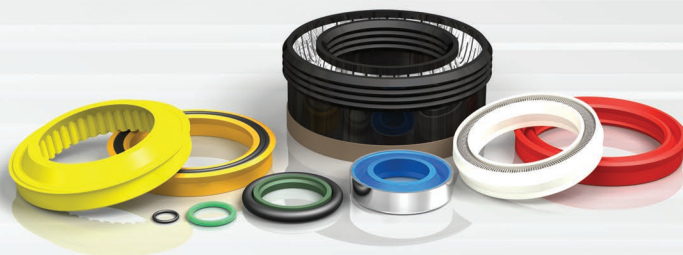


MFPSEALS[®]
MARTIN FLUID POWER



1977 - 2017

HYDRAULIC AND PNEUMATIC SEALS



MARTIN FLUID POWER COMPANY, INC. IS A PREFERRED DISTRIBUTOR FOR



MFPSEALS® MARTIN FLUID POWER



BUILDING MFP SEALS® FOR YOU

MFP Seals, a division of Martin Fluid Power, is focused on providing you superior customer service, an effortless experience and our broad network access to all of the sealing devices that are available worldwide.

Founded in January 1977, Martin Fluid Power includes five wholesale distribution locations in the United States, plus locations in Lincoln, England, Bogota, Colombia and Taipei, Taiwan. The MFP Seals division represents a culmination of our efforts to bring together, in-house, our Design, Engineering, CNC Machining, Injection Molding, Seal Kitting, and Die Cutting departments. Together as MFP Seals we are focused on designing, engineering and manufacturing the highest quality sealing devices, made in the USA.

Through Martin Fluid Power's stocking locations and our authorized distributors worldwide, you have access to our products when you need them, no matter where you are. So, when you're looking for the highest quality seals at the best prices, remember, we've built MFP Seals to be your best choice.

CUSTOM MANUFACTURING

MFP Seals is committed to high quality and timely service. By employing talented personnel, investing in new machinery, and enhancing our capabilities through upgrades, we are able to offer a vast range of tooling for standard Hydraulic and Pneumatic seals. Our manufacturing capabilities include CNC machining with Y-axis travel for off-center milling, drilling and tapping, as well as the ability to custom mold virtually any shape or design. For all of your engineered shapes, manufactured to print or sample, we have the technology to supply you with product that exceeds your expectations.

- CNC Machining
- Compression Molding
- Injection Molding
- Rubber to Metal Bonding
- Transfer Molding

OUR FOCUS













MFP Seals will provide you, our customer, with the best solutions for your sealing device problems - while maintaining the highest quality, best prices, and all the conveniences that a global manufacturer can provide.





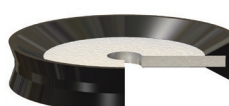













HYDRAULIC AND PNEUMATIC SEALS



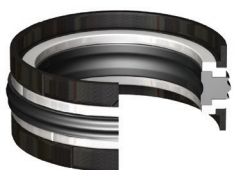







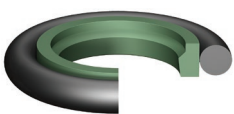





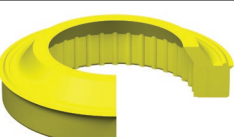



At MFP Seals, our selection of sealing products, range of materials and variety of seal profiles, is unsurpassed. In addition to the seals that we produce, we also source and distribute from the world's top manufacturers, allowing us to offer our customers a complete selection of hydraulic and pneumatic sealing products. The products shown in this booklet are representative of seals manufactured by MFP Seals and are just a small sampling of our product portfolio.

Please contact an MFP Seals Customer Service Representative for more information on our complete line of O-rings, Hydraulic and Pneumatic Seals, Bushings, Bearings, Wear Rings, Oil Seals, Spring Energized Seals, Die Cut Gaskets, Sheet Materials, Standard and Custom Seal Kits, Custom Manufacturing, and Specialty Compounds.

