Parker O-Ring Material Offering Guide

ORD 5712

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

ENGINEERING YOUR SUCCESS.

Failure, improper selection or improper use of the products and/or systems described herein or related items can cause death, personal injury or property damage.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provides product and/or system options for further investigation by users having technical expertise. It is important concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through his or her own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance are governed by the provisions stated on Parker.com entitled "Offer of Sale"

O-Ring Material Offering Guide

THIS IS O-RING DESIGN EXPERTISE

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Parker O-Ring &Engineered Seals Division
2360 Palumbo Drive, Lexington, KY 40509
Phone: (859) 269-2351 • Fax: (859) 335-5128
www.parkerorings.com

Operations

Engineers in every industry - from automotive to fluid power to semiconductor processing - choose O-rings made by Parker to keep their equipment running safely and reliably. That's because Parker's O-Ring & Engineered Seals Division develops, manufactures and supplies precision-engineered O-rings and custom seals by offering a unique combination of experience, innovation and support.

Quality Assurance

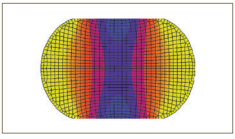
In our world-class facilities, skilled Parker technicians manufacture O-rings to exacting standards, closely monitoring each step of the process through a Controlled Batch Identification (CBI) program. From in-house mixing and tooling operations to the final non-contact inspection process, state-of-the art technology is employed to provide unparalleled material consistency and dimensional control. Quality registrations (AS 9100, ISO 9001, TS 16949 and VDA 6.1) are maintained to ensure superior product performance and process repeatability.

Research and Development

In its on-site research labs, Parker develops new O-ring material formulations and compounds to meet customers' needs. These materials are subjected to a broad range of mechanical, physical and environmental conditions, and their performance is evaluated through a comprehensive testing process.

Finite Element Analysis

Through the use of powerful computers and Finite Element Analysis (FEA) software specifically designed for elastomeric evaluation, Parker engineers can predict a seal's performance in a variety of media, temperatures and pressures before a single part is made. This eliminates the need for costly tooling, speeds the production process and ensures the selection of the right material and geometry for a customer's application.



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Literature

Since its initial release, the Parker O-Ring Handbook (ORD 5700) has been a fixture on the reference shelves of engineers and seal specifiers worldwide.

This book contains extensive information about basic sealing elastomer properties, typical O-ring applications, static and dynamic seal design fundamentals, and O-ring failure modes.

To download a pdf copy of the O-Ring Handbook, go to www.parker.com/ORD5700

For fast, on the go access to this information, check out our abridged versions of the handbook, available as the O-Ring eHandbook (interactive online version), ORD 5712 (US) and 5705 (Europe).

Seal Design Software

Parker's Mobile inPHorm™ and O-Ring Selector (advanced users) are web-based mobile applications designed to assist with material selection, fluid compatibility, gland/seal calculations and overall design analysis. Scan the below QR codes to try them out today!

inPHorm

Selector

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Product Lines

O-Rings

- Manufactured to US and international standards: AS568, ISO 3601, DIN 3771, JIS and metric. Custom sizes of almost any dimension.
- Miniature O-rings, large special O-rings, continuously molded and spliced cord.
- Perfluorinated (FFKM) O-rings, custom molded products and die-cuts. Broadest chemical resistance, highest purity and temperature resistance of any elastomeric family - up to 320°C/608°F.

Parbak® Back-up Rings

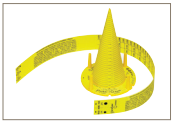
Prevent extrusion in high-pressure applications and help retain lubricant, extending O-ring life.

O-Ring Kits

Kits are conveniently arranged with various size O-rings for repair, assembly and workshop.

Accessories

Products to assist O-ring users include assembly greases and lubricants, sizing cones and extraction tools.



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Material Offering

Compounds

O-rings can be molded in a wide range of compounds in durometers ranging from 40 to 95 Shore A. These materials include:

- Acrylonitrile-Butadiene (NBR)
- Chloroprene (CR)
- Ethylene Propylene (EPDM)
- Fluorosilicone (FVMQ)
- Perfluoroelastomer (FFKM)
- Silicone (VMQ)
- Butyl (IIR)
- Ethylene Acrylic (AEM)
- Fluorocarbon (FKM)
- Hydrogenated Nitrile (HNBR)
- Polyacrylate (ACM)

Parker O-ring compounds are formulated to meet the most stringent industry standards, including NSF, Underwriters Laboratories (UL), Military (MIL-SPEC), Aerospace (AMS), NASA, FDA, USDA, USP, and many customer-specific requirements.

Wynn's Numbering System

Parker Hannifin acquired Wynn's International, parent company of Wynn's Precision and Goshen Rubber, in July 2000. As a result, some Wynn's products and materials were added to the Parker O-Ring Division's offering.

The Wynn's compound numbering system has been phased out; however, the old numbers are noted in parentheses (XXXXX) wherever applicable for reference purposes.

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Parker O-Ring Compound Numbering Systems

Note: There are two types of nomenclature used to reference Parker O-Ring products. See tables below for description of these types.

TYPE I		
N	0674	-70
Polymer Code (Single Letter)	Sequence Number (four digits)	Durometer Indicator (two digits)

TYPE II			
A	A	150	-70
Polymer Code (Single Letter)	Special Property Description (Single Letter)	Sequence Number (three digits)	Durometer Indicator (two digits)

Polymer Codes

- A Polyacrylate
- B Butyl
- C Chloroprene (Neoprene®)
- E Ethylene Propylene
- F ULTRA™ FFKM
- H Hifluor™
- K HNBR
- L Fluorosilicone
- N Nitrile (Buna N) and HNBR
- P Polyurethane
- S Silicone
- V Fluorocarbon, AFLAS®, Hifluor™, ULTRA™
- Y Epichlorohydrin
- Z Exotic Polymers

Special Property Descriptions

- A General Purpose
- B Low Compression Set
- E Ethylene Acrylate or (Vamac®)
- F Fuel Resistant or Fully Fluorinated
- G Higher Fluorine Content
- J NSF / FDA / WRAS Approvals
- L Internally Lubed
- M Mil/ AMS Specifications
- P Low Temperature Flexible or (AFLAS)
- W Non-Black Compound
- X Carboxylated

Durometer Indicators (Hardness)

-40	40 ±5	Shore A Durometer
-45	45 ±5	Shore A Durometer
-50	50 ±5	Shore A Durometer
-55	55 ±5	Shore A Durometer
-60	60 ±5	Shore A Durometer
-65	65 ±5	Shore A Durometer
-70	70 ±5	Shore A Durometer
-75	75 ±5	Shore A Durometer
-80	80 ±5	Shore A Durometer
-85	85 ±5	Shore A Durometer
-90	90 ±5	Shore A Durometer
-95	95 ±5	Shore A Durometer

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR

POLYACRYLATE (ACM)

ACM (acrylic rubber) has good resistance to mineral oil, oxygen and ozone. The water compatibility and cold flexibility of ACM are considerably worse than with NBR.

AA150-70	**Engines & Transmission Seals**	**-5 to 350**	**Black**

ETHYLENE ACRYLATE (AEM)

Ethylene acrylate is a mixed polymer of ethylene, methyl acrylate and a small amount of carboxylated cure-site monomer. Developed as a lower-temperature version of Polyacrylate, but swells slightly more. Polymer is sold under the tradename VAMAC®.

AE152-70	**Transmission Applications**	**-40 to 325**	**Black**
AE153-75	Transmission Applications, Internally Lubed	-40 to 325	Black

BUTYL RUBBER (IIR)

Butyl rubber (isobutylene-isoprene rubber or IIR) has a very low permeability rate and good electrical properties, but poor short-term rebound.

B0612-70	**Vacuum, Low Compression Set**	**-75 to 250**	**Black**

POLYCHLOROPRENE RUBBER (CR)

Also known by the tradename Neoprene®, polychloroprene was the first synthetic rubber and exhibits generally good ozone, aging, and chemical resistance. It has good mechanical properties over a wide temperature range.

C0267-50	**AMS 3208, Low Temperature**	**-60 to 250**	**Black**
C0557-70	Drive Belt Applications, General Purpose	-35 to 250	Black
C0873-70	**Refrigerant Gases, Low Extractibles, Low Compression Set**	**-35 to 225**	**Black**
C1124-70	AMS 3209, Low Temperature	-60 to 250	Black

COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR

ETHYLENE PROPYLENE RUBBER (EPM, EPR, EPDM)

EPM (EPR) is a copolymer of ethylene and propylene. EPDM is a terpolymer of ethylene, propylene, and a diene third monomer used for cross-linking.

EA454-50	**General Purpose**	**-70 to 250**	**Black**
EB152-70	UL Listed	-70 to 250	Black
E1157-60	**General Purpose**	**-70 to 250**	**Black**
E1561-60	KTW, WRAS	-70 to 250	Black
E0751-65	**Drive Belt Applications**	**-70 to 250**	**Black**
E0603-70	General Purpose	-70 to 250	Black
E0667-70	Auto Disc Brakes	-70 to 250	Black
E0803-70	**General Purpose**	**-70 to 250**	**Black**
E1244-70	NSF 61, Internally Lubed, USP VI	-70 to 250	Black
E1549-70	WRAS, FDA	-70 to 250	Black
E1583-70	NSF 51 and Internally Lubed	-70 to 250	Black
E3609-70	**NSF 51, NSF 61, FDA, USP Class VI, ISO 10993**	**-70 to 250**	**Black**
EJ274-70	Internally lubed, NSF 61, Chloramine Resistant	-70 to 250	Black
E0740-75	**Nuclear Applications, USP VI, USP <87>**	**-70 to 250**	**Black**
E0515-80	NAS 1613 Rev 2	-70 to 250	Black

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
E0540-80	**General Purpose**	**-70 to 250**	**Black**
E0893-80	General Purpose	-70 to 250	Purple
EM163-80	NAS 1613 Rev 6	-80 to 250	Black
E0652-90	**General Purpose, Back-Up Rings**	**-60 to 250**	**Black**
E0962-90	Excellent Steam to 500° F, ED Resistant	-60 to 250	Black

FLUOROSILICONE (FVMQ)

Fluorosilicone is a silicone polymer chains with fluorinated side-chains for improved oil and fuel resistance. The mechanical and physical properties are very similar to those of silicone.

L1223-60	MIL-DTL-25988, TY 1, CL 1, GR 60, AMS 3325	-100 to 350	Blue
LM100-70	**MIL-DTL-25988, TY I, CL I, GR 70, UL listed**	**-100 to 350**	**Blue**
L1077-75	MIL-DTL-25988, TY I, CL III, GR 75	-90 to 350	Blue
L1218-80	MIL-DTL-25988, TY 1, CL 1, GR 80	-90 to 350	Blue

ACRYLONITRILE-BUTADIENE (NBR)

Nitrile rubber (NBR) is the general term for acrylonitrile-butadiene terpolymer. The acrylonitrile content of nitrile sealing compounds varies considerably (18 to 50%.) Polymers with higher ACN content exhibit less swell in gasoline and aromatic solvents, while lower ACN polymers exhibit better compression set and low temperature flexibility. Polymer is also called Buna-N.

N0545-40	General Purpose	-45 to 225	Black
N0299-50	**UL listed**	**-55 to 225**	**Black**

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
N0525-60	**AMS 3220**	**-25 to 250**	**Black**
NM506-65	**AMS 7271**	**-70 to 180**	**Black**
N0103-70	**Low Temp.**	**-55 to 225**	**Black**
N0497-70	Low Swell, SAE 120R1 CL ll, UL listed	-35 to 212	Black
N0602-70	General Purpose, AMS-P-5315, Low Temp.	-70 to 180	Black
N0674-70	**General Purpose, MIL-G-21569, Cl I, UL listed**	**-30 to 250**	**Black**
N0757-70	NSF 61, UL Listed	-30 to 225	Black
N1220-70	NSF 51, FDA	-30 to 225	Black
N1470-70	General Purpose, X-rings	-40 to 250	Black
N1499-70	General Purpose, UL	-30 to 250	Black
N1510-70	NSF 61	-30 to 225	Black
N1527-70	UL Listed	-30 to 225	Black
NA151-70	UL Listed	-60 to 180	Black
NM072-70	AMS-R-7362	-60 to 180	Black
N0756-75	AMS-P-83461	-65 to 250	Black
N0951-75	**High Temp, Low Compression Set**	**-25 to 275**	**Black**

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
N1500-75	Low Swell, UL Listed, Fuel applications	-35 to 212	Black
NM304-75	**MIL-P-25732**	**-65 to 250**	**Black**
N1090-85	"ELF" Pneumatic, Carboxylated, Internally Lubed	-25 to 225	Black
N0300-90	Back Up Rings	-40 to 180	Black
N0507-90	AMS-P-5510, Low Temp.	-65 to 180	Black
N0552-90	**General Purpose**	**-30 to 250**	**Black**
N0702-90	Low Compression Set	-30 to 275	Black
N1059-90	**Low Compression Set**	**-30 to 275**	**Black**
N1444-90	Parbaks only	-30 to 250	Black
N1490-90	General Purpose	-30 to 250	Black

HYDROGENATED NITRILE (HNBR, HSN)

Hydrogenated nitrile was developed as an air-resistant variant of nitrile rubber. In HNBR, the carbon-carbon double bonds in the main polymer chain are saturated with hydrogen atoms in a process called "hydrogenation" that improves the material's thermal stability and oxidation resistance.

