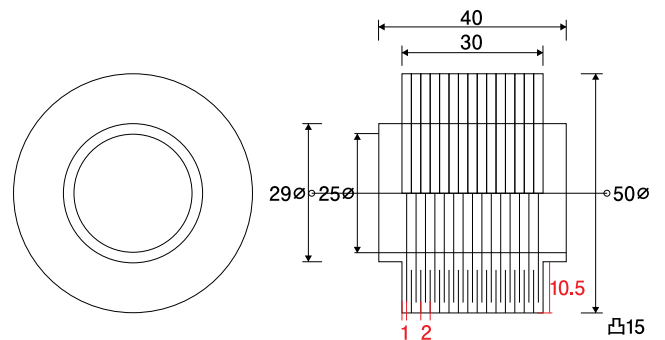
Note: All dimensions shown are metric (mm).

Round bellows

1-2

Spinning Lathe and Lathe Machining

[Material] Silicon
[Hardness] 50°



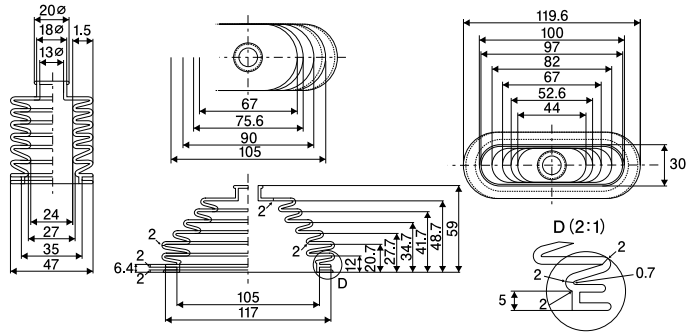
Note: All dimensions shown are metric (mm).

Shift Boots

1-3

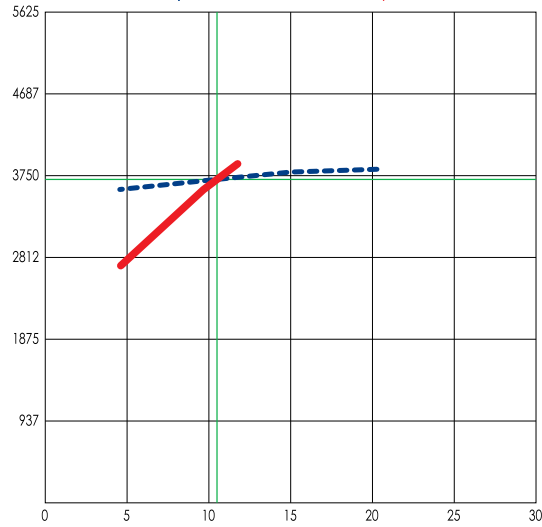
Plural Processing

[Material] Neoprene
[Hardness] 45°



US \$

--- by Mold Process — by Moldless Process



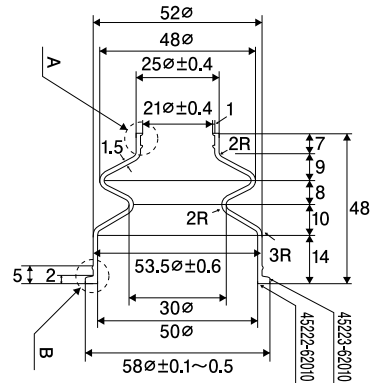
Note: All dimensions shown are metric (mm).

Shaft cover

1-4

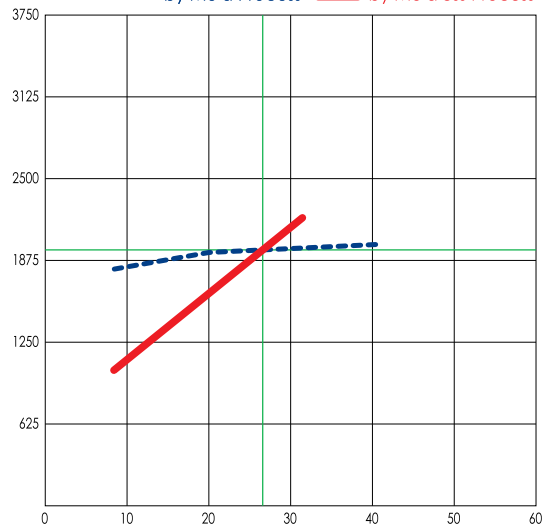
Spinning Lathe and Lathe Machining

[Material] Acrylonitrile Butadiene Rubber
[Hardness] 70°



US \$

--- by Mold Process — by Moldless Process



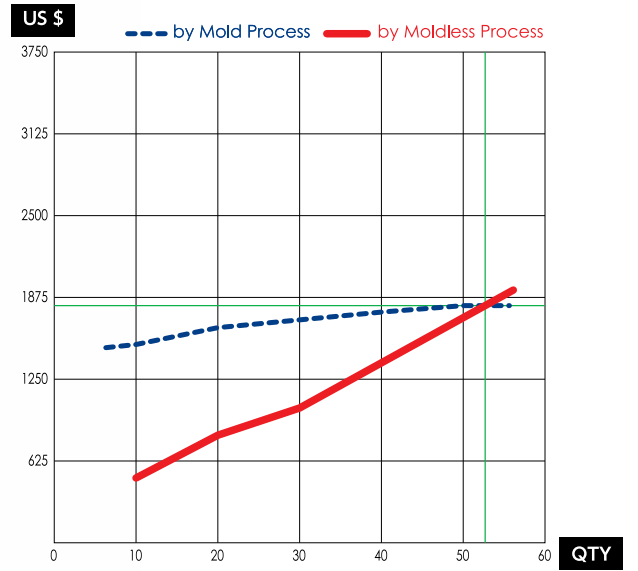
Note: All dimensions shown are metric (mm).

Cushion

1-5

Plural Processing

[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



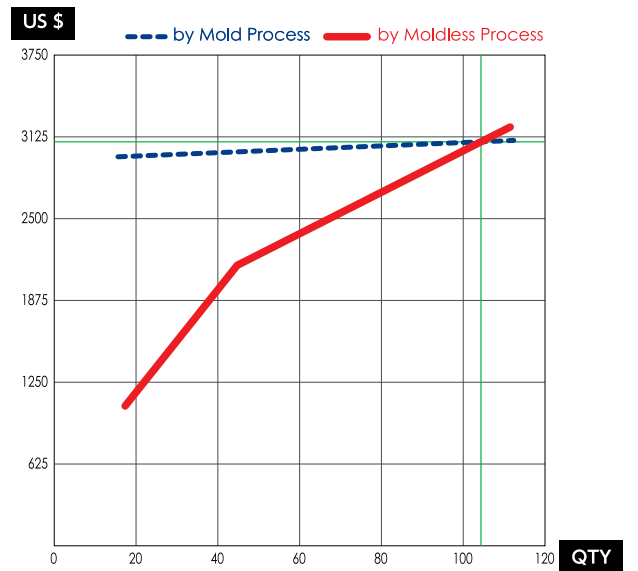
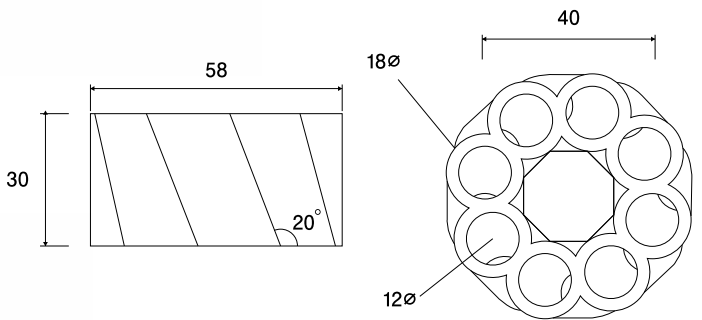
Note: All dimensions shown are metric (mm).

