Protective Coatings for Antennas

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To adequately protect an antenna from moisture and salt spray, two different types of protective coatings are necessary. One is a type of paint which, when applied to the elements, boom and mechanical hardware, will not deteriorate over a long period of time. The second is a type of coating that will effectively seal the r.f. coaxial connectors or connections of the feed line and connections of traps or loading coils. Also any openings in the metal of plastic covers of the traps can be covered to hermetically seal the trap.

A paint of the type mentioned above is available and is called Laminar X-500. This paint has a polyurethane base and when applied properly will outlast an ordinary paint many times. Coating for the r.f. connections and traps is a special adhesive called Pro-Seal no. 501. This coating has a polysulphide base and is easily applied. Both of the coatings are a result of exhaustive tests conducted by the personnel at the Materials Testing Laboratory at the Pacific Missile Range, Point Mugu, California. The coatings are used extensively for improved reliability on all types of antenna systems from small u.h.f. radar antennas to big 64 foot automatic tracking antennas at antenna sites of the Pacific Missile Range. Most of the Instrumentation Vans at remote sites in the Pacific areas are also coated with the Laminar Paint.

Application

Proper application of the Laminar Paint is quite important. The method is simple and includes applying two coats, either by brush or spraying. All metal surfaces of the antenna should be thoroughly cleaned either by sanding or by steel wool. In the case of a new antenna it may only be necessary to clean the metal with a paint thinner or a clean dry rag to remove any oil or greasy contamination. The first coating is the application of a primer and the second is the application of a finish coat. Time of drying between the coats is given by the manufacturer. This paint has a very good dielectric constant and is used with no ill effect on radar antennas at 10 kmc.

The Pro-Seal no. 501 adhesive is a very sticky substance and is non-injurious to the skin. It is easily applied with a paint brush or wooden spatula. Pot life of the coating is approximately one hour after mixing for application. The coating is flexible from —100 degrees to plus 200 degrees *F*, is not affected by sunlight or moisture and is easily removed with a knife if necessary. It is one of few known coatings which will adhere to vinyl and polyethelene. A 200 gram kit is sufficient for coating all r.f. connections and traps on a Tri-Band Beam.

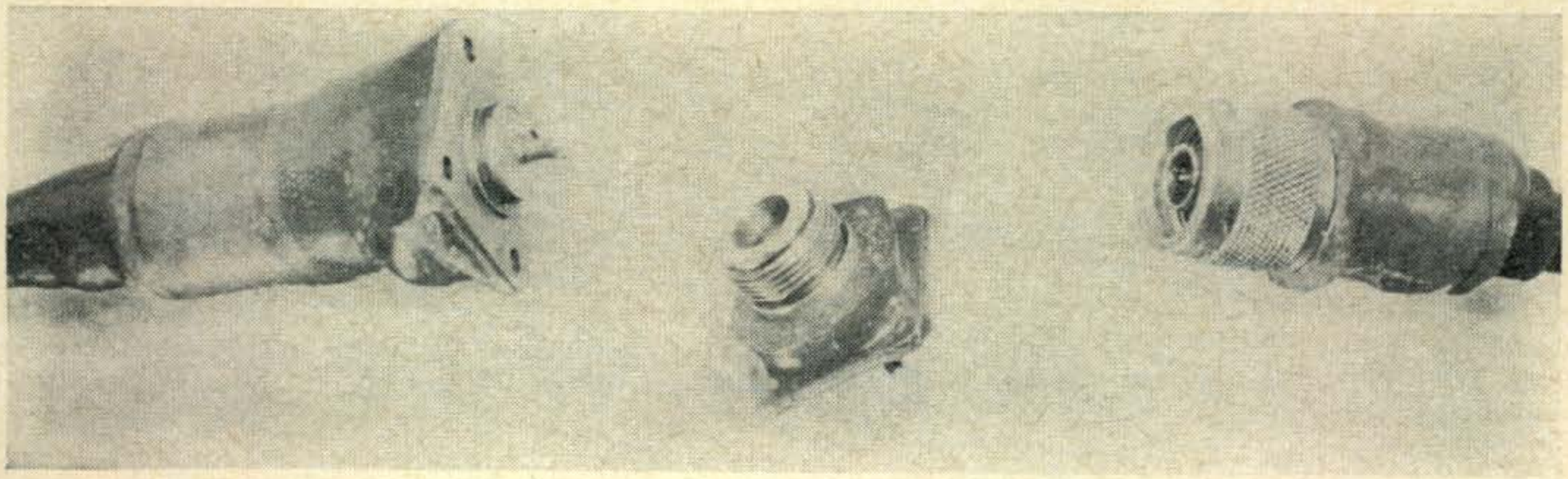
Sources

The Laminar paint is available in either spray or brush type and a quart kit of the primer and a quart kit of the finish coat is more than enough to adequately cover the largest Tri-Band Beam on the market. A number of different colors are available with aluminum or light grey being the most popular for antennas.

The Laminar paint may be obtained from the Magna Coatings and Chemical Company, 1785 N. Eastern Avenue, Los Angeles 32, California. The approximate cost of the paint is $5.00 a quart for the brush type prime coat and $5.50 a quart for the brush type finish coat. Either type in a spray can is $6.75 a quart.

The Pro-Seal Adhesive No. 501 may be obtained from the Coast Pro-Seal and Mfg. Co., 2235 Beverly Blvd., Los Angeles 57, California. The price of the adhesive is approximately $4.40 for a 200 gram kit. ■

*561 Calle Arroyo, Thousand Oaks, California.



Common variety coaxial fittings shown with a protective coating of Pro-Seal adhesive. This rubber-like substance can be easily removed with a knife, but is not affected by heat or moisture.