



Tech Note: Media Blasting Grids

Grid assemblies become coated during process. The typical maintenance interval for a grid set is 200 hours of process. For simplicity, many customers choose to clean these grids in-house. This tech note will help make sure the cleaning process used does not damage the grids.

The media blasting process employed by Plasma Process Group uses Alumina Oxide blast media sized at 150 grit. Grits higher than this can polish the metal surface instead of cleaning the coatings off leaving a rough texture which can result in excessive flaking during future process runs. Grits lower than this significantly increase the erosion of the grid material itself, leading to premature end-of-life.

The air pressure used with the blast media should be no higher than 40 psi, and, for thinner or more fragile grid material such as a 12cm grid set or the screen grid on a 16cm grid set, 30psi is recommended.

The blast nozzle inside the cabinet should be held approximately 6 inches away from the grid surface. Holding the nozzle too close to the grids can damage the grid surface and warp the shape of the grids. For optimum results, hold the nozzle at a 30° – 45° angle relative to the grid surface normal. This accelerates the cleaning process and also helps to clean the insides of the grid holes.

The grids can be slightly re-shaped if the dome heights of the focal points are out of specification. Hold the nozzle normal to and more than 6 inches away from the grid surface and slowly, evenly blast the area which needs re-shaping. Note that the effect will be to raise the surface of the grid *toward* the nozzle. Dome height changes of less than 0.015” are possible through this method.

Plasma Process Group strongly recommends that customers do not media blast graphite grids. This will most likely destroy the grids. For metal grids, chemical etch cleaning is also not recommended, as the chemical solutions used are highly corrosive, often toxic, and can leave significant volatile contaminants on the grids if not used exactly correctly. The only recommended cleaning method for metal grids is media blasting.