

EMS Analytical Labs, Inc.

Sample Preparation for Tensile Strength and Elongation Testing

1. Use a 304 or 316 stainless steel plate. Polish to at least a Grade 2 finish. A 2B finish is preferred, as this one is non-directional; it is not mirror bright. One source for these plates is Ryerson Metals*. Panels should be at least 12 x 12 inches. 12 x 16 is preferred. Please send the foil from both sides.
2. *Taping off the edges of the panel makes it much easier to peel the foil and also reduces damage to the panel from cutting.*
3. Passivate the panel in 50% nitric acid for at least 1 hour...
4. Plate the panel at the current density at which most of your work is plated. A good guideline is 20 ASF for three hours. If you normally plate at 10 ASF, then double the time to six hours.
5. Rinse the plate and dry thoroughly.
6. Mark the top of the panel so we can distinguish horizontal from vertical.
7. Carefully peel the foils from the plate being careful not to damage the polished surface of the panel. Please do not send us the stainless steel panels.
8. Place the foils between stiff cardboard or a similar material to avoid damage in transit.
9. When received we cut the samples and bake for five hours at 125°C so there is no need to bake prior to shipping.

We can also perform copper purity on this same foil if needed.

There is a form on our website www.emsanalytical.com that you can download and send with your foils.

*Ryerson Metals phone number is 925-449-3498 in Livermore. Check their website for locations throughout the U.S. Ask for 304 stainless steel sheets, 16 gauge, with a Grade 2B finish. They have a \$300.00 minimum order.