Parts magazine

1-6

Water Jet

[Material] Neoprene
 [Hardness] 65°



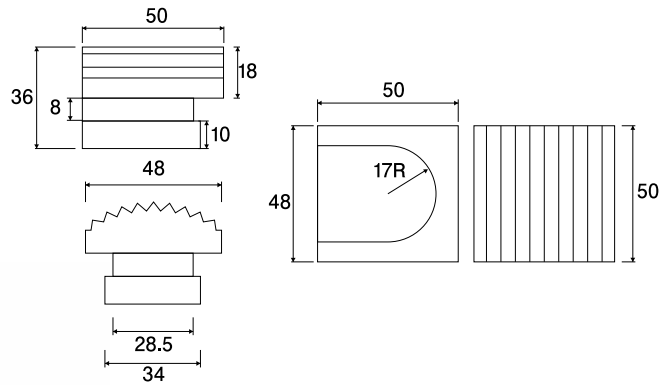
Note: All dimensions shown are metric (mm).

Cushion

1-7

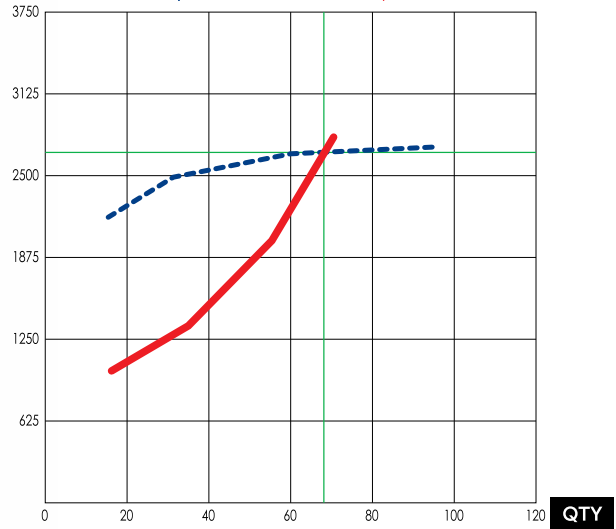
Plural Processing

[Material] Urethane
[Hardness] 90°



US \$

--- by Mold Process — by Moldless Process



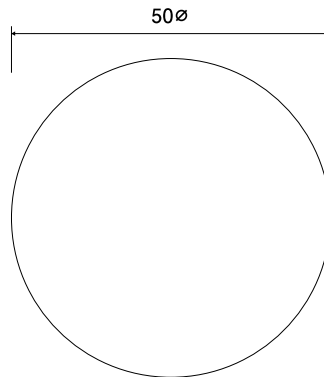
Note: All dimensions shown are metric (mm).

Ball

1-8

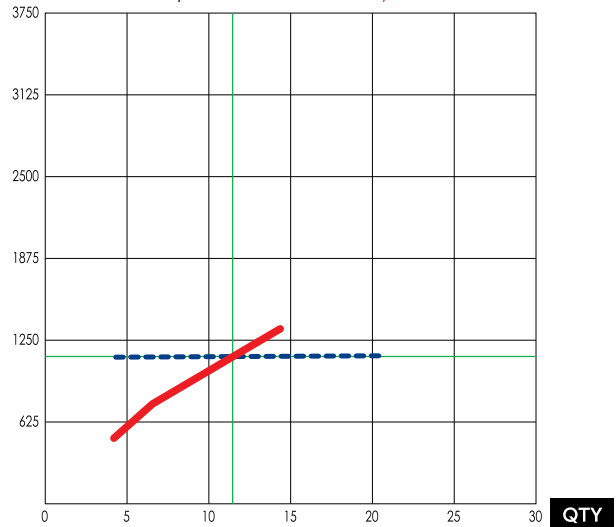
Spinning Lathe and Lathe Machining

[Material] Silicon
[Hardness] 50°



US \$

--- by Mold Process — by Moldless Process

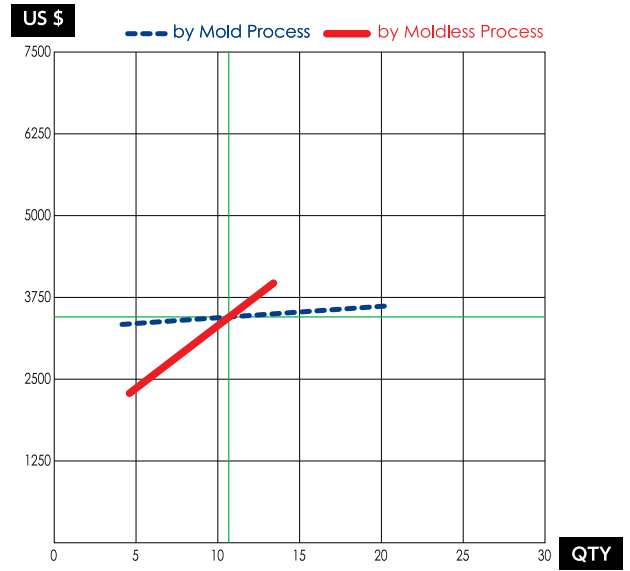
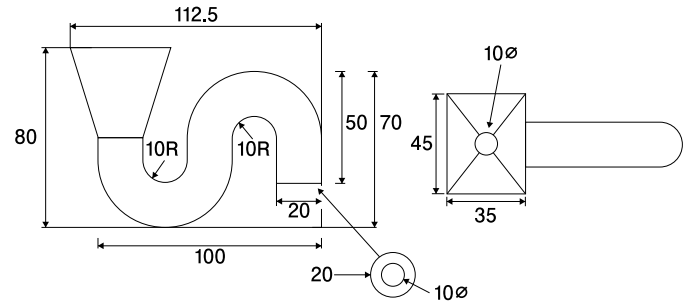


Note: All dimensions shown are metric (mm).

