

LRAUV Antenna Assembly Procedure

Rev4

1. Parts required: Devcon Flexane 94 Casting Polyurethane
 - a. Antenna PCB
 - b. (2) rigid coax cable
 - c. (2) Rigid coax cable SMA
2. Attach SMA to two XX” long rigid coax, then solder to PCB.
3. Craig: Electrical test with VNA
4. Send to Schmidt Prototypes for encapsulation with clear urethane filled with milled fibers
5. Craig: Electrical test with VNA
6. Prep and attach DGO/SMA cables as describe below:
 - a. Compressed air shall not be used for any operation described below.
 - b. De-grease LRAUV antenna potting cup and connectors with alcohol and lint free wipes.
 - c. Prepare LRAUV antenna potting cup internal surface and antenna cables by sanding the internal surface and edges with 80-100 grit sandpaper to promote urethane bonding. Be careful not to break through the p/u jacket of cables and use new sandpaper for each cable.
 - d. Wash the sanded surface with detergent and hot water, oven dry 100f overnight. (check the threads to insure that they are dry)
 - e. Do not touch the cleaned surfaces from this point on.
 - f. Apply Devcon Flexane FL-10 under fume hood
 - g. Air dry for a min of 60 minutes
 - h. Second primer coat, apply Devcon Flexane FL-20 under fume hood
 - i. Air dry for a min of 60 minutes
 - j. Install the RF cables and tighten SMA connectors with torque wrench to 7 inch/lbs (gloved hands, keep clean)
 - k. Craig: Check the SMA connectors for tightness. No touch clean surfaces!
 - l. Craig: Electrical test with VNA. No touch clean surfaces!
 - m. If any surface is touched even with gloved hands you must go to wash again from step 4.
 - n. If 2+ hrs have elapsed since Applying FL-20, reapply, dry min 30 minutes
 - o. Position antenna cables in their final layback position
 - p. Mix 200 cc of polyurethane potting compound per instruction sheet in a large bucket that provides lots of surface area.
 - q. De-gas mixed urethane in vacuum chamber
 - r. Top off urethane to level fill
 - s. Place in pressure chamber to squeeze bubbles
7. Pressure test to 500 psi cured assembly inside sealed bag filled with saltwater
8. Craig: Electrical test with VNA

9. Record final resistance and capacitance values in log and release assembly for installation and deployment