N1173-70	**General Purpose**	**-25 to 300**	**Black**
KA158-70	Low Temp.	-40 to 300	Black
KA157-70	General Purpose	-30 to 300	Black

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
N1231-80	Explosive Decompression	-25 to 300	Black
KA453-80	Low Swell, ED Resistant	-25 to 300	Black
KB162-80	**Oilfield, High Temp. Hydraulics**	**-25 to 300**	**Black**
KA183-85	Low Temp.	-55 to 300	Black
KB163-90	**Oilfield, High Temp. Hydraulics, RGD Resistant, NORSOK M710**	**-25 to 300**	**Black**

SILICONE RUBBER (VMQ, PVMQ)

Silicones possess good insulating properties and tends to be physiologically neutral. However, silicone elastomers have relatively low tensile strength, poor tear and wear resistance.

S0469-40	AMS 3301, USP Class VI, A-A-59588 CL 2a, 2b, GR 40	-75 to 400	Rust
S0595-50	AMS 3302	-70 to 400	Rust
S0317-60	**FDA, USDA, USP CL VI**	**-103 to 450**	**Rust**
S0613-60	A-A-59588 Cl 2b, Gr 60, AMS 3303	-60 to 450	Rust
S0383-70	A-A-59588 CL 1a, 1b, GR 70, AMS 3337	-175 to 400	Rust
S0455-70	High Temperature	-65 to 450	Rust
S0604-70	**A-A-59588 Cl 2a, 2b, Gr 70, AMS 3304, AMS 3357, MIL-G-21569 Class 2, UL**	**-65 to 450**	**Rust**
S1138-70	FDA, USP Class VI, USP <87>	-60 to 400	Rust

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
S0614-80	A-A-59588 CL 2a, 2b, GR 80, AMS 3305	-65 to 450	Rust

FLUOROCARBON (FKM, FPM)

Fluorocarbon (FKM) has excellent resistance to high temperature and a broad range of chemicals. Permeability and compression set are excellent.

V0986-50	General Purpose	-15 to 400	Brown
V0769-60	**General Purpose**	**-15 to 400**	**Black**
VG271-65	Automotive Fuel Applications	-15 to 400	Black
VW252-65	**Low Swell**	**-15 to 400**	**Green**
V0680-70	**FDA, USDA, NSF 51, USP Class VI**	**-15 to 400**	**Red**
VA179-70	FKM for High Temp. Engines	-10 to 437	Black
VB185-70	Acid Resistant, Steam, B Type	-15 to 400	Black
V0747-75	UL listed	-15 to 400	Black
V0848-75	PTFE Loaded	-15 to 400	Black
V0884-75	General Purpose, UL listed	-15 to 400	Brown
V1163-75	"GFLT Type", UL listed	-35 to 400	Black
V1164-75	Low Compression Set,	-15 to 400	Black
V1226-75	**Low Compression Set, AMS 7276, UL listed,**	**-15 to 400**	**Brown**

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
V1260-75	Very Chemically Resistant, "Viton™ Extreme" Type	-15 to 400	Black
V1263-75	Low Swell, Flex Fuel Blends, UL listed	-15 to 400	Black
V1289-75	AMS 7379, Low Temp.	-55 to 400	Black
V1436-75	General Purpose, UL Listed	-15 to 400	Black
V1475-75	General Purpose, X-rings	-15 to 400	Black
V1476-75	General Purpose	-15 to 400	Brown
VA151-75	General Purpose, UL Listed	-15 to 400	Black
VG292-75	Engine Coolant Biodiesel Resistant	-40 to 400	Black
VM100-75	**AMS 7276, Low Compression Set**	**-15 to 400**	**Black**
VM125-75	**"GLT" Type, AMS-R-83485, AMS 7287**	**-40 to 400**	**Black**
VW173-75	Automotive Applications	-15 to 400	Green
VX065-75	Extreme Low Temperature FKM, Fuel Resistant	-65 to 400	Black
V1274-80	USP Class VI, ISO 10993, FDA, Low Swell	-15 to 400	Black
VG286-80	ISO 23936 RGD & Extrusion Resistant, Low Compression Set	-50 to 400	Black
VP104-85	Base Resistant	+10 to 400	Black
V0709-90	**AMS 7259**	**-15 to 400**	**Black**
V0894-90	**General Purpose**	**-15 to 400**	**Brown**

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
V1411-90	General Purpose	-15 to 400	Black
V1412-90	General Purpose	-15 to 400	Brown
VA153-90	General Purpose	-15 to 400	Black
VW155-90	General Purpose	-15 to 400	Green
VG109-90	ISO 23936 RGD & Extrusion Resistant, Low Compression Set	-50 to 400	Black
VX165-90	Extreme Low Temperature FKM, Extrusion/RGD Resistant	-65 to 400	Black
V1238-95	**Extrusion & RGD Resistant**	**-15 to 400**	**Black**

TETRAFLUOROETHYLENE - PROPYLENE (AFLAS)

This material is a copolymer of TFE and propylene. Its chemical resistance is excellent across a wide range of aggressive media. Polymer is sold under the tradename Aflas®.

V1006-75	**AMS 7255**	**25 to 450**	**Black**
VP101-80	**General Purpose**	**25 to 450**	**Black**
V1041-85	RGD Resistant, General Purpose, NORSOK M710	15 to 450	Black
VP103-95	Extrusion Resistant	25 to 450	Black

HIGH PERFORMANCE FLUOROELASTOMER (HiFluor)

Hifluor is Parker's tradename for high performance fluoroelastomers – materials that "bridge the gap" between traditional fluorocarbon and perfluoroelastomer.

HF355-65	USP Class VI, Extreme Low Extractibles	-15 to 400	Trans.

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
HF359-80	Resistant to Plasma Etch, Low Metal Ions	-15 to 400	Tan

PERFLUOROELASTOMER (ULTRA) (FFKM)

Perfluoroelastomer is a rubber version of PTFE. Available from Parker under the tradename ULTRA™.

FF354-65	Low Closure Force	5 to 608	White
FF156-75	**Broad Chemical Resistance, FDA, General Purpose**	**5 to 525**	**Black**
FF200-75	Low Comp Set, AMS7257, FDA	5 to 608	Black
FF302-75	Etch Resistant, Low Metal Ions	5 to 608	Brown
FF350-75	Plasma, High Purity, FDA, USP Class VI	5 to 608	White
FF352-75	General Purpose, Etch Resistant	5 to 608	White
FF370-75	Low Particle Generation, Low Metal Ions	5 to 608	Black
FF500-75	Broad Chemical Resistance, FDA	5 to 550	Black
FF580-75	Broad Chemical Resistance, Steam Resistant, Amine/Base Resistant, USP VI	5 to 525	Black
FF504-80	Broad Chemical Resistance, Steam Resistant, Amine/Base Resistant, Lewis Acid Resistant	5 to 525	Green
FF400-80	Low Temp., RGD Resistant	-40 to 525	Black
FF202-90	Low Compression Set, Extrusion Resistant, NORSOK M710	5 to 608	Black

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COMPOUND NUMBER	RECOMMENDED FOR	TEMP. RANGE (°F)	COLOR
FF582-90	Steam Resistant, Amine/Base Resistant, ISO 23936-2	5 to 525	Black
V8581-90	Plasma Etch Resistant, Low Stiction	5 to 550	White

Note: Compound numbers in (XXXXX) are the obsolete Wynn's Precision compound numbering system.

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Underwriters Laboratories Approved Services*

SERVICE	Fire Extinguishing Agents	Gasoline	Gasoline/Alcohol Blends*	Naptha or Kerosene	MPS Gas	MFG or Natural Gas	Diesel Fuel, Fuel Oil, Lubricating Oil	Heated Fuel Oil	Anhydrous Ammonia	LP-Gas	Laundry Detergents	Dishwashing Detergents	Suitable for use in UL 1081	Suitable for use in UL 262 applications	Suitable for UL 25 gasket applications	Dry Chemical, Carbon Dioxide, Water	E85
Code	A	B	C	D	E	F	G	H	I	J	L	M					
EA454-50 (3575)																	
EA140-70																	
EB152-70 (3407)																	
EJ151-80																	
L1120-70																	
LM100-70																	
N0299-50																	
N0497-70																	
N0674-70																	
N1499-70																	
N1500-75																	
V1262-65																	
V0747-75																	
V0884-75																	
V1163-75																	
V1226-75																	
V1263-75																	
V1436-75																	
VA151-75 (19357)																	
VM100-75																	

* Contact factory for specific ratios of alcohol (methyl and/or ethyl) and gasoline.
Note: Material certifications are subject to change. Please contact Parker's O-Ring Division for more information.

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FDA, USDA, NSF 51, USP Approved Compounds

The Food and Drug Administration (FDA) has established a list of rubber compounding ingredients which tests have indicated are neither toxic nor carcinogenic. Rubber compounds produced entirely from those ingredients and which also pass the FDA extraction tests are said to "meet the FDA requirements". The FDA does not approve rubber compounds. It is the responsibility of the manufacturer to compound food grade materials from the FDA list of ingredients and establish whether they pass the necessary extraction requirements. Similar standards are established by the United States Department of Agriculture (USDA).

Additional requirements have been imposed upon seal manufacturers regarding food and beverage service. Parker has developed several materials that are certified to NSF 51, Food and Beverage Standard. In critical medical applications, seals often must be made from an even "cleaner" list of ingredients. The U.S. Pharmacopoeia (USP) Class VI outlines requirements for system toxicity and intracutaneous toxicity for these "cleaner" compounds. The USP Class VI compounds must be made from ingredients with clear histories of biocompatibility that meet tighter requirements for leachates.

Typical applications for our FDA, NSF 51, USDA materials are disposable medical devices, surgical instruments and medical fluid dispensing components, as well as a wide variety of food and beverage handling equipment. The type of approval/certification required generally rests with the end customer's regulatory expectations for the specific application.

Parker Compound	Polymer	Hardness	Color	Service
E1028-70	EPDM	70	Black	FDA
E3609-70	EPDM	70	Black	NSF 51, FDA, USP Class VI
FF200-75	FFKM	75	Black	FDA
FF350-75	FFKM	75	White	FDA, USP Class VI
FF500-75	FFKM	75	Black	FDA
V8545-75	FFKM	75	Black	FDA
V0680-70	FKM	70	Red	NSF 51, FDA, USDA
N1219-60	NBR	60	Black	NSF 51, FDA
N1220-70	NBR	70	Black	NSF 51, FDA
S0802-40	VMQ	40	White	FDA

Continued on next page

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FDA, USDA, NSF 51, USP Approved Compounds

Parker Compound	Polymer	Hardness	Color	Service
S1538-55	VMQ	55	Translucent	FDA, USP Class VI
S0317-60	VMQ	60	Rust	FDA, USDA, USP Class VI
S1138-70	VMQ	70	Rust	FDA
SM355-75	VMQ	75	Rust	FDA, USDA
V1274-80	FKM	80	Black	USP Class VI

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NSF 61 Approved Compounds

NSF 61 Drinking Water System Components - is the nationally recognized health effects standard for all devices, components and materials which contact drinking water. Parker's O-Ring Division has developed several materials that are certified to NSF 61.

NSF International is an industry regulating agency that was established in 1944. Recognized by ANSI (American National Standards Institute), NSF maintains qualification standards and criteria for a wide range of products, including potable water components and delivery systems.

Parker Compound	Polymer	Hardness	Water Contact Temp.	Service
E1244-70	EPDM	70	Commercial Hot**	NSF 61, Internally Lubed
E3609-70	EPDM	70	Commercial Hot**	NSF 61, WRAS, KTW, Excellent Compression Set Resistance
EA140-70	EPDM	70	Commercial Hot**	NSF 61
EJ274-70	EPDM	70	Commercial Hot**	NSF 61, Internally Lubed, Chloramine Resistant
N0757-70	NBR	70	Cold Water***	NSF 61
N1510-70 (67997)	NBR	70	Commercial Hot**	NSF 61

* NSF 61 listed materials given a commercial hot water rating are also certified for cold water
** Commercial Hot = Tested at 82° C (180° F)
*** Cold Water = Tested at 23° C (73.4° F)

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Parker Compound	O-Rings	Molded Shapes	Extruded Seals	Lathe Cut	Machined	Spliced Seals	Backup Rings
AA150-70							
AE152-70							
AE153-75							
B0612-70							
C0267-50							
C0557-70							
C0873-70							
C1124-70							
EA454-50							
EB152-70							
E1157-60							
E1561-60							
E0751-65							
E0603-70							
E0667-70							
E0803-70							
E1244-70							
E1549-70							
E1583-70							
E3609-70							
EJ274-70							
E0740-75							
E0515-80							
E0540-80							
E0893-80							
EM163-80							
E0652-90							
E0962-90							

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Parker Compound	O-Rings	Molded Shapes	Extruded Seals	Lathe Cut	Machined	Spliced Seals	Backup Rings
LM158-60							
L1223-60							
LM160-80							
L1218-80							
N0545-40							
N0299-50							
N0525-60							
NM506-65							
N0103-70							
N0497-70							
N0602-70							
N0674-70							
N0757-70							
N1220-70							
N1470-70							
N1499-70							
N1510-70							
N1527-70							
NA151-70							
NM072-70							
N0756-75							
N0951-75							
N1500-75							
NM304-75							
N1090-85							
N0300-90							
N0507-90							
N0552-90							

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Parker Compound	O-Rings	Molded Shapes	Extruded Seals	Lathe Cut	Machined	Spliced Seals	Backup Rings
N0702-90							
N1059-90							
N1444-90							
N1490-90							
N1173-70							
KA158-70							
KA157-70							
N1231-80							
KA453-80							
KB162-80							
KA183-85							
KB163-90							
S0469-40							
S0595-50							
S0317-60							
S0613-60							
S0383-70							
S0455-70							
S0604-70							
S1138-70							
S0614-80							
V0986-50							
V0769-60							
VW252-65							
V0680-70							
VA179-70							
VB185-70							
V0747-75							