Non-standard elbow 1-9

Plural Processing

[Material] Acrylonitrile Butadiene Rubber
[Hardness] 70°

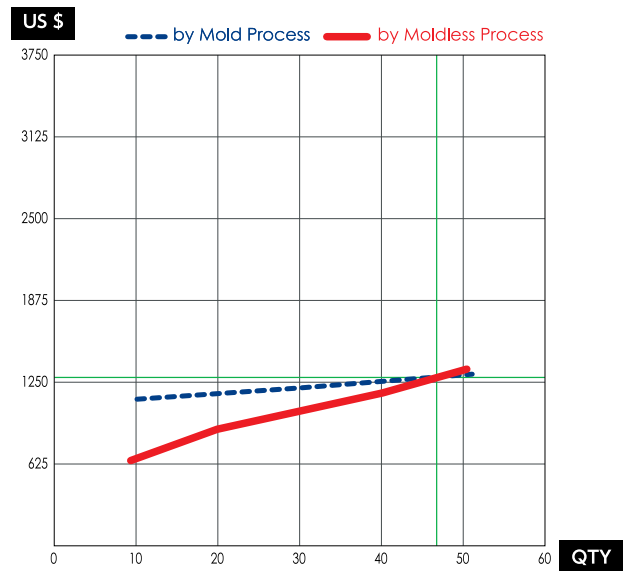
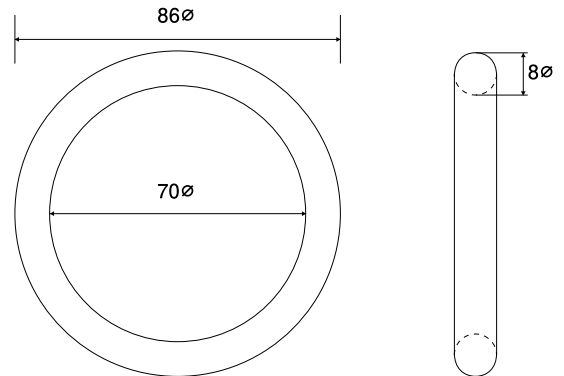


Note: All dimensions shown are metric (mm).

O-ring 1-10

Spinning Lathe and Lathe Machining

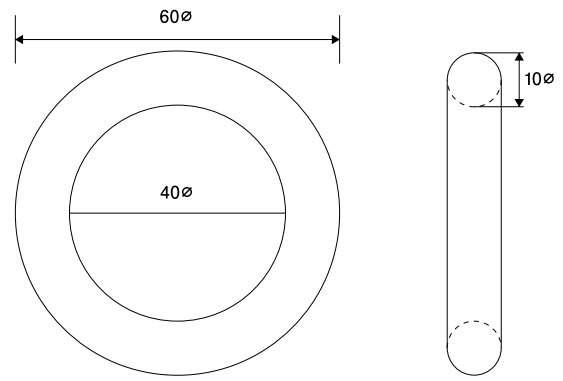
[Material] Silicon
[Hardness] 50°



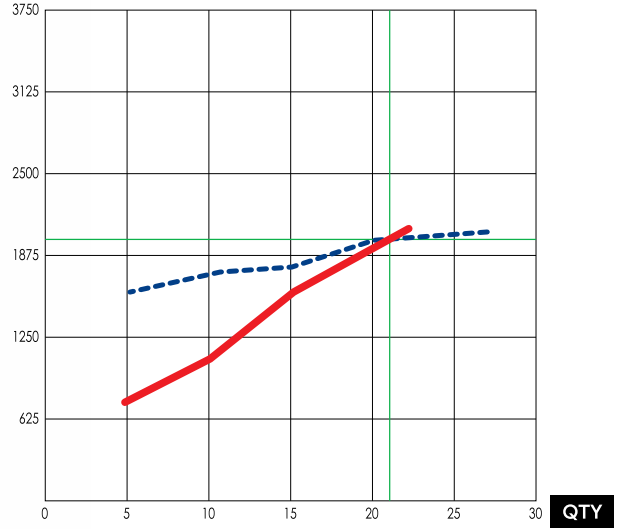
Note: All dimensions shown are metric (mm).

O-ring 1-11
Spinning Lathe and Lathe Machining

[Material] Fluoro Rubber
 [Hardness] 80°



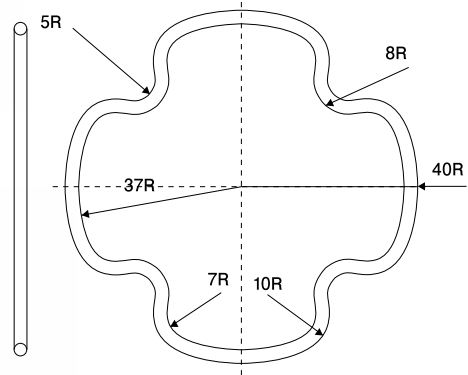
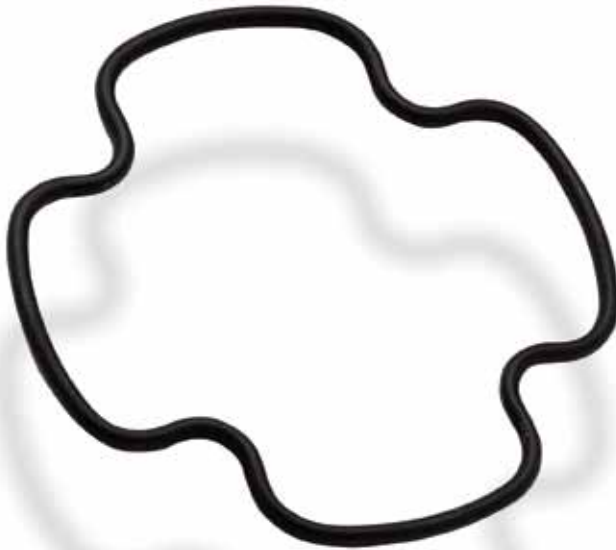
US \$ --- by Mold Process --- by Moldless Process



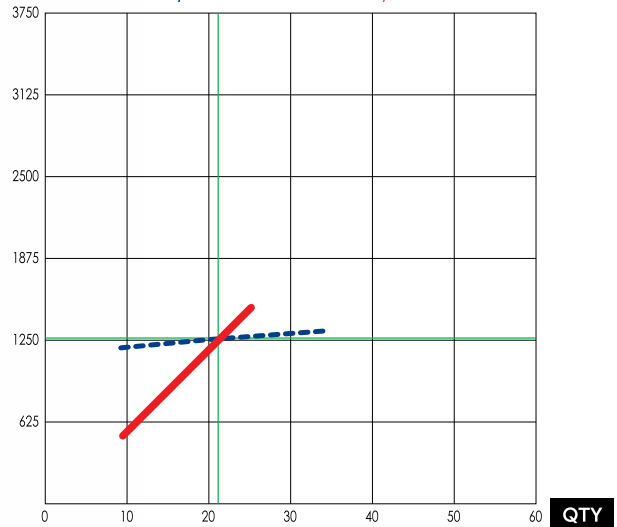
Note: All dimensions shown are metric (mm).

