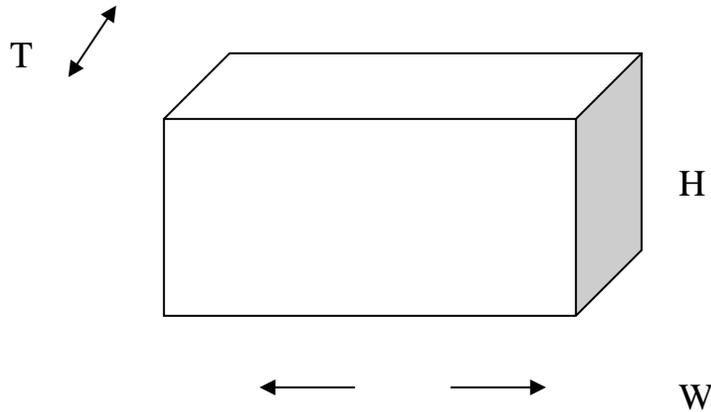


## Procedure for making a one-piece door, wall or roof panel utilizing folded Ceramic Fiber Blanket



**First step:** Determine the dimensions of the panel you wish to line with fiber:  
W=width, H=height, and T=thickness

Typical values for T are – 3-4” for temperatures less than 1800°F

– 6-8” for temperatures less than 2400°F

– greater than 8” for temperatures above  
2400°F. Also a change from regular temperature to high  
temperature blanket should occur for temperatures above  
2400°F

**Second step:** Safety: Rubber gloves, safety glasses, and dust mask should be used when handling any ceramic fiber based product.

**Third step:** Using a 24” wide by 1” thick roll of 6# density fiber blanket, lay the roll on a large flat surface and unroll to at least dimension H. Cut across, producing a piece that is 24” wide by H – 3” long. Subdivide this piece by dividing the width into pieces that measure 2 x T plus 1” by H – 3” long.

Example: For a 3” thick lining, the width should be 7” by H - 3” long. For the top and bottom, cut 2 pieces 2 x T + 1” by W long. Determine the number of pieces by dividing W by 1.5.

**Fourth step:** After all pieces are cut, prepare a dishwashing detergent bath in a large tub or wheelbarrow.

**Fifth step:** Draw a piece quickly through the bath. Fold over to obtain a “log” with a dimension T by H long. Squeeze out water while simultaneously compacting the “log” using a rolling pin or a piece of pipe.

**Sixth step:** After the “logs” are prepared, it is time for installation in the metal framework. Lay the framework on a flat surface, weld 2” long stainless steel insultwist studs on 8-10 inch centers, 2-3” from the cold face on the top and bottom. Install the top and bottom pieces by impaling over the studs, compressing against the framework and holding by using an insultwist speed washer over each stud. The folded rounded edge should be facing you and is the hot face of the completed panel.

Next, install the side pieces starting at one end. After several logs have been placed, use a solid board sized T by H -3” and a large hammer or 2 lb. Hand sledge to compress the installed log as tight as you can. Hold them in place using stainless steel “Z” pins. The longest length of the “Z” determines how many folds can be placed before pinning. Install the pins on 6 to 8” centers vertically by hammering them into the fiber 2” above the cold face. Weld the short tail to the back of the framework to secure the pins. Work your way across the panel making sure each fold is securely pinned. When you come close to the end, the final set of pins, which are straight rods, must be installed from the outside through holes drilled or blown with a torch. To achieve maximum compaction, the last 2 logs should be wrapped in polyethylene plastic or a trash can liner to assist in sliding them into place. Weld the final pins.

Next, using the same compression board, lay it flat across the completed door and tamp with a hammer to make the surface uniform. You now have a completed folded module panel.

To dry the panel, stand it up or turn it over to allow water to drain. After installing in or on a furnace use low heat, <400°F, for a few hours to allow moisture to escape.

**Seventh Step:** Sealing the surface “rigidizing”. Although this step is not necessary, some people prefer to seal the hot face with a rigidizer. Take an air-set high temperature mortar and thin with water to achieve desired consistency for brushing or spraying. Apply 1-2 *thin* coats to effectively rigidize the surface. Take special care to not apply the mortar too thick as it could shrink, crack, and fall off.

**Periodic Maintenance:** Inspect the lining and pack any shrinkage cracks with leftover blanket to maintain the insulating integrity of the lining.





