

Suparcase™ for A-LOK® Back Ferrules

The first step in ensuring the integrity of any system is to choose the right materials for the job. That's why Parker supply fittings in a wide range of exotic materials for applications where corrosion is an issue, and where new, harder materials for tubing for high-integrity applications are being used.

The Suparcase™ PRINCIPLE

The Parker Suparcase™ surface treatment is a unique process that allows stainless steels and other alloys to be hardened without affecting, and even increasing, the corrosion resistance of the given materials. Parker has been using the proprietary Suparcase process to surface harden stainless steel ferrules for approximately 20 years. The process achieves a carbon supersaturated surface layer by altering the oxide passive layer on the surface of the stainless steel, without any detrimental effects.

Good Tube Grip = Harder Rear Ferrule = Smarter, Faster, Cleaner, Safer

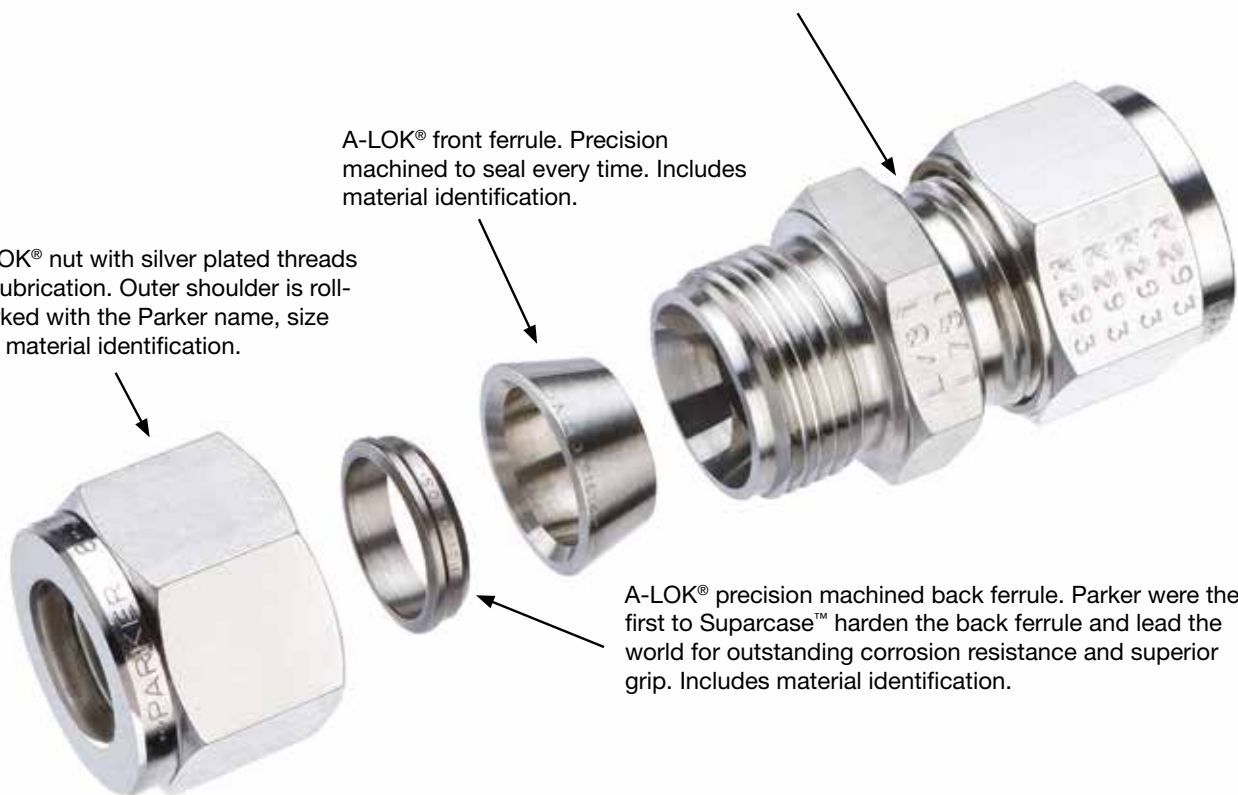
- Suparcase™ process perfected by Parker gives the Differential Hardness
- Some competitor hardening process corrode (i.e. Nitride or Edge Hardening)
- Suparcase™ increases the corrosion resistance
- Suparcase™ is applied to all back ferrules, all sizes

A-LOK® body. Includes precision machined threads and burnished cones for enhanced sealing. Materials sourced only in Western Europe to ensure quality capable of performing in the most harsh process environments. Includes material & HCT identification.

A-LOK® front ferrule. Precision machined to seal every time. Includes material identification.

A-LOK® nut with silver plated threads for lubrication. Outer shoulder is roll-marked with the Parker name, size and material identification.

A-LOK® precision machined back ferrule. Parker were the first to Suparcase™ harden the back ferrule and lead the world for outstanding corrosion resistance and superior grip. Includes material identification.



Suparcase™ Advantages

The result is a thin surface region supersaturated with carbon in solid solution. This surface region has some unusual advantageous properties:

- **Improved Hardness**
Hardness Test – Suparcased samples are at least 250% harder than their untreated counterparts.
- **Increased Fatigue Strength**
Bending Test – Suparcased samples showed 50% increase in fatigue strength with respect to the same untreated samples under the same number of cycles.
- **No change in shape, size or colour**
- **Suparcase Layer does not crack or delaminate during forming**

- **Outstanding Wear and Erosion Resistance**

Wear Test performed on a high pressure homogenizer made out of Stainless Steel 316 – The Suparcase™ samples increased the wear & erosion resistance by 13 times in air and by 10 times in seawater with respect to their untreated counterparts.

- **Exceptional Corrosion Resistance**

ASTM G48 - Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution. Test Results on Type 316 Suparcased™ stainless steel:

Condition	ASTM G 48 Ferric Chloride Test Results
As-machined (Cold Worked)	6.1% weight loss
As-machined + Suparcase™	0.0% weight loss
Annealed + Suparcase™	No corrosion



Suparcased Rear Ferrule



Nitride hardened Rear Ferrule

ASTM G150 Critical Pitting Temperature. CPT measures the temperature at which pitting is likely to start:

Alloy	UNS Number	CPT Range - °C
316	S31600	0 - 30
317L	S31703	32 - 45
904L	N08904	30 - 55
316 Suparcase™	S31600	69 - 75
6Mo	S31254	70 - 90