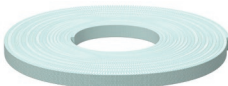





*Compounds available may be specific to Inch or Metric sizes. Other compounds may be available. Seal graphic does not necessarily represent the compounds listed. The MFP Seals® logo, X-Pac®, CPX Piston Seal®, HPX Piston Seal™, XS Seal®, Fluorochem® are registered trademarks of Martin Fluid Power Co., Inc.© 2016. The Trelleborg logo is copyright Trelleborg AB. All other logos and trademarks are property of their respective companies.

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	Metric				
O-Rings					
OR	MOR			O-Ring	E7101 FC7500 FC7510 FC7525 FC7550 FC7600 FC7625 FC7650 FC7675 FC7700 FC7725 FC7750 FC7775 FC7800 FS7101 N6001 N6003 N6007 N6010 S7100 U6865 U9251 V7100 V7125 V7150 V7155 V7165 V7175 V7200
Back-Up Rings					
BU	MBU			H2155 Back-Up Ring	H2155
U-Cup - Symmetrical					
HU	MSUC			Symmetrical U-Cup	U2151
XP	MXP			X-PAC® Symmetrical Loaded B-Lip U-Cup	Seal - U2145, U2151, H2155 X-Ring Expander - N6014
U-Cup - Asymmetrical Rod Seal					
RTL	MRTL			Asymmetrical Rod U-Cup	U2151, U2145, H2155
XPAR	MXPAR			X-PAC® Loaded Lip Rod U-Cup, with Anti-Extrusion Ring	Seal - U2151, U2145, H2155 X-Ring Expander - N6014 Anti-Extrusion Ring - M1001

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	Metric				
U-Cup - Asymmetrical Rod Seal					
XPR	MXPR			X-PAC® Loaded Twin-Lip, Rod U-Cup	Seal - U2151, U2145, H2155 X-Ring Expander - N6014
U-Cup - Asymmetrical Piston Seal					
PUC	MPUC			Asymmetrical U-Cup Piston Seal	U2151
Piston Cups					
PCD				Double Acting Piston Cup	N8097 / Carbon Steel
PCF				Fabric & Rubber Piston Cup	Fabric & NBR
Rod Assemblies					
CGLR				Capped Asymmetrical Rod Seal (3 PC.)	Energizer - N6020 Cap - T5100 Backup - M1000
RS10				RS10 (2 PC.) Rotary Rod Seal	Rotary Rod Seal - T5100 O-Ring Expander - N6001
Piston Assemblies					
CPX				CPX Piston Seal® (2 PC.)	Piston Seal - U2151, U2145 O-Ring Expander - N6001
				Wide Base CPX Piston Seal® (2 PC.)	Piston Seal - U2151, U2145 O-Ring Expander - N6001
HPX				HPX Piston Seal™ (2 P.C.)	Piston Seal - H2155 Expander - NBR

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	Metric				
Piston Assemblies					
TPR	MPST			Metric (2 P.C.) Piston Seal	Piston Seal - T5100 O-Ring Expander - N6001
PSA	MPSA			PSA (5 PC.) Piston Seal	Piston Seal - NBR80 Back-Up Rings - Polyester Elastomer Guide Rings - POM
PSQ	MPSQ			PSQ (3 PC.) Piston Seal	Piston Seal - T5100 Square-Ring - NBR70 X-Ring Expander - N6014
RS11				RS11 (2 PC.) Rotary Piston Seal	Piston Seal - T5100 O-Ring Expander - N6001
TPS				Square (2 PC.) Piston Seal	Square Piston Ring - T5100 O-Ring Expander - N6001
Buffer Rings					
BRS	MBRS			Rod Buffer Seal	Rod Buffer Seal - T5100 O-Ring Expander - N6001
Rod Wipers					
AN				Rod Wiper	U2145, U2151, H2155
D	MD			Rod Wiper	U2145, U2151
DM	MDRW			Rod Wiper	U2145, U2151, H2155
H	MHRW			H Style Rod Wiper	U2145, U2151, H2155, CN80, VT90

