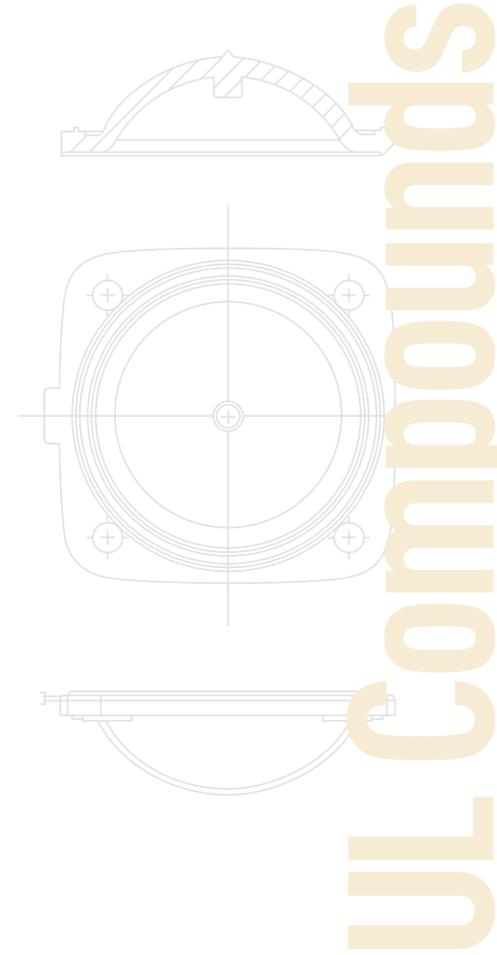


Piston Seals
Wipers
O-Rings & Kits
Custom Parts
Specialty Parts
Services
Wear Guides
Rod Seals

UL Compounds

QUALITY | VALUE | SERVICE



UL Compounds



Certiably perfect solutions.

J Royal is pleased to offer these UL rubber compounds, all of which have been tested and recognized under Underwriters Laboratories' Category JMLU2, "Gasket and Seal Materials – Components". General information regarding the end use applications and physical properties of each compound is outlined inside this brochure.

To learn more about UL, an independent product safety testing and certification organization, please visit www.jroyal.com/ul. For more specific information or expert advice, contact us and speak directly to an experienced compound professional. Please call us at 800 626 8807 or visit our website at www.jroyal.com.

QUALITY | VALUE | SERVICE

J ROYAL'S UL LINEUP



O-RINGS & BACK-UP RINGS

We have a UL recognized compound O-Ring to match virtually every application you need – or we'll customize it for special applications. We also offer extrusion-resistant back-up rings to ensure seal protection.



CUSTOM MOLDED SHAPES

When the need is for durable non-seal type molded parts made with UL recognized compounds, J Royal can help. For bumpers, caps, gaskets, bellows, handles, washers, gaskets and more, we deliver the solution.



FABRIC REINFORCED DIAPHRAGMS

Diaphragms offer several benefits like no sliding and static friction, no need for lubrication, simple assembly and more. J Royal offers UL recognized fabric reinforced diaphragms to meet these demands.



METAL-TO-RUBBER SHAPES

Seals come in all shapes and sizes for countless applications. Over our decades of experience, we've seen and sourced them all. We've got the metal-to-rubber seal and shape you need – and UL recognized.



UL recognized seals of approval.

Underwriter Laboratories is an independent product safety testing and certification organization. Its product recognition is a standard for virtually all industries and it's your assurance of J Royal's tested and verified quality for the specified applications.

J Royal offers a wide variety of UL recognized rubber compounds to match numerous different applications. Our selection of fluorinated and nitrile compounds meets the demands of several petroleum category applications from natural gas to diesel/biodiesel blends, plus other application categories such as ozone and rubber-to-metal bonding. All of our fluorocarbon compounds are formulated with genuine Chemours™ Viton™ for high temperature and extremely corrosive environments. The EPDM compounds are recognized for extinguishing agents, detergents, ozone, swimming pool pumps and more.

For more information on UL compounds contact J Royal. We can help you find the perfect UL compound for your application.

FLUORINATED COMPOUNDS

FLT-7001: 75 DUROMETER FLUOROCARBON

Chemours™ Viton™ GFLT is a premium APA grade of fluorocarbon material that offers the best all-round performance in terms of physical properties, low temperature sealing ability and chemical resistance. It can also be bonded to both metal and fabric.

