

Clipper® Oil Seals

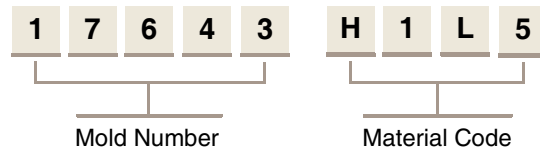
Product Offering

Catalog EPS 5350/USA

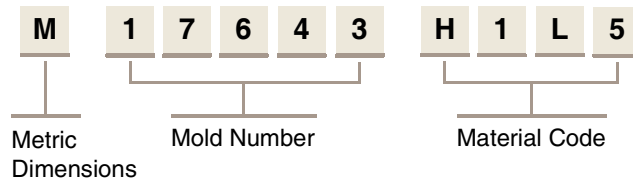
Part Number Nomenclature — Clipper Oil Seals

Solid Seals

English

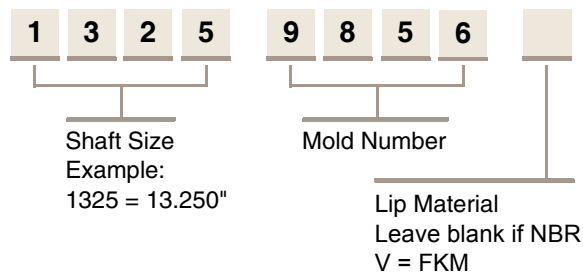


Metric

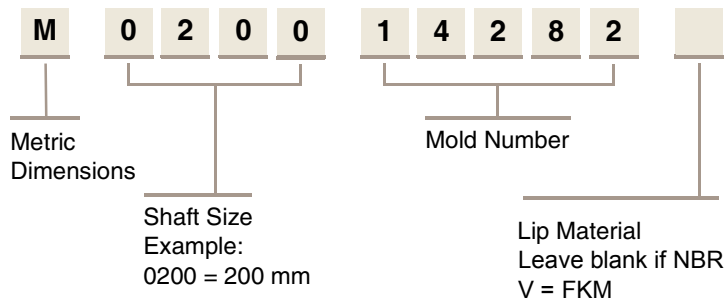


Split Seals

English



Metric



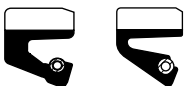









5

Profiles

The following standard Clipper Oil Seal profiles can be used in a wide range of applications for both MRO and OEM requirements. Experienced design and engineering teams are available to assist with standard and custom designs that meet both cost and performance objectives.