Non-standard O-ring 1-12
Plural Processing

[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



US \$ --- by Mold Process --- by Moldless Process

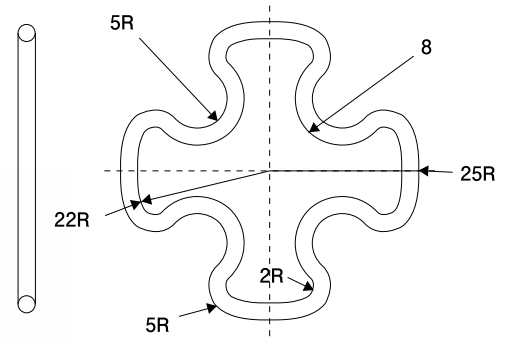
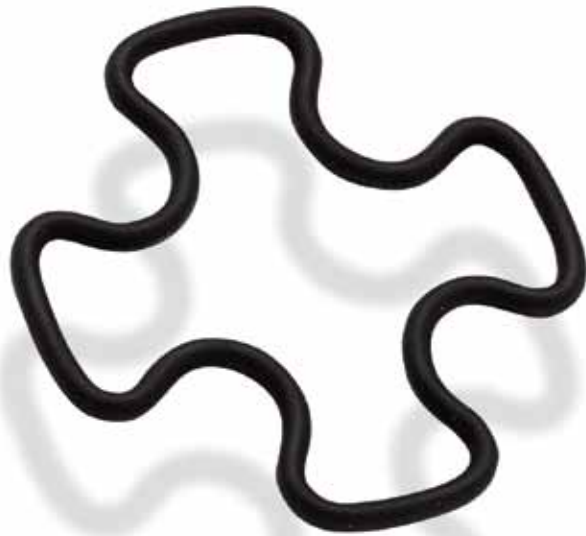


Note: All dimensions shown are metric (mm).

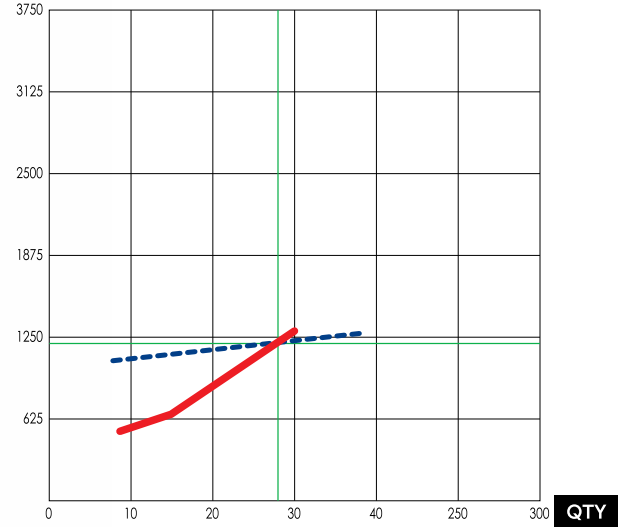
Non-standard O-ring 1-13

Plural Processing

[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



US \$ --- by Mold Process --- by Moldless Process

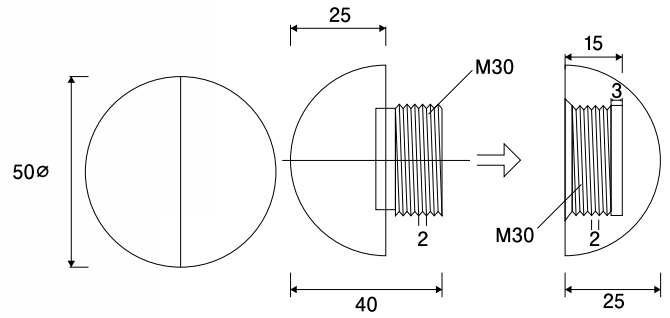


Note: All dimensions shown are metric (mm).

Sphere 1-14

Spinning Lathe and Lathe Machining

[Material] Urethane
 [Hardness] 90°

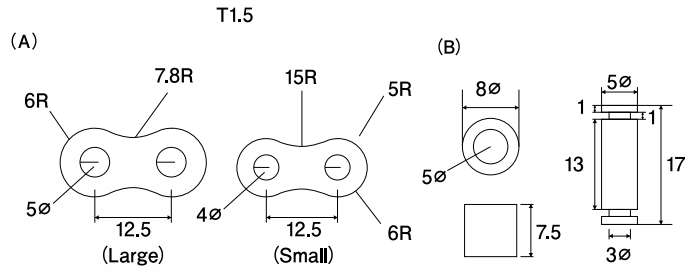


Note: All dimensions shown are metric (mm).

Chain 1-15

Plural Processing

[Material] Urethane
[Hardness] 90°

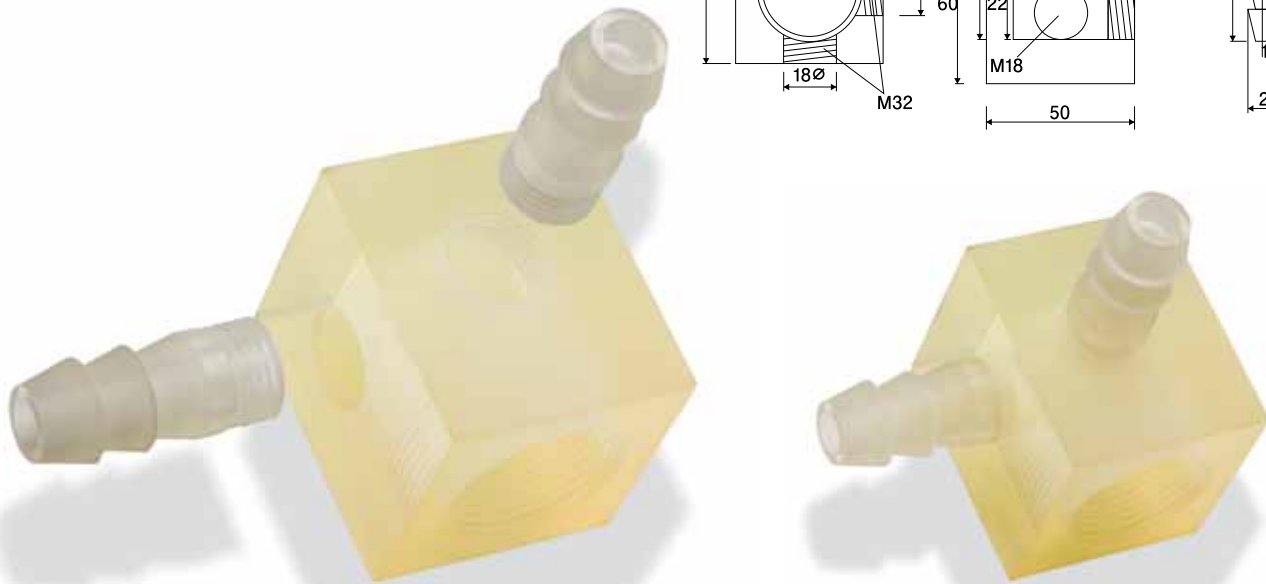
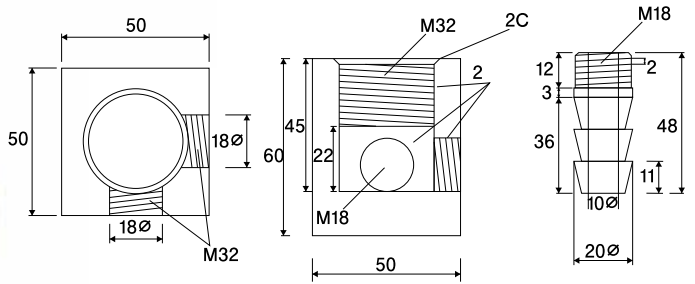


Note: All dimensions shown are metric (mm).

