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ROLL WRAPPED TUBE SPLICE ASSEMBLY INSTRUCTIONS

| Tube ID (inches) | Splice Length | Splice OD | Splice ID | Weight of adhesive (grams) | Weight of bond line control | Actual weight of bond line control | Actual % of bond line control |
|------------------|---------------|-----------|-----------|----------------------------|-----------------------------|------------------------------------|-------------------------------|
| 0.75 | 3 | N/A | N/A | N/A | N/A | N/A | N/A |
| 0.875 | 3.5 | 0.856 | 0.75 | 4.5 | 0.45 | 0.5 | 11% |
| 1 | 4 | 0.981 | 0.875 | 5 | 0.5 | 0.5 | 10% |
| 1.125 | 4.5 | 1.106 | 1 | 6.5 | 0.65 | 0.5 | 8% |
| 1.25 | 5 | 1.231 | 1.125 | 8 | 0.8 | 0.8 | 10% |
| 1.375 | 5.5 | 1.356 | 1.25 | 8.5 | 0.85 | 0.8 | 9% |
| 1.5 | 6 | 1.481 | 1.375 | 9.5 | 0.95 | 1 | 11% |
| 1.625 | 6 | 1.606 | 1.5 | 10 | 1 | 1 | 10% |
| 1.75 | 6 | 1.731 | 1.625 | 11 | 1.1 | 1 | 9% |
| 2 | 6 | N/A | N/A | N/A | N/A | N/A | N/A |
| 2.5 | 7.5 | N/A | N/A | N/A | N/A | N/A | N/A |

Step 1: Dry Fit Splice

Prepare tubes to be spliced together. Cut the tubes to the proper length and square ends that will butt together. Also mark center of splice to aid in centering splice in joint.



Step 2: Sand Bonding Area

Scuff insides of tubes using 150 grit sandpaper to the appropriate depth. Sand hard enough to break the skin of epoxy resin. Do not sand too deeply as the result may cut or damage underlying fibers. This will compromise the integrity of the carbon fiber tube.



Step 3: Clean Surfaces

The pieces must be cleaned to remove any contaminants. Wipe components to be bonded (insides of tubes, and splice) with a solvent such as acetone or isopropyl alcohol to remove all dust, dirt, and grease.



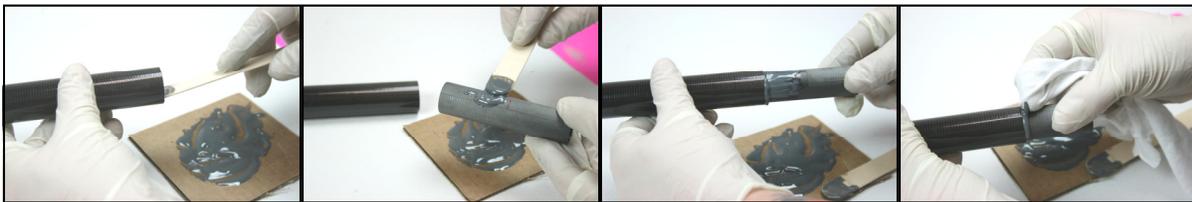
Step 4: Mix Epoxy & Add Bond Line Control

Bond one half of the splice to eliminate the risk of the splice being bonded off center. First, mix two-part epoxy thoroughly. Next, separate entire contents of vial into two equal parts. You will use each half for each half of the splice. Mix the first half of the bond line control into the pre-mixed epoxy.



Step 5: Insert Splice & Clean Up

Apply epoxy mix to the inside of the tube, making sure to get equal coverage and to a sufficient depth. Next spread the epoxy mix to the splice, applying equal, stopping at the center line. Slide the splice into the tube up to the center line marked on the splice. Remove unhardened excess adhesive with a cloth dampened with isopropyl alcohol, acetone, or MEK. Clean around splice to facilitate a debris free second bond and allow for a clean butt joint of other half of tube over the splice. Allow splice to cure.



Step 6: Bonding Joint (Second Half)

After first half of splice joint has thoroughly cured, follow step 4 with second half of bond line control. Apply epoxy mix to the inside of the tube to a sufficient depth and spread adhesive on the pre-bonded splice. Now slide the tube halves together.



Step 7: Clean up

Remove unhardened excess adhesive that may have oozed out of splice joint. Wipe excess adhesive with a cloth dampened with isopropyl alcohol, acetone, or MEK.

Allow splice to cure. At room temperature (75 degrees F), adhesive will cure overnight. Faster cures are obtained using elevated temperatures.