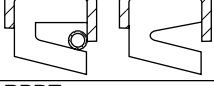


Table 5-7. Product Profiles

Standard Profiles	Features	Applications
LUP LPD 	General purpose spring-loaded single lip seal. Features nonmetallic composite OD for damage-free installation. LPD can be furnished with/without spring retainer feature.	For oil retention or grease retention. Typical applications: electric motors, gearboxes, pumps, fans, runout tables, paper rolls, work rolls, mixers and custom equipment.
RUP RPD 	General purpose spring-loaded single lip seal. Features nonmetallic OD for damage-free installation. Available in solid or split. Splits feature a positive bore retention and require no cover plate.	Splits — for grease retention — with oil, some seepage may occur. Typical applications: electric motors, gearboxes, pumps, fans, runout tables, paper rolls, mixers, and custom equipment. Split seals are designed for applications where equipment is unable to be disassembled due to time constraints.
LUPW LPDW 	Spring-loaded single lip. Features nonmetallic composite OD for damage-free installation.	High runout conditions for applications up to 1" (25.4 mm) total eccentricity. For oil retention and low speeds.
LDS 	General purpose double lip features nonmetallic composite OD for damage-free installation. LDS profile has a primary spring-loaded lip with a non-spring-loaded secondary lip for exclusion of light dust or contamination.	For oil retention. Excludes light dust and fluid. Typical applications: electric motors, gearboxes, pumps, fans, runout tables, paper rolls, mixers, and custom equipment.
LDSW 	Specialized double lip features non-metallic composite OD for damage-free installation. Primary lip features molded in spring for lubricant retention. Springless secondary lip for excluding light dust. Floating lip accommodates high misalignment conditions.	High runout conditions up to 0.125" (3.175 mm) total eccentricity. For oil or grease retention and low speeds. Typical applications: electric motors, gearboxes, pumps, fans, runout tables, paper rolls, mixers, and custom equipment.
SDS 	General purpose springless dual lip. Features nonmetallic composite OD for damage-free installation.	For grease retention and exclusion of light dust and fluids. Typical light duty applications.
SS 	General purpose springless single lip seal. Features nonmetallic composite OD for damage-free installation.	For grease retention and exclusion of light dust and fluid. Typical light duty applications.
OL 	Spring-loaded outside lip. Nonmetallic composite ID for tight press fit on shaft. Easy to install.	Generally used in grease applications where bore rotates. Agriculture and ground-engaging equipment.
MIST STMIST w/Buttons 	Heavy duty spring-loaded single lip. MIST features nonmetallic composite OD for damage-free installation. STMIST features composite OD metal band reinforced construction for absorbing shock load and greater bore retention. Both feature molded-in spring to eliminate spring dumping.	For heavy duty applications. Work rolls, paper rolls, backup rolls and custom equipment.
STLUP STLUP w/Buttons 	Spring-loaded single lip with heavy duty metal band inserted in composite OD. ST design features metal bands for absorbing shock load and greater bore retention. Spacer buttons are available for grease purging in applications requiring back-to-back sealing.	For heavy duty applications. Work rolls, paper rolls, backup rolls and custom equipment.

Operating Temperature Range	Shaft Surface Speed fpm (m/s)	Shaft Size Range Inches (mm)	Maximum Shaft Dynamic Runout (TIR)	Maximum (STBM) Misalignment	Maximum Pressure psi (bar)	Page
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 3200 (16.3)	1/4 – 62.5 (6.4 – 1587)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	LUP
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	1/2 – 65 (13 – 1651)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 3 (0 – 0.20) <i>Depending on Shaft Speed</i>	RUP
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 1000 (5.1) <i>Speed Depends on Runout</i>	1 – 50 (41 – 1270)	0.020 – 1.125" (0.508 – 28.58 mm)	0.020 – 1.125" (0.508 – 28.58 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	LUPW
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2500 (12.7)	3/4 – 25 (19 – 635)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	LDS
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2500 (12.7) <i>Speed Depends on Runout</i>	3/4 – 25 (19 – 635)	0.020 – 0.125" (0.508 – 3.175 mm)	0.020 – 0.125" (0.508 – 3.175 mm)	0 – 3 (0 – 0.20) <i>Depending on Shaft Speed</i>	LDSW
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	1/2 – 12.835 (12.7 – 326)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	SDS
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	1/4 – 6 (6.4 – 152)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	SS
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 1000 (5.1)	1 – 65 (25 – 1651)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	OL
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 3200 (16.3)	6 – 48 (152 – 1219)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	MIST
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 3200 (16.3)	5 – 57.875 (127 – 1470)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	STLUP



Table 5-7. Product Profiles (Continued)