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	Metric				
Rod Wipers					
K				K Style Rod Wiper	U2145, U2151
MC				Metal Clad Rod Wiper	U2146 / Carbon Steel
					NBR / Carbon Steel
RCM	MRCM			MCRM Metric Metal Clad Rod Wiper	NBR / Steel
	MSRW			MSRW Metric Stepped Ribbed Rod Wiper	U2145, U2151
ODW				ODW Style Rod Wiper	Wiper - T5100 O-Ring Expander - N6001
Swivel Seal					
	MSS			MSS Metric Swivel Seal	U2151
Wear Ring					
WR	MWR			Tight Tolerance Composite Guide Ring	C4000
WR				Tight Tolerance Piston Guide Ring	M1005
WRR				Tight Tolerance Rod Guide Ring	M1005
TWS	MTWS			Tight Tolerance PTFE Wear Strip	T5100

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	Metric				
Wear Ring					
PWS	MPWS			Tight Tolerance Composite Wear Strip	C4000
WR	MWRP			Tight Tolerance Metric Guide Ring	C1000
Spring Energized Seals					
XS	MXS			XS Seal® Spring Energized Seal	Seal Jacket - Compound varies by design Spring - Elgiloy, Hastelloy, Stainless Steel Spring Style - V, Helical, Slanted Coil Other materials available.

ELASTOMERS, COMPOSITES & THERMOPLASTICS

- AEM 87A
 - Aflas® 85A
 - Aflas® ED 85A
 - C1000 Phenolic Composite
 - C2000 Phenolic Composite w/Graphite
 - C4000 Polyester Composite w/PTFE
 - C4025 Polyester Composite w/Graphite
 - Carboxylated Nitrile 85A
 - EPDM 87A FDA (White)
 - EPDM 88A W270, KTW (Black)
 - FPM 85A
 - FPM 85A FDA
 - FPM BS3 80A
 - FPM DCP 84A (Black)
 - FPM ED 85A
 - H2140 - Hytrel® 40D
 - H2155 - Hytrel® 55D
 - HNBR 82A FDA (Green)
 - HNBR 95A (Black)
 - HNBR ED 85A (Black)
 - HPU 58D (Dark Red)
 - HPU 58D Lubricated (Black)
 - HPU 85A (Light Green)
 - HPU 95A KTW (Transparent)
 - HPU 95A Low Temp (Blue)
 - HPU 95A Lubricated (Black)
 - HPU 96A FDA, 3A-sanitary (Opaque)
 - M1000 (Polyether Ether Ketone - PEEK™)
 - M1001 (Acetal)
 - M1002 (Nylon® 6 MOS2)
 - M1005 40% Glass Nylon
 - M1006 (UHMW-PE)
 - M1007 (PEEK™, 30% Carbon Fiber)
 - M1008 (PEEK™, 30% Glass Fiber)
 - MVQ 79A, 84A FDA
 - NBR 82A Low Temp
 - NBR 85A, 90A
 - NBR 90A FDA (White)
 - PU 95A (Dark Green)
 - T1000 (PTFE, Virgin)
 - T1025 (PTFE, 5% Moly)
 - T1050 (PTFE, 15% Glass)
 - T1075 (PTFE, 25% Glass)
 - T1100 (PTFE, 15% Glass, 5% Moly)
 - T1125 (PTFE, 23% Carbon, 2% Graphite)
 - T1150 (PTFE, 10% Carbon)
 - T1175 (PTFE, 25% Carbon)
 - T1200 (PTFE, 15% Graphite)
 - T1225 (PTFE, 10% Ekonol)
 - T1250 (PTFE, Polyimide)
 - T2000 (TFM, Unfilled)
 - T2025 (TFM, 10% Carbon)
 - T2050 (TFM, 18% Carbon, 7% Carbon Fiber)
 - T2075 (TFM, 15% Carbon Fiber)
 - T5000 (PTFE 40% Bronze)
 - T5025 (PTFE, 55% Bronze, 5% Moly)
 - T5050 (PTFE, 60% Bronze)
 - T5100 (PTFE, Enhanced Bronze)
 - U2145 TPU 95A
 - U2146 TPU 90A
 - U2151 TPU 95A
 - U4145 TPU 95A TODI
 - U4150 TPU 90A PPDI
- Other materials available, contact the MFP Seals Engineering Department for more information.*