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Parker Compound	O-Rings	Molded Shapes	Extruded Seals	Lathe Cut	Machined	Spliced Seals	Backup Rings
V0884-75							
V1163-75							
V1164-75							
V1226-75							
V1260-75							
V1263-75							
V1289-75							
V1436-75							
V1475-75							
V1476-75							
VA151-75							
VG292-75							
VM100-75							
VM125-75							
VM128-75							
VW173-75							
VX065-75							
V1274-80							
VA163-80							
VG286-85							
VP104-85							
V0709-90							
V0894-90							
V1411-90							
V1412-90							
VA153-90							
VW155-90							
VG109-90							

Parker Compound	O-Rings	Molded Shapes	Extruded Seals	Lathe Cut	Machined	Spliced Seals	Backup Rings
VX165-90							
V1238-95							
V1006-75							
VP101-80							
VP102-80							
V1041-85							
VP103-90							
HF355-65							
V3819-75							
HF359-80							
FF102-75							
FF106-75							
FF156-75							
FF200-75							
FF302-75							
FF350-75							
FF352-75							
FF370-75							
FF500-75							
FF580-75							
V8545-75							
FF400-80							
FF202-90							
FF582-90							
V8581-90							

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Engineering Tools

The following charts are included to facilitate engineering analysis. Additional information is available in the Parker O-Ring Handbook (ORD 5700) or online at www.parkerorings.com

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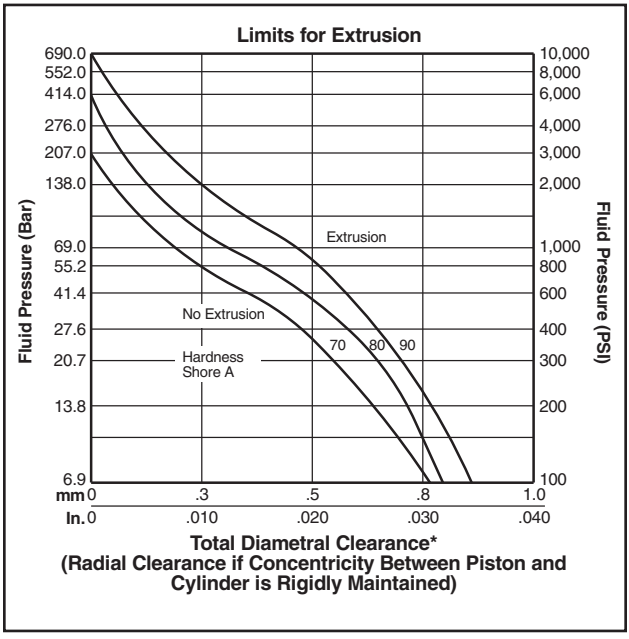
Extrusion



* Reduce the clearance shown by 60% when using silicone or fluorosilicone elastomers.

Basis for Curves

1. 100,000 pressure cycles at the rate of 60 per minute from zero to the indicated pressure.
2. Maximum temperature (i.e., test temperature) 71°C (160°F).
3. No back-up rings.
4. Total diametral clearance must include cylinder expansion due to pressure.
5. Apply a reasonable safety factor in practical applications to allow for excessively sharp edges and other imperfections and for higher temperatures.

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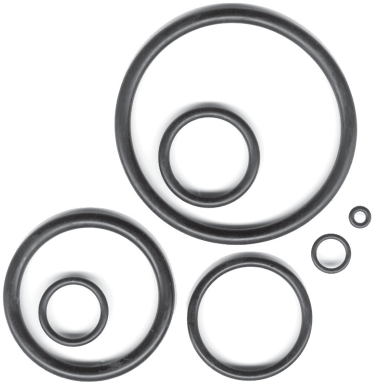
Gland Designs



The following charts are included to facilitate engineering analysis. Additional information is available in the Parker O-Ring Handbook (ORD 5700) or online at www.parkerorings.com

Parker offers O-rings for use in static as well as dynamic sealing applications. Static seals are those where the mating parts of the gland do not have movement relative to each other. These seals include face, radial and dovetail. Examples of these seals and the corresponding design charts are found on pages 30-34. Dynamic seals include reciprocating, floating pneumatic, oscillating, and rotary applications. Dynamic seals are defined by one of the gland parts having movement relative to the other part. Gland design recommendations for a reciprocating seal are provided on pages 36 and 37.

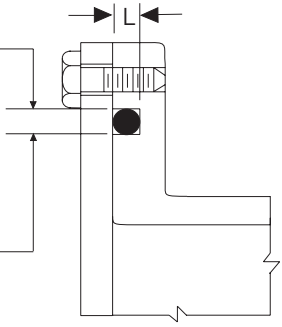
For further design assistance and recommendations, access our solutions area of the website: Mobile inPHorm O-Ring Calculator, O-Ring Selector, or contact a Parker O-Ring & Engineered Seals Division Applications Engineer.

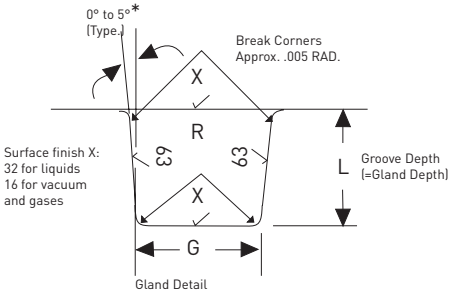
For Internal Pressure
(outward pressure direction) dimension the groove by its outside diameter (H_O) and width:

(H_O) = Mean O.D. of O-ring tolerance = Minus 1% of mean O.D., but not more than -.060

For External Pressure
(inward pressure direction) dimension the groove by its inside diameter (H_I) and width:

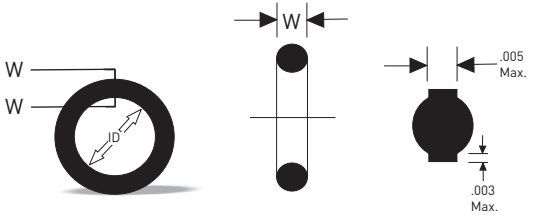
(H_I) = Mean I.D. of O-ring tolerance = Plus 1% of mean I.D., but not more than +.060





Surface finish X:
32 for liquids
16 for vacuum
and gases

Gland Detail
Finishes are RMS values



* Mean OD = ID + (2X Cross Section)

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O-Ring Face Seal Glands

These dimensions are intended primarily for face type O-ring seals and low temperature applications.

O-Ring Size Parker No. 2-size AS568	W Cross Section		L	Squeeze		G Groove Width		R
	Nominal	Actual	Gland Depth	Actual	%	Liquids	Vacuum and Gases	Groove Radius
004 to 050	1/16	.070 ± .003	.050 to .054	.013 to .023	19 to 32	.101 to .107	.084 to .089	.005 to .015
102 to 178	3/32	.103 ± .003	.074 to .080	.020 to .032	20 to 30	.136 to .142	.120 to .125	.005 to .015
201 to 284	1/8	.139 ± .004	.101 to .107	.028 to .042	20 to 30	.177 to .187	.158 to .164	.010 to .025
309 to 395	3/16	.210 ± .005	.152 to .162	.043 to .063	21 to 30	.270 to .290	.239 to .244	.020 to .035
425 to 475	1/4	.275 ± .006	.201 to .211	.058 to .080	21 to 29	.342 to .362	.309 to .314	.020 to .035
Special	3/8	.375 ± .007	.276 to .286	.082 to .108	22 to 28	.475 to .485	.419 to .424	.030 to .035
Special	1/2	.500 ± .008	.370 to .380	.112 to 138	22 to 27	.638 to .645	.560 to .565	.030 to .045

Note: These design recommendations assume metal-to-metal contact. In some hard vacuum applications, it may be necessary to increase compression on the seal to achieve proper sealing. Contact a Parker Applications Engineer for more information.

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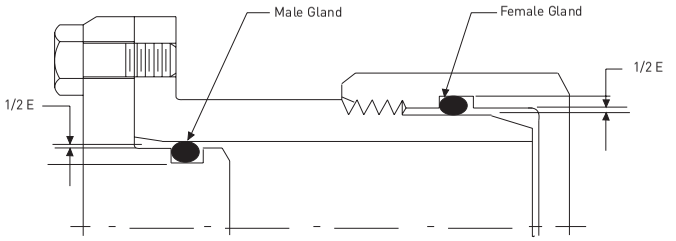
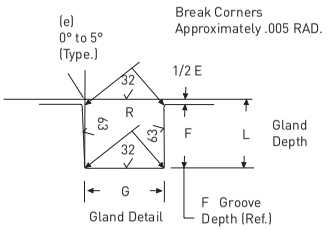
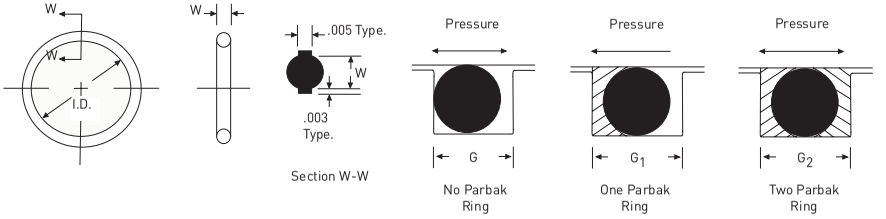
Industrial O-Ring Static Seal Glands





Finishes are RMS values.



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Industrial O-Ring Static Seal Glands

O-Ring 2-Size AS568B	W Cross Section		L Gland	Squeeze		E (a) Diametral Clearance	G Groove Width			R Groove	Max. Eccentricity (b)
	Nominal	Actual	Depth	Actual	%		No Parbak rings (G)	1 Parbak rings (G1)	2 Parbak rings (G2)	Radius	
004 - 050	1/16	.070 ± .003	.050 to .052	.015 to .023	22 to 32	.002 to .005	.093 to .098	.138 to .143	.205 to .210	.005 to .015	.002
105 -178	3/32	.103 ± .003	.081 to .083	.017 to .025	17 to 24	.002 to .005	.140 to .145	.171 to .176	.238 to .243	.005 to .015	.002
201 - 284	1/8	.139 ± .004	.111 to .113	.022 to .032	16 to 23	.003 to .006	.187 to .192	.208 to .213	.275 to .280	.010 to .025	.003
309 - 395	3/16	.210 ± .005	.170 to .173	.032 to .045	15 to 21	.003 to .006	.281 to .286	.311 to .316	.410 to .415	.020 to .035	.004
425 - 475	1/4	.275 ± .006	.226 to .229	.040 to .055	15 to 20	.004 to .007	.375 to .380	.408 to .413	.538 to .543	.020 to .035	.005

(a) Clearance (extrusion gap) must be held to a minimum consistent with design requirements for temperature range variation.
(b) Total indicator reading between groove and adjacent bearing surface.
(c) Reduce maximum diametral clearance 50% when using silicone or fluorosilicone O-rings.
(d) For ease of assembly, when Parbaks are used, gland depth may be increased up to 5%.

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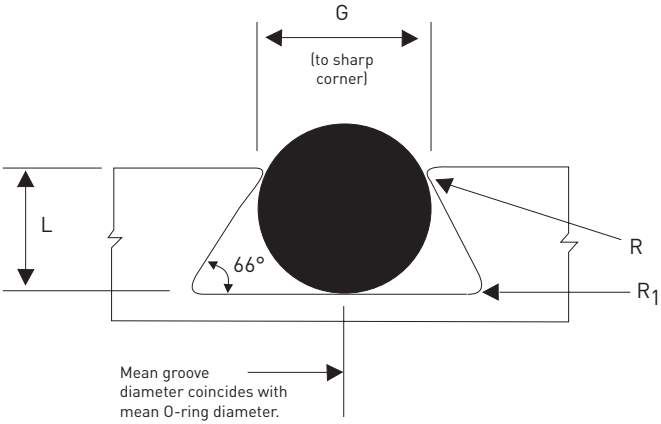
O-Ring Dovetail Grooves



Finishes are RMS values

It is often necessary to provide some mechanical means for holding an o-ring in a face seal groove during assembly and maintenance of equipment. An undercut or dovetail groove has proven beneficial in many applications to keep the o-ring in place. This is an expensive groove to machine, however, and thus should be used only when absolutely necessary.

It should be noted that although this method has been used successfully, it is not generally recommended. The inherent characteristics of the groove design limit the amount of void area. Normally acceptable tolerance extremes, wide service temperature ranges and fluid media that cause high swell of the elastomer are conditions that cannot be tolerated in this type of groove design.

NOTE: If needed, Applications Engineering can recommend where to purchase dovetail cutters.

O-Ring Dovetail Grooves

Radius "R" is CRITICAL. Insufficient radius will potentially cause damage to the O-ring during installation, while excessive radius may contribute to extrusion.

O-Ring Size AS568B	W Cross Section		L Gland Depth	Squeeze %	G Gland Width (to sharp corner)	R	R1
	Nominal	Actual					
004 - 050	1/16	.070 ± .003	.050 to .052	27	.055 to .059	.005	1/64
102 - 178	3/32	.103 ± .003	.081 to .083	21	.083 to .087	.010	1/64
201 - 284	1/8	.139 ± .004	.111 to .113	20	.113 to .117	.010	1/32
309 - 395	3/16	.210 ± .005	.171 to .173	18	.171 to .175	.015	1/32
425 - 475	1/4	.275 ± .006	.231 to .234	16	.231 to .235	.015	1/16
Special	3/8	.375 ± .007	.315 to .319	16	.315 to .319	.020	3/32

Note: These design recommendations assume metal-to-metal contact. In some hard vacuum applications, it may be necessary to increase compression on the seal to achieve proper sealing. Contact a Parker Applications Engineer for more information.

