Visual Index

Seal-Lok Introduction

The Seal-Lok fitting was developed by the Tube Fittings Division in the early 1980s. This product has proven to be very effective in eliminating leakage at the higher pressures found in today's hydraulic systems. It meets or exceeds the strict requirements of SAE J1453 and ISO 8434-3. The Seal-Lok fitting is an O-ring face seal type fitting that consists of a nut, a body, an O-ring and a sleeve (Fig. A1). As shown in Fig. A3, the tube is flanged to 90° (or the tube may be brazed instead to a braze-type sleeve). When the fitting is assembled, it compresses an O-ring in the precision machined groove of the fitting body to form a leak tight seal.

Seal-Lok fittings are suitable for a wide range of tube wall thicknesses and are readily adaptable to pipe, inch or metric tubing and hose. (Please refer to Tables A2 and A3 for min./max. tube wall thickness for inch and metric tubing, respectively). Seal-Lok's leak-free design and rugged construction make it suitable for a wide range of applications where higher pressures, vibration and impulse are prevalent. It is popular in markets such as construction, agriculture, machine tool, utility, paper making, automotive, etc.

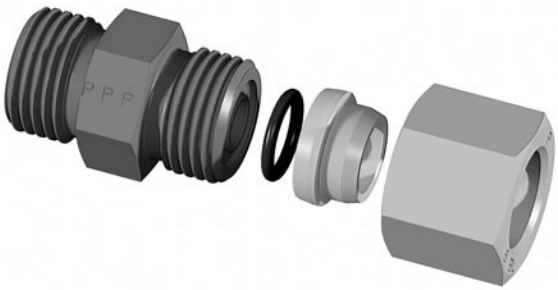

Fig. A1 — Seal-Lok Fitting Body, O-ring, Sleeve and Nut

Design and Construction

The Seal-Lok fitting consists of four main components: a body, a sleeve, an O-ring and a nut. The more popular materials from which Seal-Lok is manufactured are shown in Table A1.

The Seal-Lok Fitting Body. There are over 60 different body configurations to choose from for specific applications. The body face is manufactured with Parker's CORG (captive O-ring groove), which keeps the high durometer O-ring captive during installation (see Fig. A2). In addition, the Seal-Lok fitting body shapes are forged for added strength and longer service life, eliminating the potential leak paths associated with multi-component brazed fittings. Straight products are made from cold drawn barstock. The cold drawing process ensures consistent dimensional tolerances, improved strength and better surface finish.

The Seal-Lok Fitting Nut. Seal-Lok tube nuts are either cold formed or machined from cold drawn bar stock, depending on the size. The cold forming process increases the material strength and its fatigue properties, imparting high strength and longer service life to the nuts.

The Seal-Lok Flange Sleeve. The preferred method of making a Seal-Lok connection is by using the Parker Parflange machine (see section S) to create the 90° flange on the tube end. A flange sleeve is used to support the flange and the tube. It also provides the contact shoulder for the nut, a back-up for the 90° tube flange and support at the tube O.D (see Fig. A3). The Parflange process provides the following advantages:

- Several times faster than brazing.
- Does not require any special pre- or post-flange cleaning.
- Cleaner and safer than brazing.
- Accommodates the use of plated or unplated sleeve and tube.
- Eliminates a potential leak path associated with braze joints.

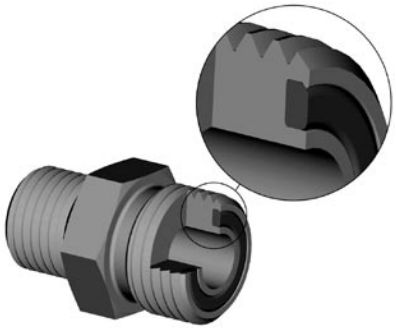

Fig. A2 — Captive O-ring Groove (CORG) Cutaway

Seal-Lok Fittings	Steel		Stainless Steel	
	ASTM	Type	ASTM	Type
Forged Bodies	A576	1214/1215	A182	316
Bar Stock Bodies	A108	12L14	A479	316
Cold Formed Nuts	A576	C1010	--	--
Machined Nuts*	A108	12L14 11L37	A479	316
Braze Sleeves & Braze Connectors	A108	12L14	A276	316L
Flange Sleeves	A108	12L14	A479	316

Table A1 — Standard Material Specifications for Seal-Lok

Fittings*All stainless steel nuts are coated to prevent galling at assembly.
Note: Other materials can be produced upon request.
Finish: Zinc with yellow chromate (being changed to zinc chromium 6 free) is used on all standard steel products. Stainless steel fittings are passivated.

Dimensions and pressures for reference only, subject to change.