L joint 1-16

Plural Processing

[Material] Urethane
[Hardness] 90°

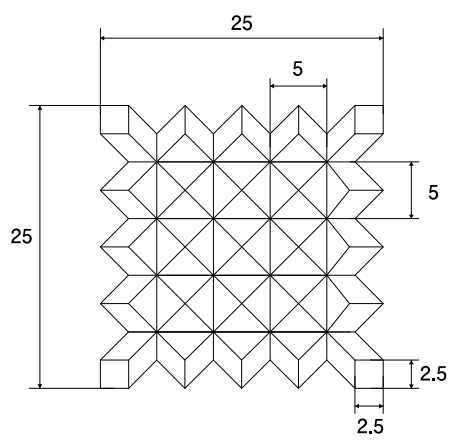
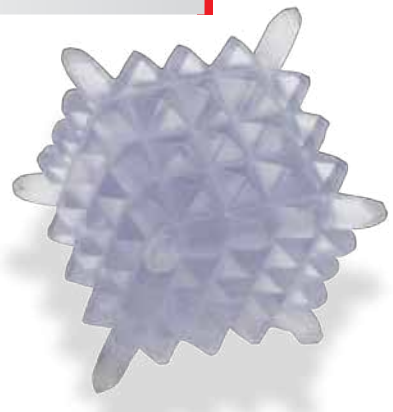


Note: All dimensions shown are metric (mm).



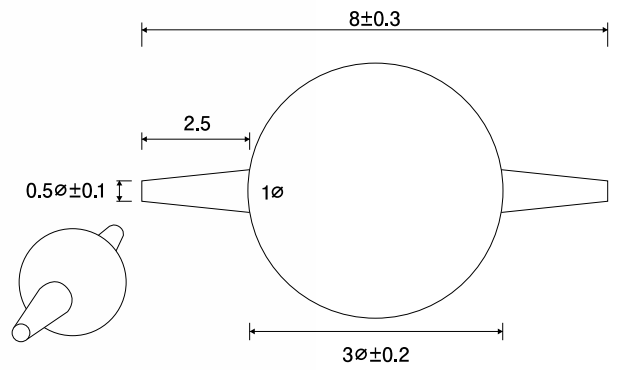
2-Micro Products

Miniature cube **2-1**
Plural Processing
 [Material] Soft Vinyl Chloride



Note: All dimensions shown are metric (mm).

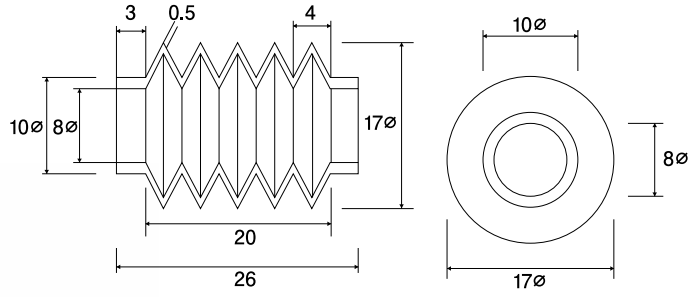
Micro Products **2-2**
Spinning Lathe and Lathe Machining
 [Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



Note: All dimensions shown are metric (mm).

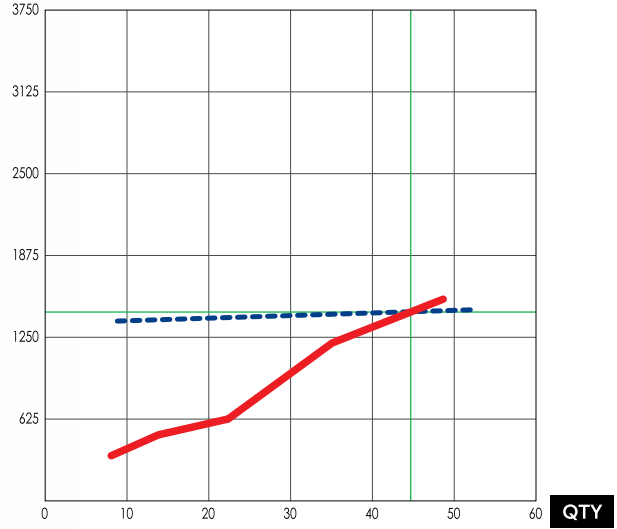
Miniature round bellows 2-3
Spinning Lathe and Lathe Machining

[Material] Neoprene
 [Hardness] 65°



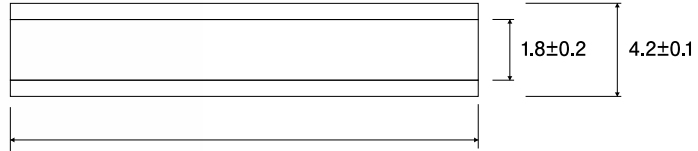
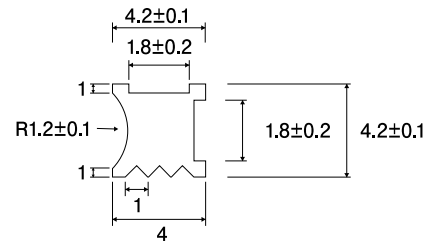
Note: All dimensions shown are metric (mm).

US \$ --- by Mold Process — by Moldless Process



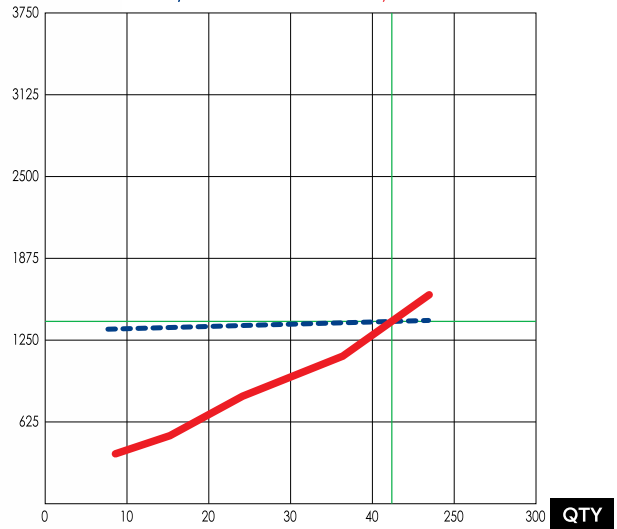
Micro Products 2-4
Plural Processing

[Material] Silicon
 [Hardness] 70°



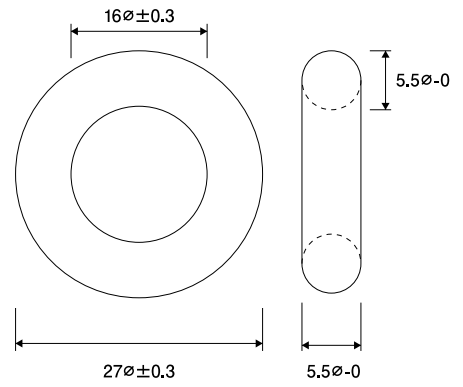
Note: All dimensions shown are metric (mm).