USE: B, C, D, E, F, G, H, J, N, O, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25

UL Tested Physical Properties:

Maximum Service Temperature	200°C
Minimum Service Temperature	-60°C
Hardness Range	75 - 85
Tensile Strength	2163 psi
Elongation	229%
Maximum Compensation Set	10.7%
Maximum Tensile Set	4%

FS-7002: 75 DUROMETER FLUOROSILICONE

This UL fluorosilicone provides exceptional sealing capability in extremely low service temperatures. Coupled with UL 50/50E electrical enclosures, it makes an excellent environmental seal due to its extreme cold temperature flexibility and resistance to both ozone and UV light.

USE: B, C, D, G, 3, 4, 5, 9, 10, 12, 14, 15, 25

UL Tested Physical Properties:

Maximum Serv Temperature	80°C
Minimum Serv Temperature	-55°C
Hardness Range	63 - 73
Tensile Strength	1107 psi
Elong	215%
Maximum Comp Set	4.0%
Maximum Tensile Set	3%

F-7041: 75 DUROMETER FLUOROCARBON

This compound is based on Chemours™ Viton™ B polymer. Viton™ B offers improved chemical resistance over standard A grades at a lower cost than the GF or GFLT based Vitons™.

USE: B, C, D, F, G, H, J, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 23, 24, 25

UL Tested Physical Properties:

Maximum Service Temperature	200°C
Minimum Service Temperature	-40°C
Hardness Range	74 - 84
Tensile Strength	1735 psi
Elongation	148%
Maximum Compensation Set	10.7%
Maximum Tensile Set	2%

F-7027: 75 DUROMETER FLUOROCARBON

This material is recognized for use in gasoline, gasoline/alcohol blends, kerosene, natural gas, LP gas and diesel fuel, as well as UL 50/50E electrical enclosures. It also exhibits a very low compression set. F-7027 is formulated from genuine Chemours™ Viton™.

USE: B, D, F, G, H, J, 3, 4, 5, 26

UL Tested Physical Properties:

Maximum Service Temperature	200°C
Minimum Service Temperature	-25°C
Hardness Range	75 - 85
Tensile Strength	2278 psi
Elongation	201%
Maximum Compensation Set	5.3%
Maximum Tensile Set	4%

F-7036: 75 DUROMETER FLUOROCARBON

This is J Royal's standard stocked UL Viton™ A material. The compound offers numerous UL recognitions, primarily focused on the fuel dispensing market. As a member of the A family, it offers the best physical properties of the available Viton™ grades.

USE: B, C, D, F, G, H, J, N, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25

UL Tested Physical Properties:

Maximum Service Temperature	200°C
Minimum Service Temperature	-40°C
Hardness Range	75 - 85
Tensile Strength	1970 psi
Elongation	180%
Maximum Compensation Set	4.3%
Maximum Tensile Set	2%

F-7020: 75 DUROMETER FLUOROCARBON

This compound is based on our F-7036 Viton™ material. However, it has been specifically formulated to facilitate bonding to various types of metals and plastics. This can reduce costs by allowing J Royal to supply a complete seal, rather than relying on more expensive seal capture methods like dovetail grooves or chemical adhesives.

USE: B, D, E, F, G, H, J, N, O, 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 26

UL Tested Physical Properties:

Maximum Service Temperature	200°C
Minimum Service Temperature	-40°C
Hardness Range	76 - 86
Tensile Strength	1822 psi
Elongation	254%
Maximum Compensation Set	19%
Maximum Tensile Set	6%

 Viton™ is a trademark of The Chemours Company FC, LLC, used under license by J Royal.



NITRILE COMPOUNDS

N-7026: 70 DUROMETER NITRILE

This material is recognized for use in manufactured or natural gas, diesel fuel and liquefied petroleum gas (LP gas). It's also suitable for use in UL 262 appliances (gate valves for fire protection service).

USE: F, G, J, 2, 3

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	64 - 74
Tensile Strength	2340 psi
Elongation	450%
Maximum Compensation Set	16.5%
Maximum Tensile Set	3%

N-7079: 70 DUROMETER NITRILE

N-7079 is J Royal's original fuel resistant UL nitrile. The compound's high acrylonitrile content affords for good resistance to both fuels and oils.

USE: B, D, F, G, J, 1, 3, 4, 5, 6, 7, 8, 12, 14, 15, 25, 26, 27

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	69 - 79
Tensile Strength	1599 psi
Elongation	294%
Maximum Compensation Set	8.8%
Maximum Tensile Set	1%

N-7088: 70 DUROMETER NITRILE

This is J Royal's general purpose UL nitrile compound. With a normal acrylonitrile content, it is suitable for less aggressive fuels such as diesel and LP gas. It's a more economical alternative for UL applications that don't require gasoline resistance.