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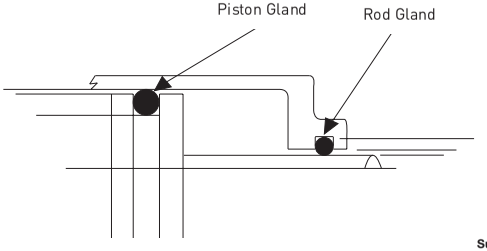
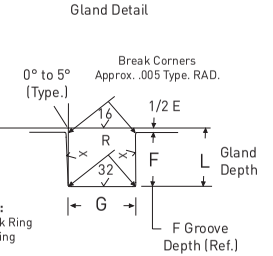
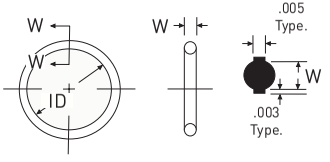
Industrial Reciprocating O-Ring Packing Glands

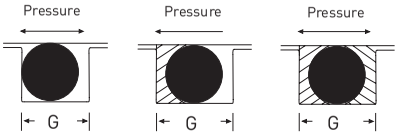




Surface Finish X:
32 Without Parbak Ring
63 With Parbak Ring

Finishes are RMS values





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Industrial Reciprocating O-Ring Packing Glands

O-Ring 2-Size AS568B	W Cross-Section		L Gland	Squeeze		E (a) Diametral Clearance	G - Groove Width			R Groove	Max. Eccentricity (b)
							No Parbak	1 Parbak	2 Parbak		
	Nominal	Actual	Depth	Actual	%		Ring (G)	Ring (G1)	Rings (G2)	Radius	
006 to 012	1/16	.070 ± .003	.055 to .057	.010 to .018	15 - 25	.002 to .005	.093 to .098	.138 to .143	.205 to .210	.005 to .015	.002
104 to 116	3/32	.103 ± .003	.088 to .090	.010 to .018	10 - 17	.002 to .005	.140 to .145	.171 to .176	.238 to .243	.005 to .015	.002
201 to 222	1/8	.139 ± .004	.121 to .123	.012 to .022	9 - 16	.003 to .006	.187 to .192	.208 to .213	.275 to .280	.010 to .025	.003
309 to 349	3/16	.210 ± .005	.185 to .188	.017 to .030	8 - 14	.003 to .006	.281 to .286	.311 to .316	.410 to .415	.020 to .035	.004
425 to 460	1/4	.275 ± .006	.237 to .240	.029 to .044	11 - 16	.004 to .007	.375 to .380	.408 to .413	.538 to .543	.020 to .035	.005

(a) Clearance (extrusion gap) must be held to a minimum consistent with design requirements for temperature range variation.
(b) Total indicator reading between groove and adjacent bearing surface.
(c) O-rings not listed are not recommended for reciprocating applications.

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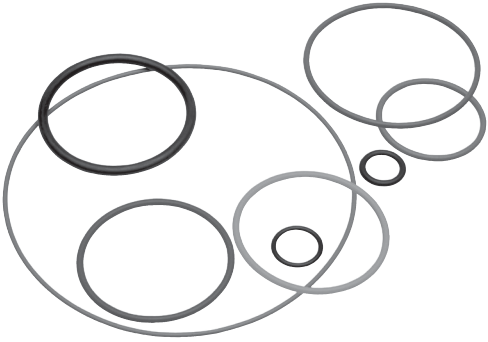
Sizing Charts



The following charts provide dimensions for standard shrinkage materials only. These correspond to AS568 dimensions. O-rings manufactured from compounds with different shrinkage rates will provide slightly different dimensions and tolerances when standard tooling is used. Custom tooling may be necessary for some compounds in order to meet AS568 dimensions and tolerances. For further information contact a Parker O-Ring Applications Engineer.

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2-xxx Sizes, Cross-Section: .070 ± .003 in (1,78 ± 0,08mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-001*	.029	.004	0,74	0,10
2-002*	.042	.004	1,07	0,10
2-003*	.056	.004	1,42	0,10
2-004	.070	.005	1,78	0,13
2-005	.101	.005	2,57	0,13
2-006	.114	.005	2,90	0,13
2-007	.145	.005	3,68	0,13
2-008	.176	.005	4,47	0,13
2-009	.208	.005	5,28	0,13
2-010	.239	.005	6,07	0,13
2-011	.301	.005	7,65	0,13
2-012	.364	.005	9,25	0,13
2-013	.426	.005	10,82	0,13
2-014	.489	.005	12,42	0,13
2-015	.551	.007	14,00	0,18
2-016	.614	.009	15,60	0,23
2-017	.676	.009	17,17	0,23
2-018	.739	.009	18,77	0,23
2-019	.801	.009	20,35	0,23
2-020	.864	.009	21,95	0,23
2-021	.926	.009	23,52	0,23
2-022	.989	.010	25,12	0,25
2-023	1.051	.010	26,70	0,25
2-024	1.114	.010	28,30	0,25
2-025	1.176	.011	29,87	0,28

2-xxx Sizes, Cross-Section: .070 ± .003 in (1,78 ± 0,08mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-026	1.239	.011	31,47	0,28
2-027	1.301	.011	33,05	0,28
2-028	1.364	.013	34,65	0,33
2-029	1.489	.013	37,82	0,33
2-030	1.614	.013	41,00	0,33
2-031	1.739	.015	44,17	0,38
2.032	1.864	.015	47,35	0,38
2-033	1.989	.018	50,52	0,46
2-034	2.114	.018	53,70	0,46
2-035	2.239	.018	56,87	0,46
2-036	2.364	.018	60,05	0,46
2-037	2.489	.018	63,22	0,46
2-038	2,614	.020	66,40	0,51
2-039	2.739	.020	69,57	0,51
2-040	2.864	.020	72,75	0,51
2-041	2.989	.024	75,92	0,61
2-042	3.239	.024	82,27	0,61
2-043	3.489	.024	88,62	0,61
2-044	3.739	.027	94,97	0,69
2-045	3.989	.027	101,32	0,69
2-046	4.239	.030	107,67	0,76
2-047	4.489	.030	114,02	0,76
2-048	4.739	.030	120,37	0,76
2-049	4.989	.037	126,72	0,94
2-050	5.239	.037	133,07	0,94

(a) The rubber compound must be added when ordering by the 2-size number (i.e., N0674 2-007).

(b) This chart provides dimensions for standard (AN) shrinkage materials ONLY. These correspond to AS568 dimensions. O-rings manufactured out of compounds with different shrinkage rates (other than AN) will produce slightly different dimensions and tolerances. For more information on shrinkage rates, see Parker O-Ring Handbook (ORD 5700).

* Please note: for 2-001 cross-section width = .040 in (1,02 mm)
for 2-002 cross-section width = .050 in (1,27 mm)
for 2-003 cross-section width = .060 in (1,52 mm)

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2-xxx Sizes, Cross-Section: .103 ± .003 in (2,62 ± 0,08mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-102	.049	.005	1,24	0,13
2-103	.081	.005	2,06	0,13
2-104	.112	.005	2,84	0,13
2-105	.143	.005	3,63	0,13
2-106	.174	.005	4,42	0,13
2-107	.206	.005	5,23	0,13
2-108	.237	.005	6,02	0,13
2-109	.299	.005	7,59	0,13
2-110	.362	.005	9,19	0,13
2-111	.424	.005	10,77	0,13
2-112	.487	.005	12,37	0,13
2-113	.549	.007	13,94	0,18
2-114	.612	.009	15,54	0,23
2-115	.674	.009	17,12	0,23
2-116	.737	.009	18,72	0,23
2-117	.799	.010	20,30	0,25
2-118	.862	.010	21,89	0,25
2-119	.924	.010	23,47	0,25
2-120	.987	.010	25,07	0,25
2-121	1.049	.010	26,64	0,25
2-122	1.112	.010	28,24	0,25
2-123	1.174	.012	29,82	0,30
2-124	1.237	.012	31,42	0,30
2-125	1.299	.012	32,99	0,30
2-126	1.362	.012	34,59	0,30
2-127	1.424	.012	36,17	0,30
2-128	1.487	.012	37,77	0,30
2-129	1.549	.015	39,34	0,38
2-130	1.612	.015	40,94	0,38
2-131	1.674	.015	42,52	0,38
2-132	1.737	.015	44,12	0,38
2-133	1.799	.015	45,69	0,38
2-134	1.862	.015	47,29	0,38
2-135	1.925	.017	48,90	0,43
2-136	1.987	.017	50,47	0,43
2-137	2.050	.017	52,07	0,43
2-138	2.112	.017	53,64	0,43
2-139	2.175	.017	55,25	0,43
2-140	2.237	.017	56,82	0,43

2-xxx Sizes, Cross-Section: .103 ± .003 in (2,62 ± 0,08mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-141	2.300	.020	58,42	0,51
2-142	2.362	.020	59,99	0,51
2-143	2.425	.020	61,60	0,51
2-144	2.487	.020	63,17	0,51
2-145	2.550	.020	64,77	0,51
2-146	2.612	.020	66,34	0,51
2-147	2.675	.022	67,95	0,56
2-148	2.737	.022	69,52	0,56
2-149	2.800	.022	71,12	0,56
2-150	2.862	.022	72,69	0,56
2-151	2.987	0.24	75,87	0,61
2-152	3.237	.024	82,22	0,61
2-153	3.487	.024	88,57	0,61
2-154	3.737	.028	94,92	0,71
2-155	3.987	.028	101,27	0,71
2-156	4.237	.030	107,62	0,76
2-157	4.487	.030	113,97	0,76
2-158	4.737	.030	120,32	0,76
2-159	4.987	.035	126,67	0,89
2-160	5.237	.035	133,02	0,89
2-161	5.487	.035	139,37	0,89
2-162	5.737	.035	145,72	0,89
2-163	5.987	.035	152,07	0,89
2-164	6.237	.040	158,42	1,02
2-165	6.487	.040	167,77	1,02
2-166	6.737	.040	171,12	1,02
2-167	6.987	.040	177,47	1,02
2-168	7.237	.045	183,82	1,14
2-169	7.487	.045	190,17	1,14
2-170	7.737	.045	196,52	1,14
2-171	7.987	.045	202,87	1,14
2-172	8.237	.050	209,22	1,27
2-173	8.487	.050	215,57	1,27
2-174	8.737	.050	221,92	1,27
2-175	8.987	.050	228,27	1,27
2-176	9.237	.055	234,62	1,40
2-177	9.487	.055	240,97	1,40
2-178	9.737	.055	247,32	1,40

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2-xxx Sizes, Cross-Section: .139 ± .004 in (3,53 ± 0,10mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-201	.171	.055	4,34	0,13
2-202	.234	.005	5,94	0,13
2-203	.296	.005	7,52	0,13
2-204	.359	.005	9,12	0,13
2-205	.421	.005	10,69	0,13
2-206	.484	.005	12,29	0,13
2-207	.546	.007	13,87	0,18
2-208	.609	.009	15,47	0,23
2-209	.671	.009	17,04	0,23
2-210	.734	.010	18,64	0,25
2-211	.796	.010	20,22	0,25
2-212	.859	.010	21,82	0,25
2-213	.921	.010	23,39	0,25
2-214	.984	.010	24,99	0,25
2-215	1.046	.010	26,57	0,25
2-216	1.109	.012	28,17	0,30
2-217	1.171	.012	29,74	0,30
2-218	1.234	.012	31,34	0,30
2-219	1.296	.012	32,92	0,30
2-220	1.359	.012	34,52	0,30
2-221	1.421	.012	36,09	0,30
2-222	1.484	.015	37,69	0,38
2-223	1.609	.015	40,87	0,38
2-224	1.734	.015	44,04	0,38
2-225	1.859	.018	47,22	0,38
2-226	1.984	.018	50,39	0,46
2-227	2.109	.018	53,57	0,46
2-228	2.234	.020	56,74	0,51
2-229	2.359	.020	59,92	0,51
2-230	2.484	.020	63,09	0,51
2-231	2.609	.020	66,27	0,51
2-232	2.734	.024	69,44	0,60
2-233	2.859	.024	72,62	0,61
2-234	2.984	.024	75,79	0,61
2-235	3.109	.024	78,97	0,61
2-236	3.234	.024	82,14	0,61
2.237	3.359	.024	85,32	0,61
2-238	3.484	.024	88,49	0,61
2-239	3.609	.028	91,67	0,71
2-240	3.734	.028	94,84	0,71
2-241	3.859	.028	98,02	0,71
2-242	3.984	.028	101,19	0,71

2-xxx Sizes, Cross-Section: .139 ± .004 in (3,53 ± 0,10mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-243	4.109	.028	104,37	0,71
2-244	4.234	.030	107,54	0,76
2-245	4.359	.030	110,72	0,76
2-246	4.484	.030	113,89	0,76
2-247	4.609	.030	117,07	0,76
2-248	4.734	.030	120,24	0,76
2-249	4.859	.035	123,42	0,89
2-250	4.984	.035	126,59	0,89
2-251	5.109	.035	129,77	0,89
2-252	5.234	.035	132,94	0,89
2-253	5.359	.035	136,12	0,89
2-254	5.484	.035	139,29	0,89
2-255	5.609	.035	142,47	0,89
2-256	5.734	.035	145,64	0,89
2-257	5.859	.035	148,82	0,89
2-258	5.984	.035	151,99	0,89
2-259	6.234	.040	158,34	1,02
2-260	6.484	.040	164,69	1,02
2-261	6.734	.040	171,04	1,02
2-262	6.984	.040	177,39	1,02
2-263	7.234	.045	183,74	1,14
2-264	7.484	.045	190,09	1,14
2-265	7.734	.045	196,44	1,14
2-266	7.984	.045	202,79	1,14
2-267	8.234	.050	209,14	1,27
2-268	8.484	.050	215,49	1,27
2-269	8.734	.050	221,84	1,27
2-270	8.984	.050	228,19	1,27
2-271	9.234	.055	234,54	1,40
2-272	9.484	.055	240,89	1,40
2-273	9.734	.055	247,24	1,40
2-274	9.984	.055	253,59	1,40
2-275	10.484	.055	266,29	1,40
2-276	10.984	.065	278,99	1,65
2-277	11.484	.065	291,69	1,65
2-278	11.984	.065	304,39	1,65
2-279	12.984	.065	329,79	1,65
2-280	13.984	.065	355,19	1,65
2-281	14.984	.065	380,59	1,65
2-282	15.955	.075	405,26	1,91
2-283	16.955	.080	430,66	2,03
2-284	17.955	.085	456,06	2,16