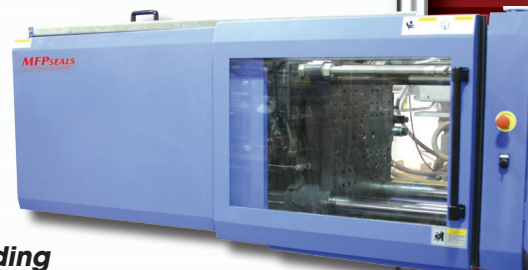
STANDARD SEAL PROFILES OR CUSTOM SHAPES MADE TO ORDER



CNC Machining

**QUICK TURN-AROUND
ON PROTOTYPES
OR PRODUCTION**

(see custom machined seals on following pages)

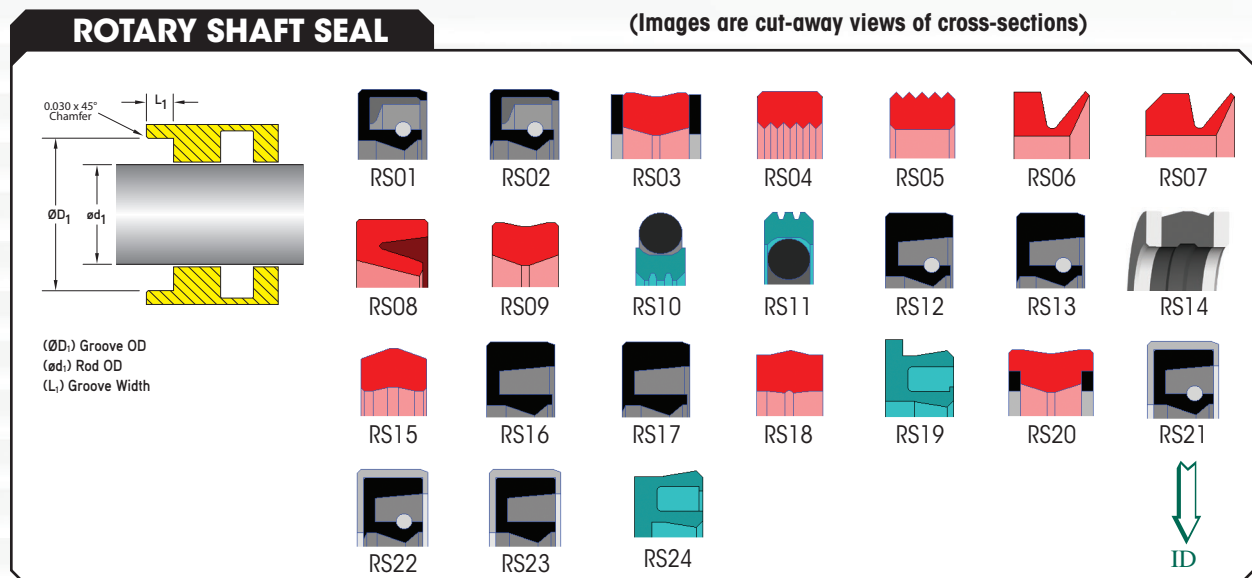
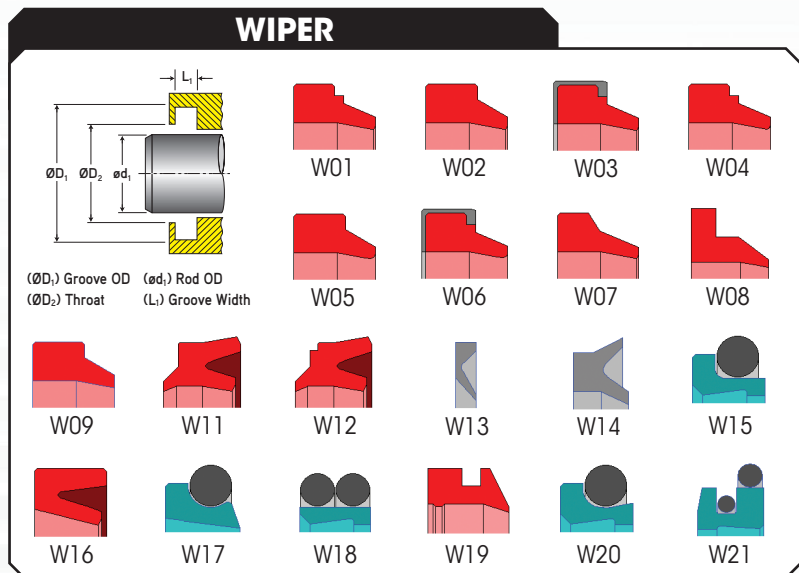
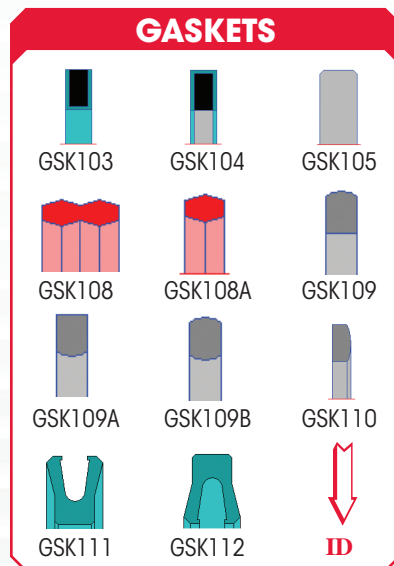
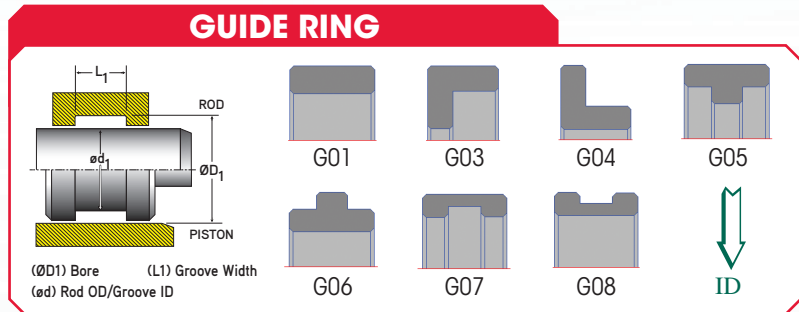
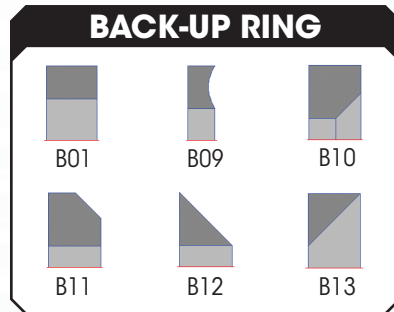


Injection Molding

MFP Seals can produce custom machined products, made to print, or from the industry standard geometries shown below. We can also reverse engineer your sample. Please contact MFP Seals customer service for more information.

SEALS up to 4000mm (157-1/2"), 715mm (28-5/32") OD IN HOUSE

Please refer to the previous page, *Elastomers, Composites & Thermoplastics*, for material selection or contact the MFP Seals Engineering Department. We can assist in recommending the proper material for use in your application. Not all materials are available for all profiles.