USE: F, G, J, 3

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	65 - 75
Tensile Strength	2209 psi
Elongation	320%
Maximum Compensation Set	11.8%
Maximum Tensile Set	.3%

N-7099: 70 DUROMETER NITRILE

N-7099 compound is very similar to N-7088, however it offers additional UL recognized end uses for pumps and mechanical seals.

USE: E, F, G, J, 21, 22

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	69 - 79
Tensile Strength	2064 psi
Elongation	302%
Maximum Compensation Set	10.8%
Maximum Tensile Set	3%

N-7575: 75 DUROMETER NITRILE

Based on J Royal's N-7079 material, this compound offers several improvements over N-7079, most notably N-7575's UL recognition for methanol/gasoline fuel blends.

USE: B, C, D, F, G, J, 4, 5, 12, 14, 15, 20, 25

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	70 - 80
Tensile Strength	1662 psi
Elongation	279%
Maximum Compensation Set	12.3%
Maximum Tensile Set	2%

N-8002: 80 DUROMETER NITRILE

N-8002 is recognized for use in manufactured or natural gas, diesel fuel, and liquefied petroleum gas (LP gas). It has a very good compression set and tensile strength.

USE: F, G, J, 3

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	76 - 86
Tensile Strength	2350 psi
Elongation	260%
Maximum Compensation Set	6.8%
Maximum Tensile Set	2%

N-8007: 80 DUROMETER NITRILE

N-8007 is very similar to the performance of N-7088, however this compound is 10 points harder in durometer. It's excellent for bridging a 70 to 90 durometer gap, especially in terms of sealing capability and wear resistance. It's also an excellent choice for a sealing seat.

USE: F, G, J, 3

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	75 - 85
Tensile Strength	2350 psi
Elongation	148%
Maximum Compensation Set	8.3%
Maximum Tensile Set	0%

N-9006: 90 DUROMETER NITRILE

A specially formulated UL 90 durometer material for diesel and fuel gas sealing applications, this compound is formulated for improved low temperature flexibility over standard NBR 90 grade elastomers.

USE: F, G, J, 3

UL Tested Physical Properties:

Maximum Service Temperature	60°C
Minimum Service Temperature	-40°C
Hardness Range	84 - 94
Tensile Strength	2790 psi
Elongation	110%
Maximum Compensation Set	3.7%
Maximum Tensile Set	2%

EPDM COMPOUNDS

E-7049: 70 DUROMETER EPDM

This specialty UL material features various unique end uses. Primary markets are pool and commercial/consumer dish-washing applications. Also, its UL 50/50E recognition could make it the right sealing gasket material choice for specialized applications.

USE: A, L, M, N, O, 4, 5, 18, 19

UL Tested Physical Properties:

Maximum Service Temperature	105°C
Minimum Service Temperature	-55°C
Hardness Range	71 - 81
Tensile Strength	2118 psi
Elongation	165%
Maximum Compensation Set	4.5%
Maximum Tensile Set	0%



CODE/APPLICATION INFORMATION

The final acceptance of a gasket material in a specific end-use application is dependent on its installation and use, and may require additional evaluation with respect to ingress or leakage of solids (such as dusts), liquids or gases, or other features dependent on the design and construction of the equipment in which it is used.

- A Extinguishing agents
- B Gasoline
- C Gasoline/alcohol blends up to 15% alcohol
- D Naptha or kerosene
- E MPS gas
- F Manufactured gas or natural gas
- G Diesel fuel, fuel oil or lubricating oil
- H Heated fuel oil
- I Anhydrous ammonia
- J Liquefied petroleum gas (LP-gas)
- K Dry-cleaning agents
- L Laundry detergents
- M Dishwashing detergents
- N Atmospheric ozone
- O Generated ozone

