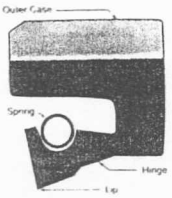
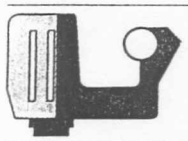
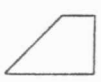
"JM CLIPPER" NON-METALLIC CONSTRUCTION

The non-metallic type JM Clipper Oil Seal offers the following unique construction benefits:

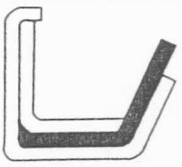
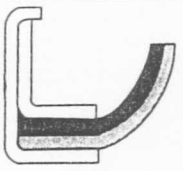
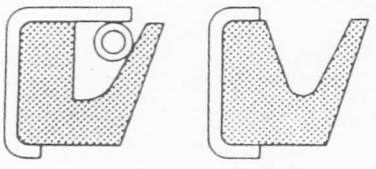
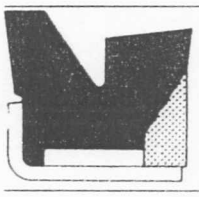
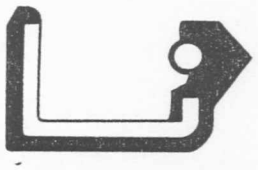
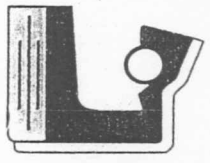
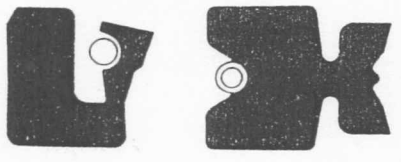


Characteristic	Benefit
Aramid Fiber-Reinforced Composite	Will fit a wider range of bore tolerances and finishes, resulting in lower machining costs and easier installation. It resists corrosion and takes more abuse eliminating installation damage.
Integrally Molded Unit	Gives better I.D. to O.D. concentricity resulting in less potential leakage and shaft wear.
Stainless Steel Garter Spring	Provides more uniform lip load and resists corrosion.
Specially formulated elastomer lip with designed flexibility	Minimizes friction resulting in less shaft wear and follows shaft eccentricity.

Cross Section	Type	Application	Shaft Surface Speed (m/min)	Shaft Size Range Inches (mm)
	LUP	General Purpose.	Thru 3200 F.P.M (976)	5/8″–60″ (16-1524)
	LPD Without Spring Retainer	General Purpose.	Thru 3200 F.P.M (976)	5/8″–60″ (16-1524)
	LPD With Spring Retainer	General Purpose.	Thru 3200 F.P.M (976)	5/8″–60″ (16-1524)
	MST	Heavy Duty Steel Mill Roll Neck Bearing Service. Steel bands offer greater retention in the bore. Molded in spring eliminates spring dumping.	Thru 3200 F.P.M. (976)	5" - 50" (127-1270)
	RUP	General Purpose, Split design.	Thru 2000 F.P.M (610)	15/16″–60″ (33-1524)
	RPD	General Purpose, Split design.	Thru 2000 F.P.M (610)	15/16″–60″ (33-1524)
	SS	General Purpose. Springless — for small flange dimensions.	Thru 2000 F.P.M (610)	1/4″–6″ (6-152)
	ST-LUP	Heavy Duty Steel Mill Roll Neck Bearing Service. Steel bands offer greater retention in the bore.	Thru 3200 F.P.M (976)	5″–50″ (127-1270)
	ST-LPD	Heavy Duty Steel Mill Roll Neck Bearing Service. Steel bands offer greater retention in bore.	Thru 3200 F.P.M (976)	5″–50″ (127-1270)
	OL	Outside lip design.	Thru 1000 F.P.M (306)	5/8″–50″ (16-1270)

Cross Section	Type	Application	Shaft Surface Speed (m/min)	Shaft Size Range Inches (mm)
	LDS	General Purpose. Dual lip — used against fluid & dust conditions.	Thru 2500 F.P.M (762)	3/4″–25″ (19-635)
	SDS	General Purpose. Dual lip springless for small shaft sizes.	Thru 2000 F.P.M (610)	3/4″–25″ (19-635)
	LUPW	Oscillating or angular movement at low surface speed.	Thru 1000 F.P.M (306)	1 5/8″–50″ (41-1270)
	LPDW	Oscillating or angular movement at low surface speed.	Thru 1000 F.P.M (306)	1 5/8″–50″ (41-1270)
	P	Shallow Cavity Rod Wiper for reciprocating service.	Thru 300 F.P.M Reciprocating. (92)	3/8″–30″ (10-762)
	H	General Purpose Rod Wiper Seal for rotary or reciprocating service.	Thru 2000 F.P.M (610) Rotary. Thru 300 (92) F.P.M Reciprocating.	3/8″–30″ (10-762)
	DS	Baffle or Deflector.	Thru 2500 F.P.M (762)	3/4″–15″ (19-381)
	SSW	Face Sealing Excluder.	Thru 2500 F.P.M (762)	1″–25″ (25-635)
	RPDT	All compound — split seal with Tapered Heel.	Thru 2000 F.P.M (762)	1 5/16″–30″ (33-762)

Special Design Types

Cross Section	Description
	The Type FL low cost general purpose seal is designed for rotary and reciprocating service. The all rubber lip element is integrally formed into its sealing position and self gasketed within the closed shell assembly to eliminate inner case leakage. The formed metal contour under the lip provides stability to the lip.
	The Sliptite (Teflon*/Rubber) seal was specifically developed for severe service. It has a single lip element that combines the low friction properties of Teflon with the flexibility and durability of rubber. It is sealed into an outer metal case and engineered for intermittent pressure service up to 10 psi. *Registered DuPont trademark
	The TMA-L and TMA-S seals are designed specifically for special corrosive chemical service. The Stainless Steel outer case contains a machined Teflon seal insert with or without a spring activated lip.
	The Type HP high pressure seal is a sophisticated design to handle rotary and/or reciprocating motion at high speeds and pressures over a temperature range of (−40°F to +400°F). Pressures up to 300 psi and 4,000 FPM can be handled.
	The Type MP medium pressure seal is designed to handle rotary applications up to 100 psi and temperatures from -40 F to 400 F. The inner metal shell is encapsulated in fluoroelastomer.
	The Clipper Sliptite is a specially designed seal that utilizes a layer of PTFE molded to the sealing lip to reduce excessive wearing on the shaft. It can handle pressure applications up to 40 psi and higher temperatures up to 350F. The Clipper Sliptite can be utilized in applications with limited lubrication. LUP, RUP, SS, SSW, HP & MP designs can be produced.
	JM Clipper Extruded seals are available in both single and dual lip types where installation of solid or rigid seals becomes difficult or impossible due to size or location.
	The JM Clipper positive lip contact sheave seal provides excellent foreign matter exclusion properties while retaining bearing lubricant. These seals are used on wire rope sheaves found in overhead cranes in the steel mills; on rotary drilling rig crown and travel blocks; and on draglines, hoists and elevators. They also have application on mine car wheels, flywheels and idler wheels.
	Other specialty seals can be custom designed to meet your specific equipment requirements.