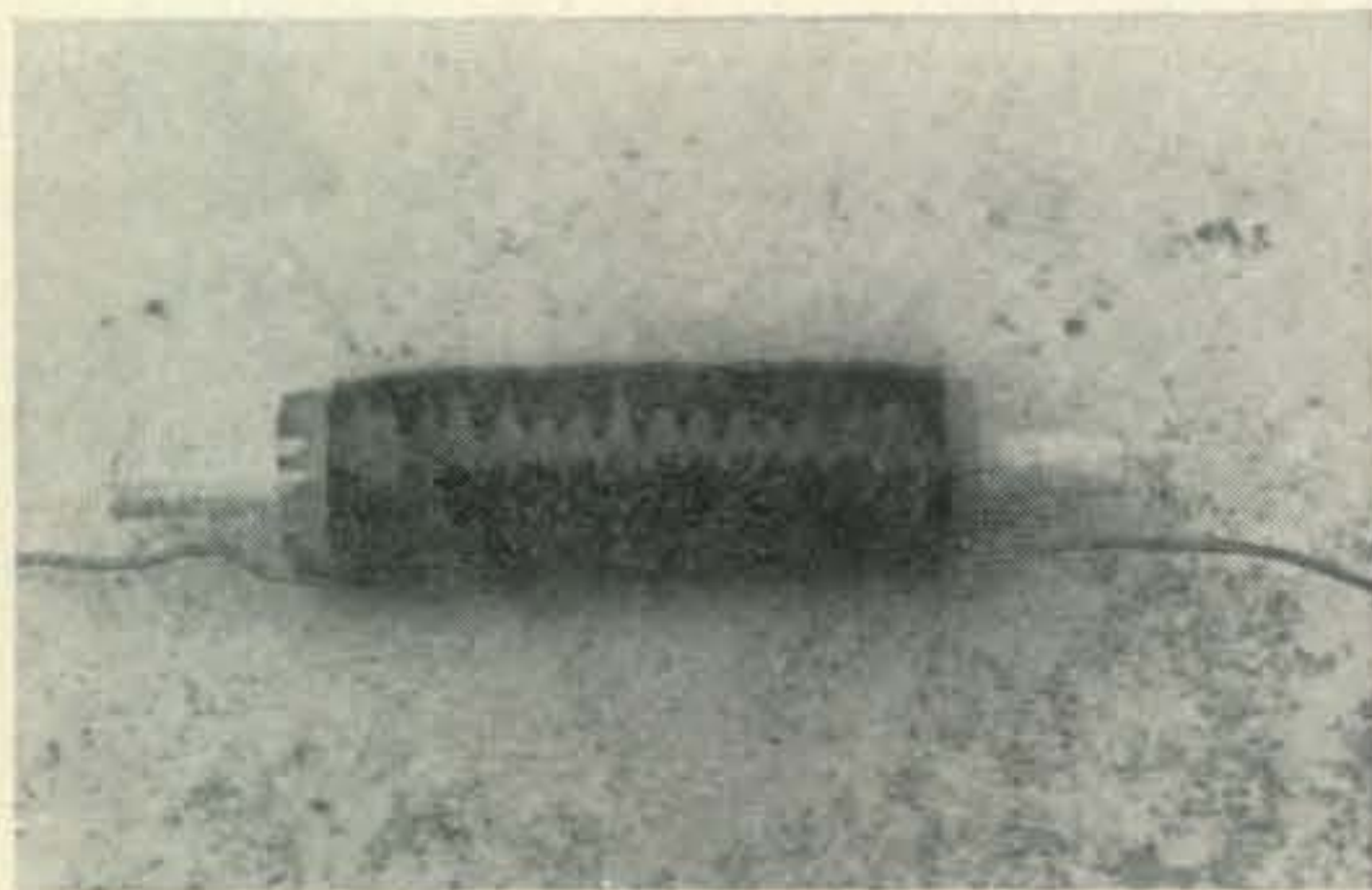


A homebrewed coil and form with a length of Hy-Shrink.

WEATHER- PROOFING ANTENNA TRAP COILS

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Coil with the Hy-Shrink tightly formed around it for weatherproofing.

MULTIBAND antenna design requires the careful placement of resonant traps along the length of the radiating array. A truly efficient system, if it is to perform well, must boast weatherproof design around the rather critical high impedance points if the entire antenna is to function properly even under the most adverse conditions. Commercial multi-band antenna manufacturers have advantages where design facilities are concerned. However, the average homebrewer because of his inherent shortcomings must be content with less than perfect conditions of construction and operating results.

One of the more difficult problems with designing traps is to devise a simple, foolproof, and above all economical method to protect the coil lengths from the affects of the prevailing weather conditions. Thus the amateur will be assured of consistent efficiency once the initial adjustments are completed.

A novel product called Hy-Shrink heat shrinkable irradiated tubing designated PVC ST-96 can be easily incorporated in various aspects of amateur antenna construction projects in order to eliminate the presence of water and moisture. This material when subjected to about 250 degrees of heat will constrict to one half its original size and will tend to form tightly over even the most irregular surfaces. For example, the tubing will shrink simultaneously over a coil and between the individual turns of wire thereby protecting the entire unit from moisture as well as maintaining proper wire spacing relationships. The tubing can also be placed over the telescoping joints of "plumbers delight" type yagi beams in order to prevent water accumulation at these connecting points. Although the Hy-Shrink material will shrink to one half its diameter the longitudinal shrinkage is only 5 per cent. Its dielectric strength is rated at 800 volts and it does not alter the input characteristics of a coil in an r.f. application to any measurable extent. Its tensile strength is rated at a minimum of 2000 p.s.i. and even under the most adverse conditions will not split. The tubing will not support any fungus growth and its resistance to chemical acids including gasoline and oils is excellent. Fourteen sizes are available with diameters varying from 3/64" to 4". Simply apply heat from a stove or portable torch to seal off any type unit. If removal is necessary, simply slit and peel away. Although the tubing will constrict tightly over material it will not adhere or bond permanently.

The cost is reasonable. A one foot length of 2" material will cost \$1.16. However, when discounted along with many trouble free years of moisture proof operation, it is quite reasonable. Further information and individual price schedules are available from Mr. B. Thayer, Mil-Spec Supply Inc. 17468 Ventura Boulevard, Encino, California. ■

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