

3.1.5 Lubrication

Lubrication of O-ring seals is extremely important for installation and operation of dynamic seals as well as proper seating of static seals. The general rule for use of lubrication is: **The greatest benefit in using a lubricant is obtained during the initial installation of the O-ring.**

Lubricants are commonly used on O-rings and other elastomeric seals. Using a suitable grease or oil during assembly helps protect the O-ring from damage by abrasion, pinching, or cutting. It also helps to seat the O-ring properly, speeds up assembly operations, and makes automated assembly line procedures possible. An additional benefit is the protection that the lubricant provides as a surface film. Proper lubrication also helps protect some polymers from degradation by atmospheric elements such as ozone and its presence helps extend the service life of any O-ring. A lubricant is almost essential in pneumatic applications requiring dynamic service. In vacuum applications, appropriate lubricants help reduce the overall leak rate by filling the microfine inclusions of the gland's metal surfaces and lowering permeation rates of the elastomer.

Parker Seal offers two lubricants that will satisfy most service needs: Parker O-Lube and Parker Super-O-Lube. These two lubricants are described in the following paragraphs. Table 3-1 lists their key properties along with others used in specific types of services. Table 3-2 provides part number information for O-Lube and Super O-Lube.

Parker O-Ring Lubricants

O-Lube		Super-O-Lube	
Part Number	Description	Part Number	Description
OLUBE 884-2GRAMS	2 gr. tube	SLUBE 884-Grams	2 gr. tube
OLUBE .25OZ	¼ oz. tube	SLUBE .25OZ	¼ oz. tube
OLUBE 884-.50	½ oz. tube	SLUBE 884-.5	½ oz. tube
OLUBE 884-4	4 oz. tube	SLUBE 884-2	2 oz. tube
OLUBE 884-35	35 lb. pail	SLUBE 884-8	8 lb. can
OLUBE 884-400	400 lb. drum	SLUBE 884-40	40 lb pail

Note: MSDS are available at www.parkerorings.com

Table 3-2: O-Ring Lubricants

3.1.5.1 Parker O-Lube

Parker O-Lube is an outstanding general-purpose grease intended for use with O-ring and other seals in hydrocarbon service. It can also be used in pneumatic service. The useful temperature is from -29°C to 82°C (-20°F to 180°F).

3.1.5.2 Parker Super-O-Lube

Parker Super-O-Lube is an all-purpose O-ring lubricant. It is not a grease, but rather a high-viscosity silicone oil. It is especially useful as a seal lubricant. The temperature range is -54°C to 204°C (-65°F to 400°F).

Parker Super-O-Lube can be used as an assembly lubricant on all rubber polymers, including silicones. (Note: Silicones require special consideration.) In addition, Parker Super-

Lubricants

Type of Elastomer	Type of Service	Best	Manufacturer	Temp Range °F
NBR, Nitrile	Hydraulic Oils & Fuels Extreme Service Pneumatic Vacuum	O-Lube	Parker	-20 to 180
		Petrolatum	Many	-20 to 180
		Barium Grease	Many	-20 to 300
		Super O-Lube	Parker	-65 to 400
		DC-55	Dow Corning Co.	-65 to 275
		Celvacene	Consolidated Vacuum Corp.	-40 to 200
CR, Neoprene	Hydraulic Oils & Freon® Vacuum	O-Lube	Parker	-20 to 180
		Petrolatum	Many	-20 to 180
		Celvacene	Consolidated Vacuum Corp.	-40 to 200
EPDM	Skydrol® Steam & Hot Water	MCS-352	Aviation Fluid Service Co.	-65 to 300
		Super O-Lube	Parker	-65 to 400
		DC4, DC-7, DC55	Dow Corning Co.	+32 to 350
Silicone	General High Temperature	Petrolatum	Many	-20 to 300
		FS1292	Dow Corning Co.	-20 to 400
		Mil P 37649	Many	-20 to 180
Fluorosilicone	Oil or Fuel High Temperature	Petrolatum	Many	-65 to 350
		Super O-Lube	Parker	-65 to 400
		DC 4 or DC-7	Dow Corning Co.	+32 to 350
		Petrolatum	Many	-20 to 180
Fluorocarbon	Hydraulic Vacuum & High Temperature	Super O-Lube	Parker	-65 to 400
		DC-55	Dow Corning	-65 to 400

Notes: Assembly lubricants should always be used sparingly during application. A light film is all that is required. This is doubly important in cases 1 and 2 below.

1. When only a thin film of O-Lube is used for assembly purposes, the assembly may be subject to higher temperatures, with limits determined by the fluid and elastomer being used.

2. Use only a thin film of Super-O-Lube on silicone rubber if the temperature will exceed 149°C (300°F).

Table 3-1: Parker O-Ring Lubricants

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