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2-xxx Sizes, Cross-Section: .210 ± .005 in (5,33 ± 0,13mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-309	.412	.005	10,46	0,13
2-310	.475	.005	12,07	0,13
2-311	.537	.007	13,64	0,18
2-312	.600	.009	15,24	0,23
2-313	.662	.009	16,81	0,23
2-314	.725	.010	18,42	0,25
2-315	.787	.010	19,99	0,25
2-316	.850	.010	21,59	0,25
2-317	.912	.010	23,16	0,25
2-318	.975	.010	24,77	0,25
2-319	1.037	.010	26,34	0,25
2-320	1.100	.012	27,94	0,30
2-321	1.162	.012	29,51	0,30
2-322	1.225	.012	31,12	0,30
2-323	1.287	.012	32,69	0,30
2-324	1.350	.012	34,29	0,30
2-325	1.475	.015	37,47	0,38
2-326	1.600	.015	40,64	0,38
2-327	1.725	.015	43,82	0,38
2-328	1.850	.015	46,99	0,38
2-329	1.975	.018	50,17	0,46
2-330	2.10	.018	53,34	0,46
2-331	2.225	.018	56,52	0,46
2-332	2.350	.018	59,69	0,46
2-333	2.475	.020	62,87	0,51
2-334	2.600	.020	66,04	0,51
2-335	2.725	.020	69,22	0,51
2-336	2.850	.020	72,39	0,61
2-337	2.975	.024	75,57	0,61
2-338	3.100	.024	78,74	0,61
2-339	3.225	.024	81,92	0,61
2-340	3.350	.024	85,09	0,61
2-341	3.475	.024	88,27	0,61
2-342	3.600	.028	91,44	0,71
2-343	3.725	.028	94,62	0,71
2-344	3.850	.028	97,79	0,71
2-345	3.975	.028	100,97	0,71
2-346	4.100	.028	104,14	0,71
2-347	4.225	.030	107,32	0,76
2-348	4.350	.030	110,49	0,76
2-349	4.475	.030	113,67	0,76
2-350	4.600	.030	116,84	0,76
2-351	4.725	.030	120,02	0,76
2-352	4.850	.030	123,19	0,76

2-xxx Sizes, Cross-Section: .210 ± .005 in (5,33 ± 0,13mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-353	4.975	.037	126,37	0,94
2-354	5.100	.037	129,54	0,94
2-355	5.225	.037	132,72	0,94
2-356	5.350	.037	135,89	0,94
2-357	5.475	.037	139,07	0,94
2-358	5.600	.037	142,24	0,94
2-359	5.725	.037	145,42	0,94
2-360	5.850	.037	148,59	0,94
2-361	5.975	.037	151,77	0,94
2-362	6.225	.040	158,12	1,02
2-363	6.475	.040	164,47	1,02
2-364	6.725	.040	170,82	1,02
2-365	6.975	.040	177,17	1,02
2-366	7.225	.045	183,52	1,14
2-367	7.475	.045	189,87	1,14
2-368	7.725	.045	196,22	1,14
2-369	7.975	.045	202,57	1,14
2-370	8.225	.050	208,92	1,27
2-371	8.475	.050	215,27	1,27
2-372	8.725	.050	221,62	1,27
2-373	8.975	.050	227,97	1,27
2-374	9.225	.055	234,32	1,40
2-375	9.475	.055	240,67	1,40
2-376	9.725	.055	247,02	1,40
2-377	9.975	.055	253,37	1,40
2-378	10.475	.060	266,07	1,52
2-379	10.975	.060	278,77	1,52
2-380	11.475	.065	291,47	1,65
2-381	11.975	.065	304,17	1,65
2-382	12.975	.065	329,57	1,65
2-383	13.975	.070	354,97	1,78
2-384	14.975	.070	380,37	1,78
2-385	15.955	.075	405,26	1,91
2-386	16.955	.080	430,66	2,03
2-387	17.955	.085	456,06	2,16
2-388	18.955	.090	481,41	2,29
2-389	19.955	.095	506,81	2,41
2-390	20.955	.095	532,21	2,41
2-391	21.955	.100	557,61	2,54
2-392	22.940	.105	582,68	2,67
2-393	23.940	.110	608,08	2,79
2-394	24.940	.115	633,48	2,92
2-395	25.940	.120	658,88	3,05

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2-xxx Sizes, Cross-Section: .275 ± .006 in (6,99 ± 0,15mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-425	4.475	.033	113,67	0,84
2-426	4.600	.033	116,84	0,84
2-427	4.725	.033	120,02	0,84
2-428	4.850	.033	123,19	0,84
2-429	4.975	.037	126,37	0,94
2-430	5.100	.037	129,54	0,94
2-431	5.225	.037	132,72	0,94
2-432	5.350	.037	135,89	0,94
2-433	5.475	.037	139,07	0,94
2-434	5.600	.037	142,24	0,94
2-435	5.725	.037	145,42	0,94
2-436	5.850	.037	148,59	0,94
2-437	5.975	.037	151,77	0,94
2-438	6.225	.040	158,12	1,02
2-439	6.475	.040	164,47	1,02
2-440	6.725	.040	170,82	1,02
2-441	6.975	.040	177,17	1,02
2-442	7.225	.045	183,52	1,14
2-443	7.475	.045	189,87	1,14
2-444	7.725	.045	196,22	1,14
2-445	7.975	.045	202,57	1,14
2-446	8.475	.055	215,27	1,40
2-447	8.975	.055	227,97	1,40
2-448	9.475	.055	240,67	1,40
2-449	9.975	.055	253,37	1,40
2-450	10.475	.060	266,07	1,52

2-xxx Sizes, Cross-Section: .275 ± .006 in (6,99 ± 0,15mm)				
Parker No.	Inside Dia. in.	Tol. ± in.	Inside Dia. mm	Tol. ± mm
2-451	10.975	.060	278,77	1,52
2-452	11.475	.060	291,47	1,52
2-453	11.975	.060	304,17	1,52
2-454	12.475	.060	316,87	1,52
2-455	12.975	.060	329,57	1,52
2-456	13.475	.070	342,27	1,78
2-457	13.975	.070	354,97	1,78
2-458	14.475	.070	367,67	1,78
2-459	14.975	.070	380,37	1,78
2-460	15.475	.070	393,07	1,78
2-461	15.955	.075	405,26	1,91
2-462	16.455	.075	417,96	1,91
2-463	16.955	.080	430,66	2,03
2-464	17.455	.085	443,36	2,16
2-465	17.955	.085	456,06	2,16
2-466	18.455	.085	468,76	2,16
2-467	18.955	.090	481,46	2,29
2-468	19.455	.090	494,16	2,29
2-469	19.955	.095	506,86	2,41
2-470	20.955	.095	532,26	2,41
2-471	21.955	.100	557,66	2,54
2-472	22.940	.105	582,68	2,67
2-473	23.940	.110	608,08	2,79
2-474	24.940	.115	633,48	2,92
2-475	25.940	.120	658,88	3,05

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The following charts provide dimensions for standard shrinkage materials only. These correspond to AS568B dimensions. O-rings manufactured from compounds with different shrinkage rates will provide slightly different dimensions and tolerances when standard tooling is used. Custom tooling may be necessary for some compounds in order to meet AS568B dimensions and tolerances. Contact a Parker O-Ring Applications Engineer with any questions.

3-9xx Sizes

Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	W mm	Tol. ± mm
3-901	.185	.005	.056	.003	4,70	0,13	1,42	0,08
3-902	.239	.005	.064	.003	6,07	0,13	1,63	0,08
3-903	.301	.005	.064	.003	7,65	0,13	1,63	0,08
3-904	.351	.005	.072	.003	8,92	0,13	1,83	0,08
3-905	.414	.005	.072	.003	10,52	0,13	1,83	0,08
3-906	.468	.005	.078	.003	11,89	0,13	1,98	0,08
3-907	.530	.007	.082	.003	13,46	0,18	2,08	0,08
3-908	.644	.009	.087	.003	16,36	0,23	2,21	0,08
3-909	.706	.009	.097	.003	17,93	0,23	2,46	0,08
3-910	.755	.009	.097	.003	19,18	0,23	2,46	0,08
3-911	.863	.009	.116	.004	21,92	0,23	2,95	0,10
3-912	.924	.009	.116	.004	23,47	0,23	2,95	0,10
3-913	.986	.010	.116	.004	25,04	0,26	2,95	0,10
3-914	1.047	.010	.116	.004	26,59	0,26	2,95	0,10
3-916	1.171	.010	.116	.004	29,74	0,26	2,95	0,10
3-918	1.355	.012	.116	.004	34,42	0,30	2,95	0,10
3-920	1.475	.014	.118	.004	37,47	0,36	3,00	0,10
3-924	1.720	.014	.118	.004	43,69	0,36	3,00	0,10
3-928	2.090	.018	.118	.004	53,09	0,46	3,00	0,10
3-932	2.337	.018	.118	.004	59,36	0,46	3,00	0,10

(a) The rubber compound must be added when ordering by the 3-size number (i.e., N0552 3-910).
(b) Material with unusual shrinkage during molding will give slightly different dimensions.

O-Rings for Metric Tube Fittings (ISO 6149) (Similar to SAE J2244)

Parker O-Ring Division is tooled in these sizes for Nitrile and Fluorocarbon rubber only. Contact the division for availability.

Port Thread	O-Ring Name	Parker Part No.	ID mm	Tol. ± mm	W mm	Tol. ± mm
M8x1	M8 ISO O-Ring	0024-0063	6,10	0,13	1,60	0,08
M10x1	M10 ISO O-Ring	0031-9063	8,10	0,13	1,60	0,08
M12x1.5	M12 ISO O-Ring	0036-6087	9,30	0,13	2,20	0,08
M14x1.5	M14 ISO O-Ring	0044-5087	11,30	0,13	2,20	0,08
M16x1.5	M16 ISO O-Ring	0052-4087	13,30	0,15	2,20	0,08
M18x1.5	M18 ISO O-Ring	0060-2087	15,30	0,18	2,20	0,08
M22x1.5	M22 ISO O-Ring	0076-0087	19,30	0,20	2,20	0,08
M27x2	M27 ISO O-Ring	0092-9114	23,60	0,23	2,90	0,10
M33x2	M33 ISO O-Ring	0116-5114	29,60	0,30	2,90	0,10
M42x2	M42 ISO O-Ring	0152-0114	38,60	0,36	2,90	0,10
M48x2	M48 ISO O-Ring	0175-6114	44,60	0,41	2,90	0,10
M60x2	M60 ISO O-Ring	0222-8114	56,60	0,46	2,90	0,10

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Parker Series 5-XXX O-Ring Sizes

The following 5-XXX sizes are o-rings of non-standard dimensions for which Parker tooling was available as of April 1, 2004. This tooling will be maintained while volume demand continues. A mold scrapped as defective will not be replaced unless demand justifies the expense. Please note 5-XXX tooling does not exist for ULTRA Family compounds.

Note: These molds are cut to allow for standard "AN" shrinkage and in materials having standard shrinkage they will normally produce rings to the dimensions listed. Materials with other than standard shrinkage will give different dimensions and tolerances. Please consult the factory or your local Parker Distributor for the availability of special sizes not included in this list.