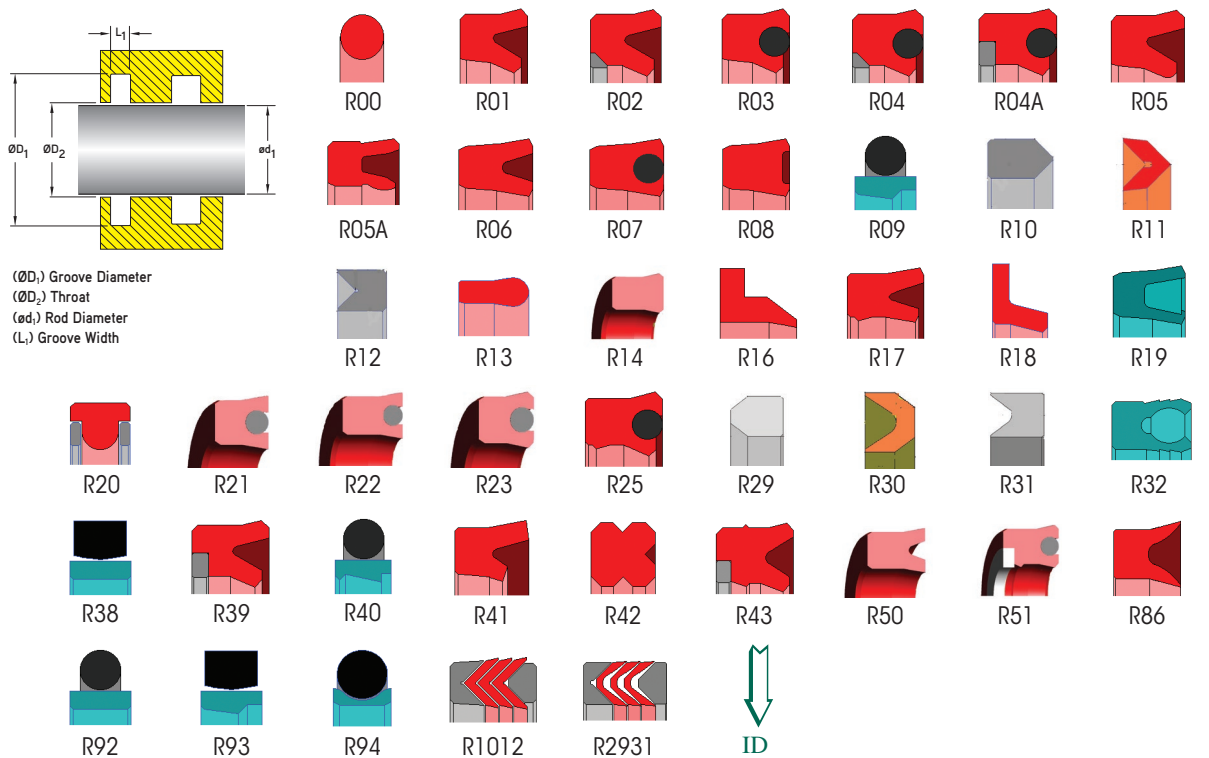


PISTON SEAL

(Images are cut-away views of cross-sections)



ROD SEAL



O-RINGS

MFP Seals manufactures both inch and metric sized o-rings. Produced to the AS568D (Aerospace Standard), as well as European and Japanese metric standards (BS2518, GB/T 3452.1, J.I.S. B2401, SMS1586). MFP Seals stocks o-rings in a wide variety of colors, compounds, and durometers, to meet Automotive, Aerospace*, FDA†, Industrial, Military††, Oil Field, NORSOK**, NSF51, NSF61, USP‡ and UL specifications. All compounds shown are RoHS compliant.

