



The fastest way to get the seal you need.

## ExpresSeal<sup>™</sup>can solve your sealing problems fast...

From hydraulic and pneumatic seals in virtually every profile to fast prototyping and complete application assistance services, ExpresSeal<sup>™</sup> is your best source to get the seal you need... fast!

We can deliver custom prototypes for your product development needs, off-the-shelf standard seal profiles, or custom machined seals for emergency replacement.

ExpresSeal is set up to respond quickly to even the most challenging sealing requirements, combining our experience and integrated capabilities to give you distinct advantages.



From prototypes to custom designs, ExpresSeal can solve your sealing problem FAST.

## **Application & Design Assistance**

With a broad range of experience in every industry, ExpresSeal can assist you at every stage of your sealing application, from prototype to production.

# Complete Custom Manufacturing Capabilities

Whether you need a one-off emergency replacement seal or a large production run, ExpresSeal has the manufacturing capabilities to respond to your specific requirements.

### **Custom Molded Shapes and Seals**

ExpresSeal has the resources to assist you in custom designing unusual, all-rubber shaped seals specifically for your application, including microminiature shapes for your smaller designs, and rubber-to-metal bonded parts.

We can handle any project that requires molding, with a full range of capabilities that includes liquid injection molding, plastic injection molding, transfer molding, and compression molding.



Experienced, knowledgeable engineers can assist you with custom molded shapes and seals.

## **Quality Assurance**

ExpresSeal offers one of the most stringent quality assurance programs in the industry. We can offer quality assurance that includes both dimensional and material validation, plus full documentation is available.

## **Research and Development**

If you require a truly unique sealing solution, ExpresSeal has the resources to explore and develop new designs, materials and processes.

## Machinable Grade Materials:

Polyurethane (Red) (FDA Compliant) Hardness: 95 Shore-A Temperature Range: -4°F to 240°F HPU® (Hydrolysis Resistant Polyurethane) (-20°C to 115°C) + Excellent wear and extrusion resistance + Suitable for use in high pressure hydraulic sealing applications + Hydraulic applications where water based fluids are being used **NBR (Black) (Nitrile Butadiene Rubber)** Hardness: 85 Shore-A Temperature Range: -22°F to 230°F + Good abrasion resistance + Elastic, allowing for ease of installation + Hydraulic and pneumatic applications EPDM (Black) (Ethylene-Propylene-Diene Rubber) Hardness: 85 Shore-A Temperature Range: -49°F to 266°F + Resistance to steam, ozone, and direct sun light

- + Flexibility at lower temperatures
- + Widely used in outdoor applications, Automotive brake systems, Automobile cooling systems, Water and Steam applications
- Poor resistance to mineral oil, gasoline, and hydrocarbon solvents

Hardness: 85 Shore-A Temperature Range: -4°F to 428°F Fluorocarbon Rubber (Brown or Black) (Viton®)

- + Resistance to ozone, weathering, and high heat
- + Excellent chemical resistance
- + This material is typically used in HFD fluids (Phosphate Ester and Chlorinated Hydrocarbon based Fluids)

Hardness: 85 Shore-A Silicone Rubber (Light Blue or Orange) Temperature Range: -76°F to 392°F

- + Good chemical resistance
- + Excellent temperature range
- Poor abrasion and tear resistance; Typically used in static applications

H-NBR (Green) Hardness: 85A durometer Temperature Range: -4°F to 302°F

H-NBR is a Hydrogenated Nitrile Butadiene Rubber compound

- + Strongest compound of all the elastomers
- + Excellent abrasion and tear resistance
- + Widely used in applications involving water based fluids especially Water-Glycol fluids
- + Good replacement for Viton in applications where the temperature does not exceed its physical properties

Key uses: Oil resistant applications, including exposure to such oil additives as detergents, anti-oxidants and anti-wear agents. Exposure to oil soured with metal sludge. Seals for oil well applications. Seals for automotive fuel handling systems.

#### POM (White or Black) (Polyoxymethelene/Polyacetal) (Hard Plastics)

Temperature Range: -49°F to 212°F

- + Used for sealing components such as back-up rings and special shapes
- + Low absorption of water (low swelling) and strong mechanical properties make this material ideal for bearings and guide-rings

### Virgin Teflon® (White) - PTFE (Polytetrafluoroethylene)

Temperature Range: -300°F to +450°F

PTFE - Teflon is a tough, chemically inert polymer possessing an incredible working temperature range.