5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-118	0.059	0.004	0.040	0.003	1.50	0.10	1.02	0.08
5-187	0.070	0.005	0.036	0.003	1.78	0.13	0.91	0.08
5-051	0.070	0.005	0.040	0.003	1.78	0.13	1.02	0.08
5-101	0.100	0.005	0.038	0.003	2.54	0.13	0.97	0.08
5-578	0.102	0.005	0.074	0.003	2.59	0.13	1.88	0.08
5-632	0.110	0.005	0.040	0.003	2.79	0.13	1.02	0.08
5-102	0.116	0.005	0.038	0.003	2.95	0.13	0.97	0.08
5-178	0.120	0.005	0.040	0.003	3.05	0.13	1.02	0.08
5-683	0.122	0.005	0.063	0.003	3.10	0.13	1.60	0.08
5-646	0.126	0.005	0.040	0.003	3.20	0.13	1.02	0.08
5-103	0.128	0.005	0.050	0.003	3.25	0.13	1.27	0.08
5-190	0.132	0.005	0.070	0.003	3.35	0.13	1.78	0.08
5-579	0.133	0.005	0.074	0.003	3.39	0.13	1.88	0.08
5-669	0.146	0.005	0.040	0.003	3.71	0.13	1.02	0.08
5-148	0.154	0.005	0.038	0.003	3.91	0.13	0.97	0.08
5-105	0.154	0.005	0.050	0.003	3.91	0.13	1.27	0.08
5-106	0.154	0.005	0.066	0.003	3.91	0.13	1.68	0.08
5-580	0.165	0.005	0.074	0.003	4.19	0.13	1.88	0.08
5-193	0.176	0.005	0.040	0.003	4.47	0.13	1.02	0.08
5-108	0.176	0.005	0.050	0.003	4.47	0.13	1.27	0.08
5-124	0.176	0.005	0.056	0.003	4.47	0.13	1.42	0.08
5-107	0.176	0.005	0.066	0.003	4.47	0.13	1.68	0.08
5-125	0.180	0.005	0.040	0.003	4.57	0.13	1.02	0.08
5-581	0.192	0.005	0.074	0.003	4.88	0.13	1.88	0.08
5-685	0.208	0.005	0.094	0.003	5.28	0.13	2.39	0.08
5-582	0.224	0.005	0.074	0.003	5.69	0.13	1.88	0.08

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-194	0.228	0.005	0.040	0.003	5.79	0.13	1.02	0.08
5-638	0.233	0.005	0.076	0.003	5.92	0.13	1.93	0.08
5-179	0.239	0.005	0.040	0.003	6.07	0.13	1.02	0.08
5-151	0.239	0.005	0.051	0.003	6.07	0.13	1.30	0.08
5-127	0.239	0.005	0.074	0.003	6.07	0.13	1.88	0.08
5-197	0.242	0.005	0.040	0.003	6.15	0.13	1.02	0.08
5-180	0.248	0.005	0.048	0.003	6.30	0.13	1.22	0.08
5-686	0.248	0.005	0.094	0.003	6.30	0.13	2.39	0.08
5-583	0.251	0.005	0.074	0.003	6.38	0.13	1.88	0.08
5-052	0.270	0.005	0.070	0.003	6.86	0.13	1.78	0.08
5-202	0.278	0.005	0.046	0.003	7.06	0.13	1.17	0.08
5-698	0.283	0.005	0.040	0.003	7.19	0.13	1.02	0.08
5-584	0.283	0.005	0.074	0.003	7.19	0.13	1.88	0.08
5-687	0.287	0.005	0.094	0.003	7.29	0.13	2.39	0.08
5-1004	0.290	0.005	0.045	0.003	7.39	0.13	1.14	0.08
5-056	0.301	0.005	0.038	0.003	7.65	0.13	0.97	0.08
5-710	0.301	0.005	0.054	0.003	7.65	0.13	1.37	0.08
5-673	0.305	0.005	0.074	0.003	7.75	0.13	1.88	0.08
5-204	0.312	0.005	0.036	0.003	7.92	0.13	0.91	0.08
5-205	0.312	0.005	0.092	0.003	7.92	0.13	2.34	0.08
5-160	0.312	0.005	0.103	0.003	7.92	0.13	2.62	0.08
5-712	0.313	0.005	0.051	0.003	7.95	0.13	1.30	0.08
5-585	0.314	0.005	0.074	0.003	7.98	0.13	1.88	0.08
5-664	0.320	0.005	0.070	0.003	8.13	0.13	1.78	0.08
5-1006	0.322	0.005	0.070	0.003	8.18	0.13	1.78	0.08
5-206	0.326	0.005	0.103	0.003	8.28	0.13	2.62	0.08
5-1007	0.330	0.005	0.050	0.003	8.38	0.13	1.27	0.08
5-133	0.332	0.005	0.031	0.003	8.43	0.13	0.79	0.08
5-612	0.344	0.005	0.070	0.003	8.74	0.13	1.78	0.08
5-586	0.350	0.005	0.074	0.003	8.89	0.13	1.88	0.08
5-587	0.350	0.005	0.106	0.004	8.89	0.13	2.69	0.10
5-699	0.353	0.005	0.094	0.003	8.97	0.13	2.39	0.08
5-700	0.354	0.005	0.118	0.004	8.99	0.13	3.00	0.10
5-716	0.362	0.005	0.118	0.004	9.19	0.13	3.00	0.10
5-057	0.364	0.005	0.045	0.003	9.25	0.13	1.14	0.08

5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-209	0.370	0.005	0.040	0.003	9.40	0.13	1.02	0.08
5-211	0.375	0.005	0.187	0.005	9.53	0.13	4.75	0.13
5-212	0.384	0.005	0.070	0.003	9.75	0.13	1.78	0.08
5-614	0.391	0.005	0.103	0.003	9.93	0.13	2.62	0.08
5-718	0.395	0.005	0.040	0.003	10.03	0.13	1.02	0.08
5-134	0.410	0.005	0.031	0.003	10.41	0.13	0.79	0.08
5-588	0.413	0.005	0.106	0.004	10.49	0.13	2.69	0.10
5-002	0.416	0.005	0.059	0.003	10.57	0.13	1.50	0.08
5-215	0.418	0.005	0.094	0.003	10.62	0.13	2.39	0.08
5-218	0.425	0.005	0.025	0.003	10.80	0.13	0.64	0.08
5-682	0.426	0.005	0.040	0.003	10.82	0.13	1.02	0.08
5-058	0.426	0.005	0.050	0.003	10.82	0.13	1.27	0.08
5-613	0.437	0.005	0.070	0.003	11.10	0.13	1.78	0.08
5-1011	0.447	0.005	0.103	0.003	11.35	0.13	2.62	0.08
5-223	0.458	0.005	0.053	0.003	11.63	0.13	1.35	0.08
5-225	0.469	0.006	0.094	0.003	11.91	0.15	2.39	0.08
5-615	0.469	0.006	0.103	0.003	11.91	0.15	2.62	0.15
5-652	0.473	0.006	0.071	0.003	12.01	0.15	1.80	0.08
5-566	0.489	0.006	0.055	0.003	12.42	0.15	1.40	0.08
5-230	0.500	0.006	0.125	0.004	12.70	0.15	3.18	0.10
5-231	0.501	0.006	0.062	0.003	12.73	0.15	1.57	0.08
5-675	0.508	0.006	0.049	0.003	12.90	0.15	1.24	0.08
5-616	0.516	0.006	0.103	0.003	13.11	0.15	2.62	0.08
5-1014	0.525	0.007	0.071	0.003	13.34	0.18	1.80	0.08
5-135	0.526	0.007	0.031	0.003	13.36	0.18	0.79	0.08
5-162	0.554	0.007	0.070	0.003	14.07	0.18	1.78	0.08
5-239	0.570	0.007	0.106	0.004	14.48	0.18	2.69	0.10
5-156	0.575	0.007	0.060	0.003	14.61	0.18	1.52	0.08
5-563	0.583	0.007	0.040	0.003	14.81	0.18	1.02	0.08
5-735	0.583	0.007	0.103	0.003	14.81	0.18	2.62	0.08
5-736	0.590	0.007	0.070	0.003	14.99	0.18	1.78	0.08
5-591	0.594	0.007	0.106	0.004	15.09	0.18	2.69	0.10
5-609	0.600	0.007	0.094	0.003	15.24	0.18	2.39	0.08
5-243	0.604	0.007	0.103	0.003	15.34	0.18	2.62	0.08
5-676	0.610	0.007	0.058	0.003	15.49	0.18	1.47	0.08

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-247	0.623	0.007	0.125	0.004	15.82	0.18	3.18	0.10
5-248	0.625	0.007	0.050	0.003	15.88	0.18	1.27	0.08
5-617	0.625	0.007	0.103	0.003	15.88	0.18	2.62	0.08
5-250	0.627	0.007	0.062	0.003	15.93	0.18	1.57	0.08
5-251	0.631	0.007	0.062	0.003	16.03	0.18	1.57	0.08
5-005	0.640	0.007	0.080	0.003	16.26	0.18	2.03	0.08
5-136	0.643	0.007	0.031	0.003	16.33	0.18	0.79	0.08
5-643	0.650	0.007	0.045	0.003	16.51	0.18	1.14	0.08
5-252	0.652	0.007	0.070	0.003	16.56	0.18	1.78	0.08
5-254	0.660	0.007	0.064	0.003	16.76	0.18	1.63	0.08
5-592	0.665	0.007	0.106	0.004	16.89	0.18	2.69	0.10
5-256	0.707	0.008	0.103	0.003	17.96	0.20	2.62	0.08
5-594	0.720	0.008	0.141	0.004	18.29	0.20	3.58	0.10
5-257	0.722	0.008	0.113	0.004	18.34	0.20	2.87	0.10
5-593	0.724	0.008	0.106	0.004	18.39	0.20	2.69	0.10
5-181	0.725	0.008	0.040	0.003	18.42	0.20	1.02	0.08
5-964	0.744	0.008	0.109	0.004	18.90	0.20	2.77	0.10
5-263	0.750	0.008	0.061	0.003	19.05	0.20	1.55	0.08
5-264	0.752	0.008	0.070	0.003	19.10	0.20	1.78	0.08
5-266	0.766	0.008	0.080	0.003	19.46	0.20	2.03	0.08
5-137	0.775	0.008	0.031	0.003	19.69	0.20	0.79	0.08
5-595	0.779	0.008	0.141	0.004	19.79	0.20	3.58	0.10
5-006	0.796	0.008	0.080	0.003	20.22	0.20	2.03	0.08
5-751	0.820	0.009	0.150	0.005	20.83	0.23	3.81	0.13
5-003	0.836	0.009	0.059	0.003	21.23	0.23	1.50	0.08
5-596	0.838	0.009	0.141	0.004	21.29	0.23	3.58	0.10
5-708	0.850	0.009	0.045	0.003	21.59	0.23	1.14	0.08
5-753	0.857	0.009	0.123	0.004	21.77	0.23	3.12	0.10
5-273	0.879	0.009	0.040	0.003	22.33	0.23	1.02	0.08
5-138	0.898	0.009	0.031	0.003	22.81	0.23	0.79	0.08
5-597	0.905	0.009	0.141	0.004	22.99	0.23	3.58	0.10
5-598	0.968	0.010	0.141	0.004	24.59	0.25	3.58	0.10
5-139	0.987	0.010	0.031	0.003	25.07	0.25	0.79	0.08
5-709	1.000	0.010	0.055	0.003	25.40	0.25	1.40	0.08
5-677	1.004	0.010	0.081	0.003	25.50	0.25	2.06	0.08

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-618	1.016	0.010	0.139	0.004	25.81	0.25	3.53	0.10
5-599	1.031	0.010	0.141	0.004	26.19	0.25	3.58	0.10
5-004	1.070	0.010	0.065	0.003	27.18	0.25	1.65	0.08
5-763	1.080	0.010	0.050	0.003	27.43	0.25	1.27	0.08
5-600	1.094	0.010	0.141	0.004	27.79	0.25	3.58	0.10
5-140	1.112	0.010	0.031	0.003	28.24	0.25	0.79	0.08
5-601	1.153	0.012	0.141	0.004	29.29	0.30	3.58	0.10
5-291	1.186	0.012	0.070	0.003	30.12	0.30	1.78	0.08
5-602	1.212	0.012	0.141	0.004	30.78	0.30	3.58	0.10
5-294	1.213	0.012	0.149	0.004	30.81	0.30	3.78	0.10
5-295	1.225	0.012	0.275	0.006	31.12	0.30	6.99	0.15
5-141	1.226	0.012	0.031	0.003	31.14	0.30	0.79	0.08
5-296	1.229	0.012	0.070	0.003	31.22	0.30	1.78	0.08
5-603	1.279	0.012	0.141	0.004	32.49	0.30	3.58	0.10
5-157	1.338	0.012	0.092	0.003	33.99	0.30	2.34	0.08
5-604	1.342	0.012	0.141	0.004	34.09	0.30	3.58	0.10
5-605	1.401	0.014	0.141	0.004	35.59	0.36	3.58	0.10
5-780	1.412	0.014	0.073	0.003	35.86	0.36	1.85	0.08
5-008	1.421	0.014	0.080	0.003	36.09	0.36	2.03	0.08
5-670	1.437	0.014	0.070	0.003	36.40	0.36	1.78	0.08
5-142	1.450	0.014	0.047	0.003	36.83	0.36	1.19	0.08
5-657	1.465	0.014	0.103	0.003	37.21	0.36	2.62	0.08
5-606	1.468	0.014	0.141	0.004	37.29	0.36	3.58	0.10
5-980	1.475	0.014	0.275	0.006	37.47	0.36	6.99	0.15
5-024	1.515	0.015	0.125	0.004	38.48	0.38	3.18	0.10
5-320	1.540	0.015	0.070	0.003	39.12	0.38	1.78	0.08
5-158	1.550	0.015	0.092	0.003	39.37	0.38	2.34	0.08
5-009	1.553	0.015	0.080	0.003	39.45	0.38	2.03	0.08
5-321	1.559	0.015	0.139	0.004	39.60	0.38	3.53	0.10
5-788	1.591	0.015	0.071	0.003	40.41	0.38	1.80	0.08
5-327	1.640	0.015	0.139	0.004	41.66	0.38	3.53	0.10
5-143	1.670	0.015	0.047	0.003	42.42	0.38	1.19	0.08
5-329	1.670	0.015	0.070	0.003	42.42	0.38	1.78	0.08
5-1018	1.671	0.015	0.139	0.004	42.44	0.38	3.53	0.10
5-330	1.674	0.015	0.210	0.005	42.52	0.38	5.33	0.13