Standard Profiles	Features	Applications
LifeLine 	Spring-loaded single lip features heavy duty rubber covered metal insert. LifeLine features metal insert for absorbing shock load and greater bore retention. LifeLine features molded-in spring to eliminate spring dumping.	For heavy duty applications. Work rolls, paper rolls, backup rolls and custom equipment.
P 	Features nonmetallic composite OD for damage-free installation. The P wiper scraper lip extends outside the bore face.	Applications for reciprocating service and low speed.
H 	Features nonmetallic composite OD for damage-free installation. Shallow cavity rod wiper designed for excluding dust and contamination.	Applications for rotary and reciprocating service. Reciprocating applications may require bore plate.
HP 	High pressure with a fluoroelastomer sealing element, outer metal case, and a PTFE backup element for pressure. Standard with carbon steel case. Stainless steel and other alloys available.	The high pressure (HP) seal is designed to handle rotary and reciprocating motions at high speeds and temperatures. Typical applications: pumps, compressors and custom equipment.
MP 	The standard MP is a rubber covered metal design, spring-loaded. Standard profile material FKM, other materials available upon request.	MP is typically used in grease and oil retention applications. Typical applications: electric motors, gearboxes, pumps, fans, mixers and custom equipment.
DL 	Spring-loaded dual lip seal. Features nonmetallic composite OD for damage-free installation.	Dual spring-loaded lips are used when the separation of two fluids is required. The design is also used for high contamination applications in keeping out a dirty environment.
Clipper Sliptite 	The Clipper Sliptite utilizes a layer of PTFE bonded to the sealing lip to reduce excessive wearing on the shaft and seal. Features nonmetallic composite OD.	With the PTFE lip the seal can be used in dry running applications, at higher speeds, and accepts a broader range of chemical compatibility. Typical applications: electric motors, gearboxes, pumps, fans and custom equipment.
TMAL TMAS 	Features a stainless steel outer case. TMAL contains a machined PTFE spring-loaded sealing element. TMAS contains a machined PTFE non-spring-loaded sealing element.	TMAL & TMAS seals are designed for corrosive chemical service and FDA application.
RPDT 	Spring-loaded single lip seal. Features tapered heel. Available in splits only.	Pillow blocks.
TSS 	Features nonmetallic composite OD for damage-free installation. Soft flexible lip provides low friction sealing contact to give extended service life.	Typical applications: overhead cranes in steel mills, rotary drilling crown and travel blocks, draglines, hoists and elevators. Also used on mine cart wheels, flywheels, idler wheels and tapered bearings.

Operating Temperature Range	Shaft Surface Speed fpm (m/s)	Shaft Size Range Inches (mm)	Maximum Shaft Dynamic Runout (TIR)	Maximum (STBM) Misalignment	Maximum Pressure psi (bar)	Page
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 3200 (16.3)	6 – 48 (152 – 1219)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	Lifeline
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Reciprocating: Up to 300 (1.5)	3/8 – 30 (10 – 762)	N/A	0.008" (0.20 mm)	0	P
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Rotary: Up to 2000 (10.2) Reciprocating: Up to 300 (1.5)	3/8 – 30 (10 – 762)	N/A	0.008" (0.20 mm)	0	H
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 4000 (20.3)	1/4 – 8 (6.4 – 203)	0.003" (0.076 mm)	0.003" (0.076 mm)	300 (20)	HP
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 4000 (20.3)	1/4 – 12.500 (6.4 – 317)	0.005" (0.127 mm)	0.005" (0.127 mm)	100 (7)	MP
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	1/4 – 4 (6.4 – 101)	0.010" (0.254 mm)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	DL
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 5000 (25.4)	1/2 – 10 (12.7 – 254)	0.010" (0.254)	0.010" (0.254 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	Sliptite
PTFE -40 °F to 500 °F -40 °C to 260 °C	Up to 2500 (12.7)	1/2 – 14 (12.7 – 355)	0.006" (0.152 mm)	0.006" (0.152 mm)	0 – 7 (0 – 0.48) <i>Depending on Shaft Speed</i>	TMAL
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	3.375 – 16 (85.73 – 406)	0.010" (0.254 mm)	0.010" (0.254 mm)	0	RPDT
NBR -20 °F to 250 °F -29 °C to 121 °C FKM -40 °F to 400 °F -40 °C to 204 °C	Up to 2000 (10.2)	1.274 – 17.500 (32.36 – 445)	0.010" (0.254 mm)	0.010" (0.254 mm)	0	TSS