US \$ --- by Mold Process — by Moldless Process

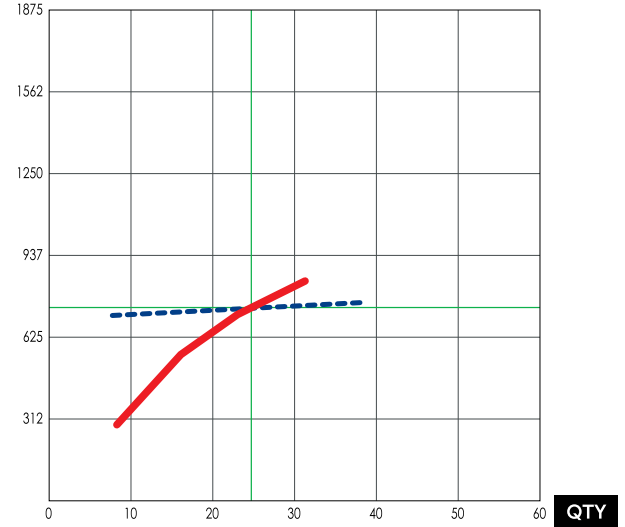


Miniature O-ring 2-5
Spinning Lathe and Lathe Machining

[Material] Silicon
 [Hardness] 50°



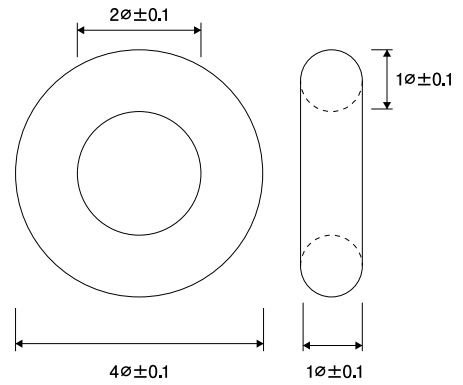
US \$ --- by Mold Process --- by Moldless Process



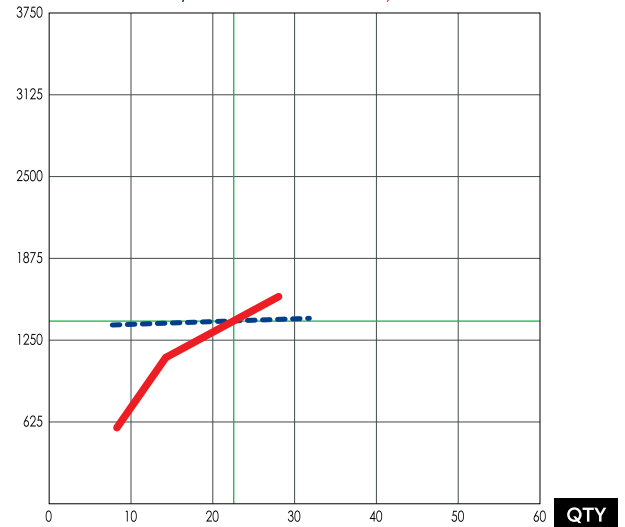
Note: All dimensions shown are metric (mm).

Micro Products 2-6
Spinning Lathe and Lathe Machining

[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



US \$ --- by Mold Process --- by Moldless Process

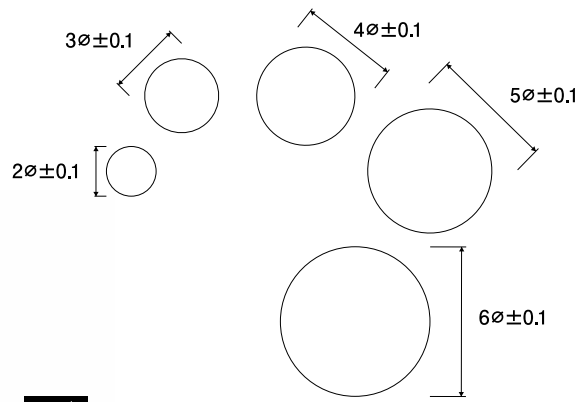


Note: All dimensions shown are metric (mm).

Spinning Lathe and Lathe Machining

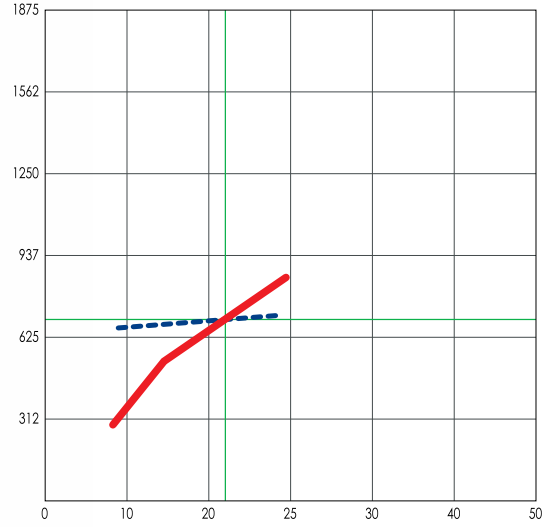
[Material] Urethane

[Hardness] 90°



US \$

--- by Mold Process — by Moldless Process



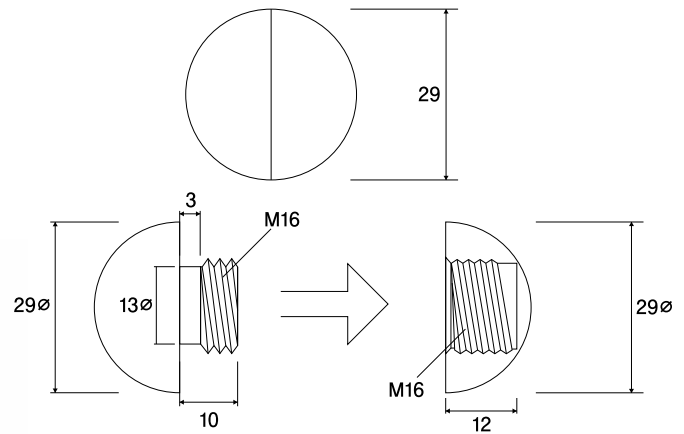
Note: All dimensions shown are metric (mm).

Miniature threaded ball

Spinning Lathe and Lathe Machining

[Material] Urethane

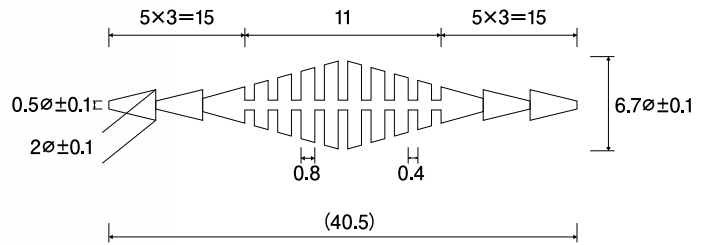
[Hardness] 90°



Note: All dimensions shown are metric (mm).