MFP SEALS COMPOUNDS FORMULATED FOR O-RINGS

Compound	Spec.	Abbreviation	Hardness	Color	Temperature Range	
E7101		EPDM	70 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7102		EPDM	80 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7103 (NSF61)		EPDM	70 Shore A	Black	-50°C to +100°C	(-58°F to +212°F)
E7105 (WRAS/NSF61)		EPDM	70 Shore A	Black	-50°C to +150°C	(-58°F to +302°F)
FC7500 - Fluorochem®		FKME	75 Shore A	Black	-22°C to +250°C	(-7°F to +482°F)
FC7510 - Fluorochem®		FKM	75 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
FC7525 - Fluorochem®	‡	FFKM	75 Shore A	Black	-15°C to +320°C	(+5°F to +608°F)
FC7550 - Fluorochem®		FFKM	75 Shore A	White	-15°C to +320°C	(+5°F to +608°F)
FC7575 - Fluorochem®		FFKM	90 Shore A	Black	-15°C to +320°C	(+5°F to +608°F)
FC7600 - Fluorochem®	**	FFKM	90 Shore A	Black	0°C to +260°C	(+32°F to +500°F)
FC7625 - Fluorochem®	**	FFKM	90 Shore A	Black	-4°C to +230°C	(+25°F to +446°F)
FC7650 - Fluorochem®		FFKM	70 Shore A	Black	-20°C to +230°C	(-4°F to +446°F)
FC7675 - Fluorochem®	†	FFKM	75 Shore A	Black	-4°C to +230°C	(+25°F to +446°F)
FC7700 - Fluorochem®		FFKM	75 Shore A	Black	-7°C to +230°C	(+20°F to +446°F)
FC7725 - Fluorochem®	‡	FFKM	75 Shore A	White	-7°C to +230°C	(+20°F to +446°F)
FC7750 - Fluorochem®		FFKM	75 Shore A	Black	-6°C to +300°C	(+21°F to +570°F)
FC7775 - Fluorochem®		FFKM	75 Shore A	Black	-7°C to +230°C	(+20°F to +446°F)
FC7800 - Fluorochem®		FFKM	75 Shore A	Black	-5°C to +320°C	(+23°F to +608°F)
FS7101	*	FVMQ	70 Shore A	Blue	-60°C to +200°C	(-76°F to +392°F)
N6001		NBR	70 Shore A	Black	-40°C to +100°C	(-40°F to +212°F)
N6003		NBR	90 Shore A	Black	-20°C to +100°C	(-4°F to +212°F)
N6007		HNBR	70 Shore A	Black	-40°C to +125°C	(-40°F to +257°F)
N6008		HNBR	80 Shore A	Black	-35°C to +150°C	(-31°F to +302°F)
N6009		HNBR	90 Shore A	Black	-30°C to +150°C	(-22°F to +302°F)
N6010		HNBR	70 Shore A	Green	-40°C to +150°C	(-40°F to +302°F)
N6011		HNBR	80 Shore A	Green	-25°C to +150°C	(-13°F to +302°F)
N6012		HNBR	90 Shore A	Green	-20°C to +150°C	(-4°F to +302°F)
S7100*	†¹	SIL	70 Shore A	Rust Red	-55°C to +240°C	(-67°F to +464°F)
U6865		TPU	70 Shore A	Natural	-81°C to +100°C	(-115°F to +212°F)
U9251		TPU	90 Shore A	Natural	-54°C to +150°C	(-65°F to +300°F)
V1125 - Aflas®		FKM	80 Shore A	Black	-0°C to +230°C	(+32°F to +446°F)
V7100		FKM	75 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
V7125		FKM	75 Shore A	Black	-15°C to +200°C	(+5°F to +392°F)
V7150		FKM	75 Shore A	Black	-15°C to +200°C	(+5°F to +392°F)
V7155		FKM	75 Shore A	Brown	-15°C to +200°C	(+5°F to +392°F)
V7165		FKM	90 Shore A	Black	-20°C to +200°C	(-4°F to +392°F)
V7175		FKM	90 Shore A	Black	-10°C to +200°C	(+14°F to +392°F)
V7200	**	FKM	90 Shore A	Black	-30°C to +250°C	(-22°F to +482°F)
V7250		FKM	75 Shore A	Green	-15°C to +200°C	(+5°F to +392°F)
V7325 (AMS-R-83485)	††	FKM-GLT	75 Shore A	Black	-40°C to +200°C	(-40°F to +392°F)
V7350		FEPM	90 Shore A	Black	-20°C to +220°C	(-4°F to +428°F)