- 1 Suitable for use with gasoline/ethanol blends having an ethanol content up to 25% [E25] for static applications.
- 2 Suitable for use in UL262 appliances.
- 3 See the Guide Information for alphabetical end-use application codes.
- 4 Suitable for use in UL 50 "Enclosures for Electrical Equipment", (including oil immersion) gasket applications.
- 5 Suitable for use in UL 50E (periodic recompression) "Enclosures for Electrical Equipment, Environmental Considerations", (including oil immersion) gasket applications.
- 6 Suitable for use with gasoline/ethanol blends having an ethanol content up to 85% [E85] for static applications.
- 7 Suitable for use with gasoline/ethanol blends having an ethanol content up to 85% [E85] for dynamic applications.
- 8 Suitable for use with gasoline/ethanol blends having an ethanol content up to 25% [E25] for dynamic applications.
- 9 Suitable for use with diesel exhaust fluid for static applications, UL 87C and UL 2586C.
- 10 Suitable for use with diesel exhaust fluid for dynamic applications, UL 87C and UL2586C.
- 11 Suitable for use with biodiesel fuel for dynamic applications, UL 87B.
- 12 Suitable for use in gasoline/ethanol blends having an ethanol content up to 85% (E0 - E85) for dynamic applications, UL 87A and UL 2586A.
- 13 Suitable for use with biodiesel fuel for static applications, UL 87B.
- 14 Suitable for use in gasoline/ethanol blends having an ethanol content up to 85% (E0 - E85) for static applications, UL 87A and UL 2586A.
- 15 Suitable for use in diesel fuel, biodiesel fuel, diesel/biodiesel blends with nominal biodiesel concentrations up to 20% [B20], kerosene, and fuel oil for dynamic applications, UL 87B and UL 2586B.
- 16 Suitable for 0-20 percent MTBE/gasoline blends.
- 17 Suitable for 0-20 percent ETBE/gasoline blends.
- 18 Suitable for vapor extinguishing agents only.
- 19 Suitable for use as gaskets in swimming pool pumps, filters and chlorinators (UL 1081).
- 20 Suitable for 100% MTBE.
- 21 Suitable for use as gaskets in enclosures for electrical equipment (UL50), electrical equipment, environmental considerations-continuous compression (UL50E), & pool pumps, filters & chlorinators (UL1081).
- 22 Suitable for use as gaskets in motor-operated water pumps (UL 778).
- 23 Suitable for 100% ETBE.
- 24 Suitable for 0-20 percent TAME/gasoline blends.
- 25 Suitable for use in diesel fuel, biodiesel fuel, diesel/biodiesel blends with nominal biodiesel concentrations up to 20% [B20], kerosene, and fuel oil for static applications, UL 87B and UL 2586B.
- 26 Gasoline/alcohol blends up to 15% ethanol.
- 27 Extinguishing agents are dry chemical and water.



Why Industry Leaders Rely on J Royal

GLOBAL REACH – LOCAL RELATIONSHIPS

For over 60 years, J Royal has provided quality sealing solutions to a diverse group of markets. Our knowledgeable staff is highly regarded in the industry for its ability to consistently provide optimal design recommendations and its commitment to building long-standing, prosperous relationships. What sets J Royal apart is its broad product base, unbeatable product knowledge, extensive logistics and distribution capabilities, and progressive engineering skills, all supported by global resources.

THE J ROYAL ADVANTAGE

Our products fit nearly every category:

- O-Rings
- Wipers
- Precision Metal Products
- Machined Plastic Parts
- Compounds
- Custom Molded Parts
- Piston Seals
- Rod Seals
- Standard & Custom Seals

PARTNER OF CHOICE

J Royal has the team to not just meet your needs but surpass your expectations. From local sales support and design assistance to quotation and quality assurance, we are ready to support you as an integral member of your supply chain.



NORTH CAROLINA
CORPORATE OFFICE
2441 Salem Park Drive
Winston-Salem, NC 27127
336.794.0400 PHONE
800.626.8807 TOLL FREE
336.794.0401 FAX

ALABAMA
180 Twin Creek Drive
Talladega, AL 36078
336.794.0400 PHONE
800.626.8807 TOLL FREE
336.794.0401 FAX

© 2015, J Royal Co., Inc. Rev 8.17

LIMITED WARRANTY J Royal Co. ("Seller") warrants that its products ("Goods") will perform in accordance with their specifications; that the goods will be free from manufacturing defects for a period of twelve (12) months from the date of delivery of the goods to Buyer; and that the goods will be as specified by Buyer in the purchase order. Seller should have the right to elect to either refund the purchase price for any defective goods or replace any defective goods, provided that the goods were used in the manner for which they were manufactured. Seller does not warrant that the goods are fit for any particular purpose. Seller should have no obligation to refund the purchase price or replace goods that are rendered defective by a Buyer or a third party after they leave Seller's place of shipment.

LIMITED LIABILITY Seller's liability for its goods is limited to their terms set forth in Seller's express warranty set for above, in no event shall Seller's liability exceed the total purchase order price. Seller is not assuming any liability for any indirect, collateral, special, incidental or consequential losses or damages suffered by Buyer, or by any end-user or other third party, including but not limited to, lost profits, loss of business reputation and/or lost business opportunity, for any possible cause of action or claim arising out of or related to the goods sold to Buyer, even if Seller has been advised of the possibility of such loss or damage.