Micro Products 2-9
Spinning Lathe and Lathe Machining

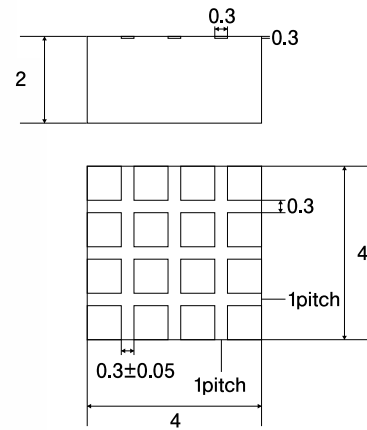
[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



Note: All dimensions shown are metric (mm).

Micro Products 2-10
Grooving

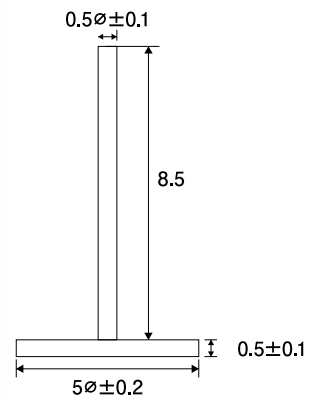
[Material] Urethane
 [Hardness] 90°



Note: All dimensions shown are metric (mm).

Micro Products 2-11
Spinning Lathe and Lathe Machining

[Material] Acrylonitrile Butadiene Rubber
 [Hardness] 70°



Note: All dimensions shown are metric (mm).

Micro Products

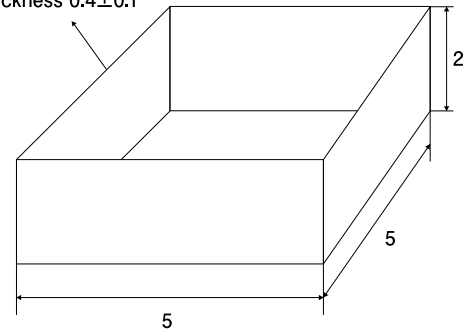
2-12

Ultra-thin framing

[Material] Acrylonitrile Butadiene Rubber
[Hardness] 70°



Wall Thickness 0.4 ± 0.1



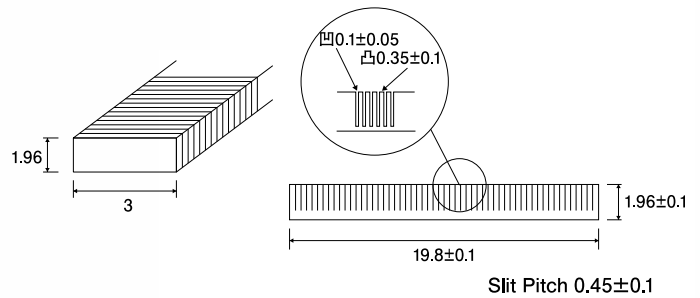
Note: All dimensions shown are metric (mm).

Micro Products

2-13

Grooving

[Material] Neoprene
[Hardness] 65°



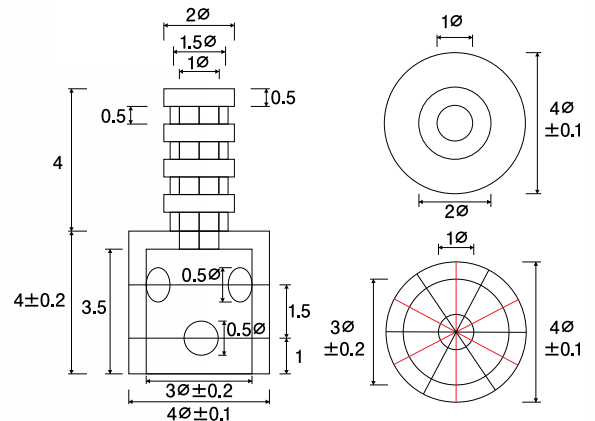
Note: All dimensions shown are metric (mm).

Micro Products

2-14

Plural Processing

[Material] Urethane
[Hardness] 90°

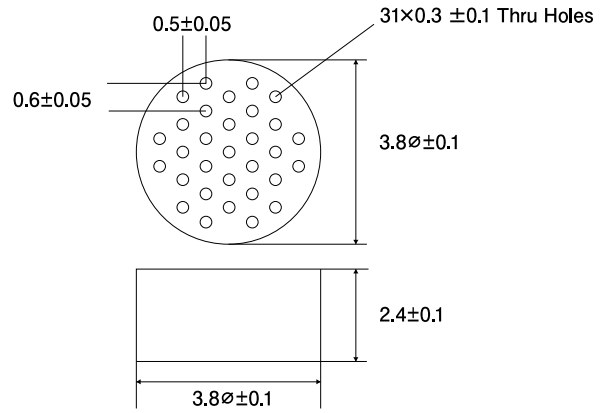
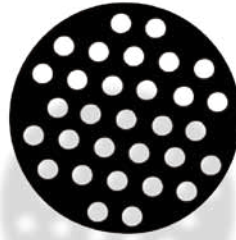


Note: All dimensions shown are metric (mm).

Micro Products 2-15

Ultra-small drilling

[Material] Fluoro Rubber
[Hardness] 80°

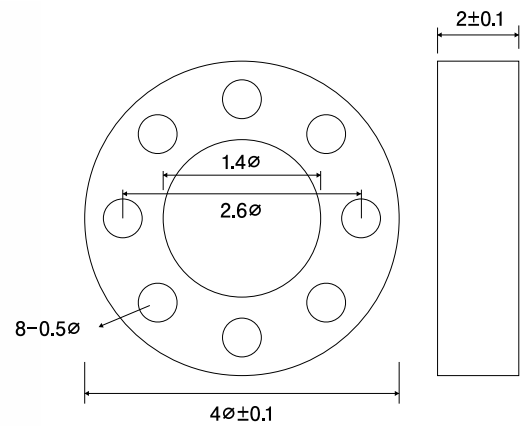


Note: All dimensions shown are metric (mm).

Micro Products 2-16

Ultra-small drilling

[Material] Urethane
[Hardness] 90°

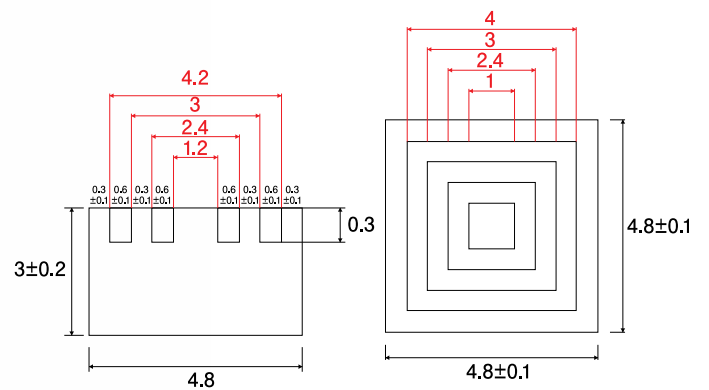


Note: All dimensions shown are metric (mm).