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-671	1.680	0.015	0.080	0.003	42.67	0.38	2.03	0.08
5-025	1.765	0.016	0.125	0.004	44.83	0.41	3.18	0.10
5-035	1.786	0.016	0.139	0.004	45.36	0.41	3.53	0.10
5-1023	1.788	0.016	0.070	0.003	45.42	0.41	1.78	0.08
5-335	1.802	0.016	0.062	0.003	45.77	0.41	1.57	0.08
5-794	1.812	0.016	0.070	0.003	46.02	0.41	1.78	0.08
5-795	1.850	0.016	0.070	0.003	46.99	0.41	1.78	0.08
5-981	1.850	0.016	0.275	0.006	46.99	0.41	6.99	0.15
5-337	1.873	0.016	0.062	0.003	47.57	0.41	1.57	0.08
5-1043	1.882	0.017	0.118	0.004	47.80	0.43	3.00	0.10
5-144	1.891	0.017	0.047	0.003	48.03	0.43	1.19	0.08
5-796	1.913	0.017	0.070	0.003	48.59	0.43	1.78	0.08
5-338	1.925	0.017	0.210	0.005	48.90	0.43	5.33	0.13
5-342	1.980	0.017	0.038	0.003	50.29	0.43	0.97	0.08
5-655	2.020	0.018	0.070	0.003	51.31	0.46	1.78	0.08
5-037	2.036	0.018	0.139	0.004	51.71	0.46	3.53	0.10
5-642	2.051	0.018	0.070	0.003	52.10	0.46	1.78	0.08
5-1044	2.060	0.018	0.139	0.004	52.32	0.46	3.53	0.10
5-027	2.140	0.018	0.125	0.004	54.36	0.46	3.18	0.10
5-1046	2.140	0.018	0.315	0.010	54.36	0.46	8.00	0.25
5-145	2.141	0.018	0.047	0.003	54.38	0.46	1.19	0.08
5-347	2.163	0.018	0.062	0.003	54.94	0.46	1.57	0.08
5-348	2.172	0.018	0.070	0.003	55.17	0.46	1.78	0.08
5-800	2.225	0.018	0.275	0.006	56.52	0.46	6.99	0.15
5-015	2.296	0.020	0.080	0.003	58.32	0.51	2.03	0.08
5-702	2.312	0.020	0.139	0.004	58.72	0.51	3.53	0.10
5-039	2.411	0.020	0.139	0.004	61.24	0.51	3.53	0.10
5-354	2.471	0.020	0.070	0.003	62.76	0.51	1.78	0.08
5-703	2.563	0.020	0.139	0.004	65.10	0.51	3.53	0.10
5-358	2.576	0.020	0.082	0.003	65.43	0.51	2.08	0.08
5-361	2.671	0.022	0.139	0.004	67.84	0.56	3.53	0.10
5-159	2.683	0.022	0.115	0.004	68.15	0.56	2.92	0.10
5-982	2.725	0.022	0.275	0.006	69.22	0.56	6.99	0.15
5-704	2.812	0.022	0.139	0.004	71.42	0.56	3.53	0.10
5-697	2.878	0.022	0.080	0.003	73.10	0.56	2.03	0.08

5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-367	2.924	0.022	0.103	0.003	74.27	0.56	2.62	0.08
5-705	2.937	0.022	0.139	0.004	74.60	0.56	3.53	0.10
5-044	3.036	0.024	0.139	0.004	77.11	0.61	3.53	0.10
5-369	3.037	0.024	0.103	0.003	77.14	0.61	2.62	0.08
5-810	3.041	0.024	0.062	0.003	77.24	0.61	1.57	0.08
5-374	3.112	0.024	0.070	0.003	79.04	0.61	1.78	0.08
5-557	3.125	0.024	0.103	0.003	79.38	0.61	2.62	0.08
5-815	3.156	0.024	0.060	0.003	80.16	0.61	1.52	0.08
5-045	3.161	0.024	0.139	0.004	80.29	0.61	3.53	0.10
5-816	3.162	0.024	0.070	0.003	80.31	0.61	1.78	0.08
5-984	3.225	0.024	0.275	0.006	81.92	0.61	6.99	0.15
5-821	3.300	0.026	0.070	0.003	83.82	0.66	1.78	0.08
5-825	3.350	0.026	0.275	0.006	85.09	0.66	6.99	0.15
5-1053	3.354	0.026	0.070	0.003	85.19	0.66	1.78	0.08
5-979	3.443	0.026	0.275	0.006	87.45	0.66	6.99	0.15
5-381	3.475	0.026	0.275	0.006	88.27	0.66	6.99	0.15
5-985	3.600	0.026	0.275	0.006	91.44	0.66	6.99	0.15
5-031	3.640	0.028	0.125	0.004	92.46	0.71	3.18	0.10
5-986	3.725	0.028	0.275	0.006	94.62	0.71	6.99	0.15
5-390	3.957	0.028	0.147	0.004	100.51	0.71	3.73	0.10
5-987	3.975	0.028	0.275	0.006	100.97	0.71	6.99	0.15
5-833	4.085	0.030	0.103	0.003	103.76	0.76	2.62	0.08
5-394	4.096	0.030	0.070	0.003	104.04	0.76	1.78	0.08
5-988	4.100	0.030	0.275	0.006	104.14	0.76	6.99	0.15
5-395	4.117	0.030	0.070	0.003	104.57	0.76	1.78	0.08
5-396	4.171	0.030	0.070	0.003	105.94	0.76	1.78	0.08
5-989	4.225	0.030	0.275	0.006	107.32	0.76	6.99	0.15
5-060	4.390	0.030	0.044	0.003	111.51	0.76	1.12	0.08
5-401	4.531	0.030	0.070	0.003	115.09	0.76	1.78	0.08
5-402	4.750	0.035	0.188	0.005	120.65	0.89	4.78	0.13
5-850	4.925	0.035	0.260	0.006	125.10	0.89	6.60	0.15
5-403	4.930	0.035	0.103	0.003	125.22	0.89	2.62	0.08
5-852	5.030	0.035	0.210	0.005	127.76	0.89	5.33	0.13
5-853	5.057	0.035	0.233	0.006	128.45	0.89	5.92	0.15
5-407	5.249	0.035	0.123	0.004	133.32	0.89	3.12	0.10

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-410	5.340	0.035	0.070	0.003	135.64	0.89	1.78	0.08
5-412	5.414	0.035	0.103	0.003	137.52	0.89	2.62	0.08
5-855	5.444	0.035	0.124	0.004	138.28	0.89	3.15	0.10
5-856	5.465	0.035	0.070	0.003	138.81	0.89	1.78	0.08
5-413	5.475	0.035	0.164	0.005	139.07	0.89	4.17	0.13
5-414	5.487	0.035	0.062	0.003	139.37	0.89	1.57	0.08
5-416	5.553	0.035	0.120	0.004	141.05	0.89	3.05	0.10
5-062	5.604	0.040	0.070	0.003	142.34	1.02	1.78	0.08
5-063	5.750	0.040	0.070	0.003	146.05	1.02	1.78	0.08
5-421	5.882	0.040	0.110	0.004	149.40	1.02	2.79	0.10

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-573	5.968	0.040	0.070	0.003	151.59	1.02	1.78	0.08
5-567	5.985	0.040	0.070	0.003	152.02	1.02	1.78	0.08
5-428	6.361	0.040	0.108	0.004	161.57	1.02	2.74	0.10
5-666	6.520	0.040	0.070	0.003	165.61	1.02	1.78	0.08
5-869	6.609	0.045	0.139	0.004	167.87	1.14	3.53	0.10
5-696	7.110	0.045	0.103	0.003	180.59	1.14	2.62	0.08
5-691	7.139	0.045	0.072	0.003	181.33	1.14	1.83	0.08
5-873	7.230	0.045	0.070	0.003	183.64	1.14	1.78	0.08
5-975	7.425	0.045	0.260	0.006	188.60	1.14	6.60	0.15
5-875	7.580	0.050	0.210	0.005	192.53	1.27	5.33	0.13
5-438	7.613	0.050	0.070	0.003	193.37	1.27	1.78	0.08
5-877	7.802	0.050	0.104	0.003	198.17	1.27	2.64	0.08
5-445	8.277	0.050	0.275	0.006	210.24	1.27	6.99	0.15
5-880	8.350	0.050	0.275	0.006	212.09	1.27	6.99	0.15
5-575	8.875	0.055	0.070	0.003	225.42	1.40	1.78	0.08
5-635	9.370	0.055	0.103	0.003	238.00	1.40	2.62	0.08
5-883	9.820	0.060	0.103	0.003	249.43	1.52	2.62	0.08
5-884	9.984	0.060	0.070	0.003	253.59	1.52	1.78	0.08
5-885	10.171	0.060	0.139	0.004	258.34	1.52	3.53	0.10
5-457	10.232	0.060	0.139	0.004	259.89	1.52	3.53	0.10
5-458	10.340	0.060	0.139	0.004	262.64	1.52	3.53	0.10
5-887	10.343	0.060	0.275	0.006	262.71	1.52	6.99	0.15
5-165	10.359	0.060	0.139	0.004	263.12	1.52	3.53	0.10
5-889	10.372	0.060	0.104	0.003	263.45	1.52	2.64	0.08
5-976	10.425	0.060	0.260	0.006	264.80	1.52	6.60	0.15
5-890	10.606	0.060	0.103	0.003	269.39	1.52	2.62	0.08
5-464	10.656	0.060	0.070	0.003	270.66	1.52	1.78	0.08
5-891	10.734	0.060	0.139	0.004	272.64	1.52	3.53	0.10
5-466	10.749	0.060	0.210	0.005	273.03	1.52	5.33	0.10
5-469	10.883	0.060	0.103	0.003	276.43	1.52	2.62	0.08
5-894	10.996	0.060	0.103	0.003	279.30	1.52	2.62	0.10
5-474	11.331	0.060	0.275	0.006	287.81	1.52	6.99	0.15

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-898	11.335	0.060	0.103	0.003	287.91	1.52	2.62	0.08
5-069	11.750	0.070	0.139	0.004	298.45	1.78	3.53	0.10
5-482	12.109	0.070	0.139	0.004	307.57	1.78	3.53	0.10
5-164	12.160	0.070	0.210	0.005	308.86	1.78	5.33	0.13
5-901	12.234	0.070	0.139	0.004	310.74	1.78	3.53	0.10
5-485	12.260	0.070	0.139	0.004	311.40	1.78	3.53	0.10
5-902	12.360	0.070	0.210	0.005	313.94	1.78	5.33	0.13
5-487	12.380	0.070	0.139	0.004	314.45	1.78	3.53	0.10
5-488	12.463	0.070	0.103	0.003	316.56	1.78	2.62	0.08
5-569	12.475	0.070	0.139	0.004	316.87	1.78	3.53	0.10
5-905	12.623	0.070	0.140	0.004	320.62	1.78	3.56	0.10
5-906	12.705	0.070	0.070	0.003	322.71	1.78	1.78	0.08
5-907	12.725	0.070	0.275	0.006	323.22	1.78	6.99	0.15
5-908	12.840	0.070	0.139	0.004	326.14	1.78	3.53	0.10
5-619	12.915	0.070	0.139	0.004	328.04	1.78	3.53	0.10
5-492	13.248	0.070	0.139	0.004	336.50	1.78	3.53	0.10
5-070	13.270	0.070	0.139	0.004	337.06	1.78	3.53	0.10
5-910	13.375	0.070	0.210	0.005	339.73	1.78	5.33	0.13
5-071	13.410	0.070	0.139	0.004	340.61	1.78	3.53	0.10
5-493	13.490	0.070	0.139	0.004	342.65	1.78	3.53	0.10
5-494	13.541	0.070	0.210	0.005	343.94	1.78	5.33	0.13
5-496	13.616	0.070	0.141	0.004	345.85	1.78	3.58	0.10
5-498	13.650	0.070	0.139	0.004	346.71	1.78	3.53	0.10
5-912	13.734	0.070	0.139	0.004	348.84	1.78	3.53	0.10
5-1097	13.750	0.070	0.103	0.003	349.25	1.78	2.62	0.08
5-073	13.820	0.080	0.139	0.004	351.03	2.03	3.53	0.10
5-502	14.088	0.080	0.210	0.005	357.84	2.03	5.33	0.13
5-624	14.111	0.080	0.139	0.004	358.42	2.03	3.53	0.10
5-074	14.234	0.080	0.139	0.004	361.54	2.03	3.53	0.10
5-504	14.430	0.080	0.139	0.004	366.52	2.03	3.53	0.10
5-505	14.470	0.080	0.139	0.004	367.54	2.03	3.53	0.10
5-507	14.600	0.080	0.210	0.005	370.84	2.03	5.33	0.13

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-508	14.674	0.080	0.139	0.004	372.72	2.03	3.53	0.10
5-166	14.722	0.080	0.139	0.004	373.94	2.03	3.53	0.10
5-920	14.780	0.080	0.175	0.005	375.41	2.03	4.45	0.13
5-921	14.795	0.080	0.071	0.003	375.79	2.03	1.80	0.08
5-512	15.171	0.080	0.139	0.004	385.34	2.03	3.53	0.10
5-077	15.300	0.080	0.139	0.004	388.62	2.03	3.53	0.10
5-924	15.410	0.080	0.210	0.005	391.41	2.03	5.33	0.13
5-079	15.540	0.080	0.139	0.004	394.72	2.03	3.53	0.10
5-515	15.548	0.080	0.210	0.005	394.92	2.03	5.33	0.13
5-516	15.740	0.080	0.139	0.004	399.80	2.03	3.53	0.10
5-517	15.750	0.080	0.275	0.006	400.05	2.03	6.99	0.15
5-518	16.031	0.080	0.256	0.006	407.19	2.03	6.50	0.15
5-571	16.234	0.090	0.139	0.004	412.34	2.29	3.53	0.10
5-930	16.285	0.090	0.250	0.006	413.64	2.29	6.35	0.15
5-520	16.435	0.090	0.139	0.004	417.45	2.29	3.53	0.10
5-524	16.640	0.090	0.210	0.005	422.66	2.29	5.33	0.13
5-622	16.750	0.090	0.275	0.006	425.45	2.29	6.99	0.15
5-525	16.765	0.090	0.125	0.004	425.83	2.29	3.18	0.10
5-935	17.100	0.090	0.275	0.006	434.34	2.29	6.99	0.15
5-526	17.250	0.090	0.187	0.005	438.15	2.29	4.75	0.13
5-082	17.250	0.090	0.240	0.006	438.15	2.29	6.10	0.15
5-937	17.390	0.090	0.139	0.004	441.71	2.29	3.53	0.10
5-529	17.455	0.090	0.139	0.004	443.36	2.29	3.53	0.10
5-939	17.870	0.090	0.210	0.005	453.90	2.29	5.33	0.13
5-084	18.062	0.090	0.281	0.006	458.77	2.29	7.16	0.15
5-533	18.169	0.090	0.096	0.003	461.49	2.29	2.44	0.08
5-085	18.350	0.090	0.210	0.005	466.09	2.29	5.33	0.13
5-1104	18.500	0.090	0.188	0.005	469.90	2.29	4.78	0.13
5-1105	18.635	0.090	0.139	0.004	473.33	2.29	3.53	0.10
5-944	18.880	0.100	0.139	0.004	479.55	2.54	3.53	0.10
5-947	19.380	0.100	0.139	0.004	492.25	2.54	3.53	0.10