This information is only to be used as a guide to the selection of seal compounds. Application, as well as temperature, pressures, media, and finishes, should all be considered when choosing seal compounds. Other compounds may be available based on application. This is not a complete list of available compounds. For more information contact MFP Seals at sales@mfpseals.com or (248) 585-8170. Fluorochem® and Ultraflex™ are registered trademarks of Martin Fluid Power Co., Inc. © 2016. FDA Grade w/o Certification. AFLAS® is a registered trademark of the Asahi Glass Co., Ltd.

PTFE COLOR COATING ▶

- PTFE color coatings make identification easy, when used to distinguish sizes or materials.
- The PTFE coating extends wear life, resulting in reduced material decay and less downtime.
- Coated O-Rings are less susceptible to contamination and are easier to handle by not having to deal with messy oil-based lubricants.
- Added lubrication makes installation easier, reduces assembly time, and keeps machinery running smoother, longer. Less down-time equals more profit.

BLACK

LIGHT
BLUE

MEDIUM
BLUE

DARK
BLUE

BROWN

CLEAR

GRAY

LIGHT
GREEN

MEDIUM
GREEN

DARK
GREEN

ORANGE

PINK

PURPLE

RED

YELLOW

SERVICES & QUALITY

MFP Seals state-of-the-art measuring center allows for precision measuring of product to ensure they meet our quality standards and your specified tolerances. This powerful vision system is accurate up to .4µm, so we know without a doubt that our parts will fit your application.

Services:

- Blanket Orders
- JIT Inventory
- KanBan

Quality:

- ISO 9001-2008 Certified
- PPAP Submission
- Certification of Materials
- Non-contact vision system (.4µm)

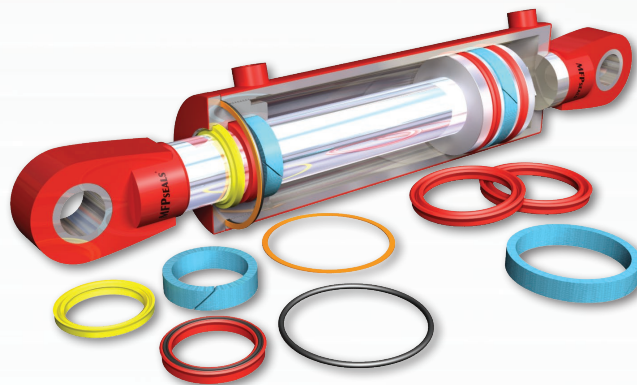


CUSTOM PACKAGING AND KITTING

At MFP Seals we design, manufacture and package the highest quality seal kits in the industry. Whether you need seal kits for hydraulic or pneumatic cylinders, pumps, valves, or motors, we can meet or exceed your specifications. Our kitting services include custom packaging from shrink wrapping, bagging and labeling, to custom printed boxes, blister packaging and skin board packaging. We now offer skin board packaging, that can be custom printed on demand.

At MFP Seals we have experience designing custom packaging for these Industries and more:

- Automotive
- Marine
- Chemical Processing
- Mining
- Construction
- Mobile
- Forestry
- Oilfield
- Industrial
- Refuse



MFPSEALS®

MARTIN FLUID POWER

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Madison Heights, MI 48071

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