Micro Products 2-17

Grooving

[Material] Acrylonitrile Butadiene Rubber
[Hardness] 70°

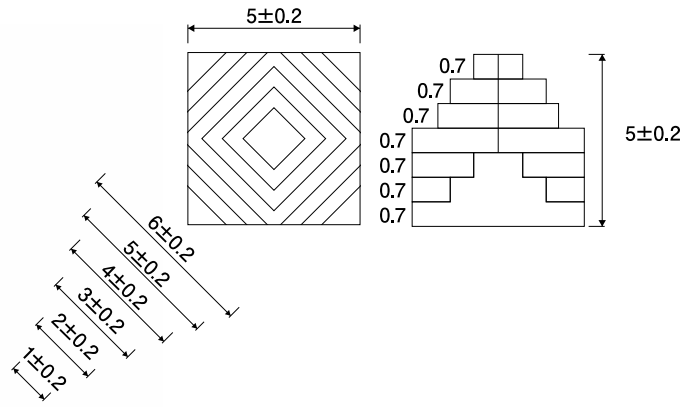


Note: All dimensions shown are metric (mm).

Micro Products
Step processing

2-18

[Material] Urethane
[Hardness] 90°



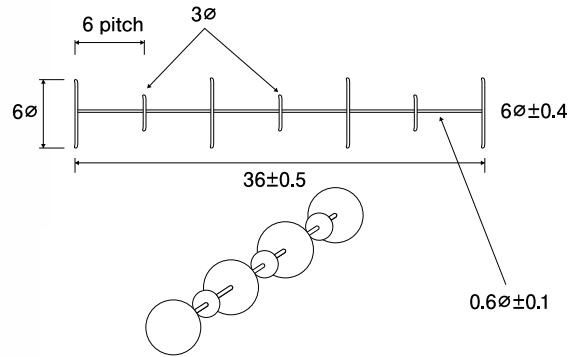
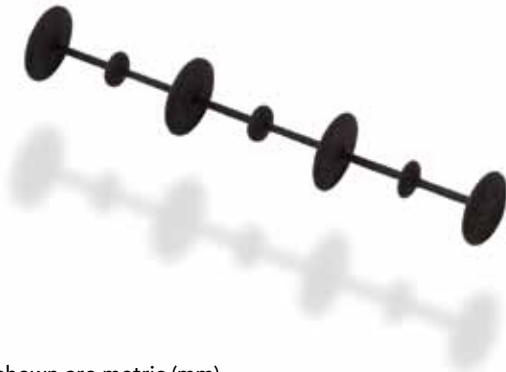
Note: All dimensions shown are metric (mm).

Micro Products

2-19

Spinning Lathe and Lathe Machining

[Material] Acrylonitrile Butadiene Rubber
[Hardness] 70°



Note: All dimensions shown are metric (mm).

TECHNICAL REPORT II

RUBBER & PLASTIC MATERIALS

Solid Rubber

100 Natural 65-Black
 101 Natural 60-White
 102 Natural 60-Green
 103 Natural 60-Red
 104 Soft Natural 50-Black
 105 Natural w/Cloth 65-Black
 150 Pure Gum 40%
 151 Pure Gum 60%
 152 Pure Gum Crepe (Fine)
 180 Elasticity for Cushion (Fine 60%)-White
 181 Insertion
 182 King Sheet
 183  -Grey
 184  -Black
 185  -Green
 200 Nitrile/Buna N 70-Black
 201 Nitrile/Buna N 65-White
 202 Soft Nitrile/Buna N 50
 203 Nitrile/Buna N w/Cloth 70
 204 Nitrile/Buna N-Round Cord
 250 Neoprene 65-Black
 251 Neoprene 60-White
 252 Neoprene 60-Grey
 253 Soft Neoprene 45
 254 Neoprene w/Cloth 65
 255 UL Neoprene 60
 256 Neoprene-Round Cord
 257 Neoprene 80
 258 Neoprene 55
 259 Neoprene 90
 280 IIR 65-Black
 281 IIR 60-White
 282 Less Friction Natural Rubber 65
 283 EPDM 65-Black
 284 EPDM 60-White
 285 EPDM 60-Grey
 286 Hypalon 70

305 Urethane Black-90
 306 Urethane Black-70
 307 Urethane Black-60
 308 Urethane Black-50
 309 Urethane Black-40
 310 Urethane Black-30
 350 Urethane 95
 351 Urethane 90
 352 Urethane 80
 353 Urethane 70
 354 Urethane 60
 355 Urethane 50
 356 Urethane 40
 357 Urethane 30
 400 Silicone 50
 401 Silicone 60
 402 Silicone 70
 403 Silicone-Red 50
 404 Silicone 50-Round Cord
 405 Silicone 50-Square Cord
 406 Silicone Tube 50
 430 Fluoro 80
 431 Aflas
 432 Fluoro Round Cord
 480 REP-5 Conductive
 481 REP-2 Conductive
 482 CEP-5 Conductive
 483 CEP-2 Conductive
 484 NEP-5 Conductive
 485 EC-8 Conductive
 486 ECC-8 Conductive
 494 Fluoro Tube
 662 Vibration Isolate Rubber GP-35L
 663 Vibration Isolate Rubber
 666 Vibration Isolate Rubber GP-60L
 667 Vibration Isolate Rubber AP 50
 668 Vibration Isolate Rubber AP 30

Plastic

380 MC Nylon (PA)
 381 6 Nylon (PA)
 382 6*6 Nylon (PA)
 383 Delrin (POM)
 384 UHMW (PE)
 385 HPE (PE)
 386 Teflon (TFE)
 387 Polypropylene (PP)
 388 Polycarbonate (PC)
 389 Acryl (PMMA)
 390 PVC
 391 ABS
 392 PF
 393 EP

Sponge Rubber Foam

500 Neoprene Sponge
 502 Neoprene Sponge-White
 530 EPDM Sponge
 531 Silicone Sponge
 532 Silicone Sponge-White
 533 Fluoro Sponge
 580 Molt Prene Rubber-White
 581 Molt Prene Rubber-Grey
 582 Urethane Foam-White
 583 Urethane Foam-Grey
 585 PE Foam
 586 Polyethylene Foam

Vinyl

600 Soft Vinyl Chloride-Transparency
 601 Soft Vinyl Chloride-Milky
 602 Soft Vinyl Chloride-Black
 603 Soft Vinyl Chloride-Grey
 604 Vinyl Rib-Green
 605 Vinyl Pyramid Mat-Green
 606 Vinyl Pyramid Mat-Black
 607 Vinyl Flat Mat-Green
 608 Vinyl Pyramid Mat-Green
 609 Soft Polyethylene

Others

647 Cork Rubber
 651 Oil Sheet (3 Sheet)
 652 Oil Sheet
 653 Leather
 654 Santprene
 655 Magnet Rubber
 657 Felt

