

## Discussion of Anti-Seize compounds for Antenna Assembly by Fred WB4BAG

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Excerpted from the RF Net 11/11/21  
NCS Fred WB4BAG  
12 Check-ins

After the Net Preamble, the protocol for tonight:

I will present each product with a short intro on its features and uses, then open the discussion to anyone with comments or questions on that item before moving to the next product. Anyone with experience (good or bad) is encouraged to ask questions or comment. Also, take advantage of the Elmer Squad link on the club's website.

### Concepts to consider:

- Anti-seize properties are to prevent galling and allow components to be disassembled easily after time exposed to the elements (weather). South Florida is particularly corrosive because of our salty, humid atmosphere.
- Conductive greases facilitate electrical contact. Dielectric greases insulate joined components but still offer corrosion protection.
- Dielectric grease is **generally a silicone-based grease that repels moisture and protects electrical connections against corrosion.** **The grease does not conduct electricity**, so it should not be applied directly to the mating surfaces of an electrical connection. [But, many people do put it on mating surfaces and claim it is not detrimental. I guess the jury is still out on this application].
- Conductive grease is **generally a silicone or silicone-free grease that is electrically conductive (resistivity measured in Ohm-cm) and used primarily to facilitate good electrical connections and secondarily to inhibit corrosion.**
- Conductive greases should contain either graphite, zinc, copper, nickel, molybdenum, aluminum or silver.
- Products containing graphite may promote corrosion of aluminum, ferrous, magnesium, zinc or cadmium alloys or plated surfaces and should not be used in contact with these metals where galvanic corrosion conditions exist.

### Sanchem NO-OX-ID "A" Special

ENHANCES ELECTRICAL CONDUCTIVITY and says that it is conductive grease. I found a comment online mentioning a VOM shows no conductivity and the guy wondered why it wasn't listed as a dielectric

grease. Sanchem says that metal fillers in other greases don't really add conductivity.

### **Silicone grease (many sources).**

Strictly a dielectric grease and should only be used as a corrosion preventative on the outside of mating surfaces.

### **Burndy Penetrox A-13 (given to me by an FPL contractor):**

Zinc bearing grease. It's non-petroleum based. No mention of resistivity spec. [W4RQ: gets hard when old – disintegrates into a powder.]

### **Silver bearing conductive grease – Conducto-Lube**

Mentions contact resistances but no volume resistivity spec.

### **Gardner-Bender Oxgard**

Available in several versions. Contains zinc and graphite. Online comment: I have used ordinary electricians compound GB-Oxgard for years. Zinc flakes in petrolatum. Zinc-Al are compatible for corrosion concerns. Antenna connections up for 13 years came out gleaming. No resistivity specs. [W4RQ: similar product, NoAlox is available in Home Depot, but it dries out.]

### **Jet-Lube SS-30 Pure Copper Anti-Seize**

SS-30 Resistivity (Ohm-CM x108) 5  
Jet-Lube SS-30 Pure Copper Anti-Seize is perfect for building aluminum antennas, copper grounding systems, or as a general anti-seize for aluminum, stainless steel, steel, bronze, tin, brass, copper and galvanized hardware.

Silver Plus is an aluminum bearing grease, not silver bearing!

### **MG Chemicals**

Carbon Conductive Greases – several versions (using graphite). Also silver bearing grease. This company, which offers many chemicals for the electronics industry, publishes resistivity specs for all their conductive greases (except silver bearing grease where the value was not established).