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5-xxx Sizes								
Parker No.	ID in.	Tol. ± in.	Width in.	Tol. ± in.	ID mm	Tol. ± mm	Width mm	Tol. ± mm
5-541	19.500	0.100	0.250	0.006	495.30	2.54	6.35	0.15
5-948	19.725	0.100	0.210	0.005	501.02	2.54	5.33	0.13
5-950	19.960	0.100	0.139	0.004	506.98	2.54	3.53	0.10
5-1010	20.609	0.100	0.139	0.004	523.47	2.54	3.53	0.10
5-547	21.564	0.100	0.139	0.004	547.73	2.54	3.53	0.10
5-089	23.406	0.120	0.281	0.006	594.51	3.05	7.14	0.15
5-551	23.540	0.120	0.139	0.004	597.92	3.05	3.53	0.10
5-090	23.576	0.120	0.139	0.004	598.83	3.05	3.53	0.10
5-167	23.780	0.120	0.375	0.007	604.01	3.05	9.52	0.18
5-091	25.474	0.120	0.139	0.004	647.04	3.05	3.53	0.10
5-170	25.500	0.120	0.275	0.006	647.70	3.05	6.99	0.15
5-171	26.125	0.120	0.275	0.006	663.58	3.05	6.99	0.15
5-173	26.188	0.120	0.210	0.005	665.18	3.05	5.33	0.13
5-631	26.408	0.120	0.139	0.004	670.76	3.05	3.53	0.10
5-172	27.485	0.120	0.275	0.006	698.12	3.05	6.99	0.15
5-092	27.625	0.120	0.275	0.006	701.68	3.05	6.99	0.15
5-955	28.801	0.140	0.275	0.006	731.55	3.56	6.99	0.15

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General Notes

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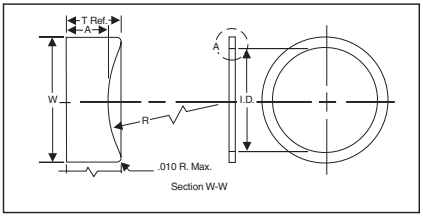
Parker Series 8-XXX Compounds Sizes

Developed primarily for service in petroleum based hydraulic fluids at -40°C to 121°C (-40°F to 250°F), Parker's standard Parbak N0300-90 and N1444-90 compounds provide the maximum benefits in back-up ring service. Compounds for use in other fluids and for temperatures up to 204°C (400°F) are available on request. Parbaks will stretch up to 50%, and are quickly and easily installed. Advantages of the contour design are obtained regardless of how Parbaks are installed — they may be installed with the concave face in either direction, toward or away from the O-ring.



Parbak sizes are designed to correspond with the Parker 2-xxx, 3-xxx and AS568B series O-ring with which they are used.

Complete call-out consists of the digit 8, the dash number for the size wanted and the rubber material.

Example: N0300 8-009

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.087	.049	.045	.003	.053	.003

Parker No.	ID in.	Tol. ±
8-004	.096	.005
8-005	.127	
8-006	.140	
8-007	.171	
8-008	.202	
8-009	.234	
8-010	.265	
8-011	.327	
8-012	.390	
8-013	.455	
8-014	.518	.007
8-015	.580	.009
8-016	.643	
8-017	.705	
8-018	.768	
8-019	.830	
8-020	.893	
8-021	.955	
8-022	1.018	.010
8-023	1.080	
8-024	1.143	
8-025	1.205	.011
8-026	1.268	
8-027	1.330	
8-028	1.393	.013
8-029	1.518	
8-030	1.643	
8-031	1.768	.015
8-032	1.893	
8-033	2.018	.018
8-034	2.143	
8-035	2.268	
8-036	2.393	
8-037	2.518	

8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.087	.049	.045	.003	.053	.003

Parker No.	ID in.	Tol. ±
8-038	2.643	.020
8-039	2.768	
8-040	2.893	
8-041	3.018	.024
8-042	3.268	
8-043	3.518	
8-044	3.768	.027
8-045	4.018	
8-046	4.268	.030
8-047	4.518	
8-048	4.768	
8-049	5.018	.037
8-050	5.268	

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8-XXX Sizes					
R ±.010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.129	.053	.045	.003	.086	.003

Parker No.	ID in.	Tol. ±
8-102	.077	.005
8-103	.109	
8-104	.140	
8-105	.171	
8-106	.202	
8-107	.234	
8-108	.265	
8-109	.327	
8-110	.390	
8-111	.452	
8-112	.515	
8-113	.577	.007
8-114	.640	.009
8-115	.702	
8-116	.765	
8-117	.831	.010
8-118	.893	
8-119	.956	
8-120	1.018	
8-121	1.081	
8-122	1.143	
8-123	1.206	.012
8-124	1.268	
8-125	1.331	
8-126	1.393	
8-127	1.456	
8-128	1.518	
8-129	1.581	.015
8-130	1.643	
8-131	1.706	
8-132	1.768	
8-133	1.831	
8-134	1.893	

8-XXX Sizes					
R ±.010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.129	.053	.045	.003	.086	.003

Parker No.	ID in.	Tol. ±
8-135	1.956	.017
8-136	2.018	
8-137	2.081	
8-138	2.143	
8-139	2.206	
8-140	2.268	
8-141	2.331	.020
8-142	2.393	
8-143	2.456	
8-144	2.518	
8-145	2.581	
8-146	2.643	
8-147	2.706	.022
8-148	2.768	
8-149	2.831	
8-150	2.893	
8-151	3.018	.024
8-152	3.268	
8-153	3.518	
8-154	3.768	.028
8-155	4.018	
8-156	4.268	.030
8-157	4.518	
8-158	4.768	
8-159	5.018	.035
8-160	5.268	
8-161	5.518	
8-162	5.768	
8-163	6.018	
8-164	6.268	.040
8-165	6.518	
8-166	6.768	
8-167	7.018	

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.129	.053	.045	.003	.086	.003

Parker No.	ID in.	Tol. ±
8-168	7.268	.045
8-169	7.518	
8-170	7.768	
8-171	8.018	
8-172	8.268	.050
8-173	8.518	
8-174	8.768	
8-175	9.018	
8-176	9.238	.055
8-177	9.518	
8-178	9.768	

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.174	.050	.040	.003	.118	.004

Parker No.	ID in.	Tol. ±
8-201	.202	.005
8-202	.265	
8-203	.327	
8-204	.390	
8-205	.455	
8-206	.518	
8-207	.580	.007
8-208	.643	.009
8-209	.705	
8-210	.766	.010
8-211	.828	
8-212	.891	
8-213	.953	
8-214	1.016	
8-215	1.078	
8-216	1.141	.012
8-217	1.203	
8-218	1.266	
8-219	1.334	
8-220	1.397	
8-221	1.459	
8-222	1.522	.015
8-223	1.647	
8-224	1.772	
8-225	1.897	.018
8-226	2.022	
8-227	2.147	
8-228	2.272	.020
8-229	2.397	
8-230	2.522	
8-231	2.631	

8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.174	.050	.040	.003	.118	.004

Parker No.	ID in.	Tol. ±
8.232	2.756	.024
8-233	2.881	
8-234	3.006	
8-235	3.131	
8-236	3.256	
8-237	3.381	
8-238	3.506	
8-239	3.631	.028
8-240	3.756	
8-241	3.881	
8-242	4.006	
8-243	4.131	
8-244	4.256	.030
8-245	4.381	
8-246	4.506	
8-247	4.631	
8-248	4.768	
8-249	4.893	.035
8-250	5.018	
8-251	5.143	
8-252	5.268	
8-253	5.393	
8-254	5.518	
8-255	5.643	
8-256	5.768	
8-257	5.893	
8-258	6.018	
8-259	6.268	.040
8-260	6.518	
8-261	6.768	
8-262	7.018	

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.174	.050	.040	.003	.118	.004

Parker No.	ID in.	Tol. ±
8-263	7.268	.045
8-264	7.518	
8-265	7.768	
8-266	8.018	
8-267	8.268	.050
8-268	8.518	
8-269	8.768	
8-270	9.018	
8-271	9.268	.055
8-272	9.518	
8-273	9.768	
8-274	10.018	
8-275	10.518	
8-276	11.018	.065
8-277	11.518	
8-278	12.018	
8-279	13.018	
8-280	14.018	
8-281	15.018	
8-282	15.989	.075
8-283	16.989	.080
8-284	17.989	.085

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.262	.076	.060	.004	.183	.005

Parker No.	ID in.	Tol. ±
8-309	.450	.005
8-310	.513	
8-311	.575	.007
8-312	.638	.009
8-313	.700	
8-314	.763	.010
8-315	.825	
8-316	.888	
8-317	.950	
8-318	1.013	
8-319	1.075	
8-320	1.138	.012
8-321	1.200	
8-322	1.263	
8-323	1.316	
8-324	1.388	
8-325	1.513	.015
8-326	1.638	
8-327	1.763	
8-328	1.888	
8-329	2.013	.018
8-330	2.138	
8-331	2.268	
8-332	2.393	
8-333	2.518	.020
8-334	2.643	
8-335	2.768	
8-336	2.893	
8-337	3.018	.024
8-338	3.143	
8-339	3.273	
8-340	3.398	
8-341	3.523	

8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.262	.076	.060	.004	.183	.005

Parker No.	ID in.	Tol. ±
8-342	3.648	.028
8-343	3.773	
8-344	3.989	
8-345	4.028	
8-346	4.153	
8-347	4.278	.030
8-348	4.403	
8-349	4.528	
8-350	4.653	
8-351	4.778	
8-352	4.903	
8-353	5.028	.037
5-354	5.153	
8-355	5.278	
8-356	5.403	
8-357	5.528	
8-358	5.653	
8-359	5.778	
8-360	5.903	
8-361	6.028	
8-362	6.278	.040
8-363	6.528	
8-364	6.778	
8-365	7.028	
8-366	7.278	.045
8-367	7.528	
8-368	7.778	
8-369	8.028	
8-370	8.278	.050
8-371	8.528	
8-372	8.778	
8-373	9.028	

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.262	.076	.060	.004	.183	.005

Parker No.	ID in.	Tol. ±
8-374	9.278	.055
8-375	9.528	
8-376	9.778	
8-377	10.028	
8-378	10.528	.060
8-379	11.028	
8-380	11.528	.065
8-381	12.028	
8-382	13.028	
8-383	14.028	.070
8-384	15.028	
8-385	16.008	.075
8-386	17.008	.080
8-387	18.008	.085
8-388	19.006	.090
8-389	20.006	.095
8-390	21.006	
8-391	22.006	.100
8-392	22.993	.105
8-393	23.993	.110
8-394	24.993	.115
8-395	25.993	.120

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8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.344	.117	.096	.005	.236	.006

Parker No.	ID in.	Tol. ±
8-425	4.551	.003
8-426	4.676	
8-427	4.801	
8-428	4.926	
8-429	5.051	.037
8-430	5.176	
8-431	5.301	
8-432	5.426	
8-433	5.551	
8-434	5.676	
8-435	5.801	
8-436	5.926	
8-437	6.051	
8-438	6.274	.040
8-439	6.524	
8-440	6.774	
8-441	7.024	
8-442	7.274	.045
8-443	7.524	
8-444	7.774	
8-445	8.024	
8-446	8.524	.055
8-447	9.024	
8-448	9.524	
8-449	10.024	
8-450	10.524	.060
8-451	11.024	
8-452	11.524	
8-453	12.024	
8-454	12.524	
8-455	13.024	
8-456	13.524	.070
8-457	14.024	
8-458	14.524	
8-459	15.024	
8-460	15.524	

8-XXX Sizes					
R ± .010	Tol. Ref.	A in.	Tol. ±	Width in.	Tol. ±
.344	.117	.096	.005	.236	.006

Parker No.	ID in.	Tol. ±
8-461	16.004	.075
8-462	16.504	
8-463	17.004	.080
8-464	17.504	.085
8-465	18.004	
8-466	18.504	
8-467	19.004	.090
8-468	19.504	
8-469	20.004	.095
8-470	21.004	
8-471	22.004	.100
8-472	23.004	.105
8-473	24.004	.110
8-474	25.004	.115
8-475	26.004	.120

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Key Components of Our Tools:

- Short, engaging animations
- Snippets of real test procedures
- Direct links to resources and articles to accelerate the design process
- Online *Chat with an Engineer* capability within each page to provide personlized assistance
- Design analysis for O-rings via Mobile inPHorm O-Ring Calculator and the O-Ring Selector

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