- + Excellent temperature range
- + Low friction
- + Chemically inert to virtually all industrial chemicals, even at elevated temperatures
- + Good chemical resistance to such solvents as acetone, MEK, and xylene
- Very poor elastic memory
- Will cold flow (creep) over time

#### Nickel Teflon® (Grey) - NTFE (Nickel/Moly/Glass Filled Teflon)

Temperature Range: -300°F to +450°F

- + Same good physical and chemical properties with better creep behavior than virgin PTFE
- + Good for anti-extrusion rings, back-up rings, guide rings and in chevron packing sets
- Some chemicals may not be compatible with the fillers

#### Bronze Filled Teflon® (Brown) - BTFE (Bronze Filled Teflon)

Temperature Range: -300°F to +450°F

- + Better wear, creep resistance, and higher thermal conductivity than virgin and glass fiber filled PTFE
- + Used in applications which undergo high mechanical loads or high-speed rubbing contacts
- Poor chemical resistance in the presence of acids and alkali

#### Carbon Filled Teflon® (Black) - CTFE (Carbon Filled Teflon)

Temperature Range: -300°F to +450°F

- + Good chemical resistance to corrosive environments
- + Exhibits good initial wear and rubbing characteristics, both dry and water applications
- + Frequently used in piston seals

## Special Order Machinable Grade Materials

(Minimums may apply on some materials):

Polyurethane - Self Lubricating (Grey) SL-PU® Hydrolysis Resistant Polyurethane with internal So + For applications with sparse system lubrication + Commonly used in hydraulic and pneumatic application		Temperature Range: -4°F to 230°F
Polyurethane - Low-Temp (Dark Blue)  LT-PU® High Performance Polyurethane designed to perfo + This material maintains its performance characteristic - Is not hydrolysis resistant	•	Temperature Range: -58°F to 230°F
Polyurethane (Yellow)  HPU 55D® Hydrolysis Resistant Polyurethane with a Shore + Ideal for high pressure and heavy duty applications + May be used to replace Teflon seals because of excel		Temperature Range: -4°F to 240°F re price, and ease of installation
EPDM - FDA (Black) (White) + FDA compliant with the same features as regular EPD	Hardness: 85 Shore-A	Temperature Range: -49°F to 266°F
AFLAS (Black)  AFLAS® (Fluoro Rubber)  + Commonly used in (but not limited to) Refinery, Off Sh	Hardness: 85 Shore-A nore and Down Hole Applications	Temperature Range: -23°F to 392°F
UHMW-PE (White) Max.  + Outstanding abrasion resistance, superior impact resistance, even in cryogenic cost + Chemical, corrosion, and wear-resistant	,	Temperature Range: +180°F cating properties
Glass Filled Teflon (White) – GTFE (Glass Fiber Filled + Good chemical and electrical properties + Greatly improved mechanical properties (compressive + Resists acids and oxidation - Not recommended for alkali environments	,	Temperature Range: -300°F to +450°F
Virgin Teflon® – FDA (White) - PTFE + FDA compliant with the same features as regular Virgi	n Teflon	Temperature Range: -300°F to +450°F

#### **Hytrel**®

Hytrel® Thermoplastic Polyester Elastomers

- + Provides the flexibility of rubbers and the strength of plastics
- + Ideal for parts requiring excellent flex fatigue and broad use temperature
- + Resists tearing, flex-cut growth, creep and abrasion
- + Outstanding toughness while resisting hydrocarbons and many other fluids



## **EXPRES** — The fastest way to get the seal you need

(Machinable Profiles 1/2" I.D. to 20" O.D.)

### Materials

Polyurethane • Nitrile (Buna-N) • H-NBR • Viton® • EPDM • Silicone Teflon® • Filled Teflon® • Engineered Plastics • Aluminum



Symmetrical ID / OD Seals	DS106	DS107	DS108	DS110	0/112	DS121 D	K124 D	PS126/128	DS130	DS139	DK139	O RING
Rod / Shaft Seals	DS101	DS102	DS102R	DS103 DS124	DS104	DS104R DS129	DS105	DS109	DS116	DS117 DS142	DS199 DS216	DS205 DS238
Rotary Seals	DR101 DR115 DR204	DR102 DR115A DR205	DR103 DR115B DR206	DR104 DR116 DR207	DR105 DR116A	DR106 DR116B	DR107 DR118	DR108	DR110 DR117	DR111	DR112 DR202	DR113 DR203
Piston / Bore Seals	DK109N  DK125  DK216	DK102 DK116 DK127	DK102R  DK117  DK138  DK238	DK103  DK111  DK140	DK104  DK104	DK104R	DK105	DK108  DK123  DK144	DK109  DK123D  DK145	DK109D  DK123H  DK199	DK1	123N
Rod / Shaft Wipers	DA101	DA102 DA115	DA103	DA104PN DA117	DA105PN DA118	DA106PN	DA107	DA108	DA109 DA213	DA111	DA112	DA113
Wear Bands Back-Up Rings Gaskets Bushings	DF101 DST112	DF102 DST113	DF103 DFL103	DF104	DF105 DFL108	DF106 DFL109/	DF107	DF108  DF109C	DST108  DFL110	DST109	DST110	DST1111

Dimensional limitations may apply to some profiles.

Serving ... Fluid Power and Pneumatics, Plant Maintenance, Fleet Maintenance, Parts Distributors, Food Processing, Municipalities, Construction, Agriculture, Sanitation, Aviation, Mining, OEM's ... Anyone who uses seals!

## Call ExpresSeal Today

For more information on fast, high quality seals, contact ExpresSeal at

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