CERAMIC FIBER MODULE LINING INSTALLATION ON A CURVED VESSEL WALL
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Ceramic Fiber Modules have been implemented in Thermal Oxidizer Units (TOU) and vessels for over 50 years. They are the main choice of high temperature insulation. This is due to the fact that ceramic fiber blanket, attached with stainless steel pins and washers, has diminishing returns as you increase the thickness of the refractory lining. If your management (or engineers) have decided to install ceramic fiber modules and convert over from blanket and pins, here are some specific guidelines you should consider before embarking on this journey.

(Preface: I only suggest installing modules with easy weld Stud Guns for concave walls. Spears, L brackets, and/or Pre-Welded Studs are much too time consuming for curved surfaces, and require a lot of planning).

1. Have a test piece of metal (preferably that the TOU or vessel is made of), preferably 12 gauge steel. This, you will use for target practice to get the gun up and running to where your coworkers are comfortable. The gun in and of itself needs a little practice for each operator, as multiple things are happening within a short, arc burst. I would suggest as large of a test metal piece as possible i.e. 24” X 24”.
2. Your welder of choice MUST have a minimum of 300 Amps, and 75-125 DC Volts. Your welder needs a “ground” cable.
3. The gun has to plug into a 110/220 outlet. The Welding Guns can come with either 110 and/or 220.
4. Proper welding and safety equipment for anyone in the vicinity working with the gun.

Once you successfully test weld your first module to your test piece of metal, you’re ready to install!

Helpful hints:
1. Make sure you don’t paint yourself into a corner. Install the innermost modules first, so you aren’t stepping over the floor modules later on.
2. Have a sawzall on-site to trim modules around tight corners.
3. Prepare for welding misfires. Order approximately 10% extra hardware.
4. Apply a rigidizer or ITC coating (after all modules are installed) for superior performance, lifetime, and safety.

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