

## Ion Beam

ATP offers an alternative to traditional wet etching method with the Ion Beam Milling. Ion Beam Milling is a dry etching technique which the ions of an inert gas are accelerated from an ion source into the surface of the substrate in order to remove the metals. Think of it as "ionic sandblasting."

The advantage of Ion Beam Milling is that it is anisotropic, meaning the removal of the metals is highly specific in the vertical direction, resulting in minimum undercutting of the underlying metals during the etching process. As the metalization schemes of thin-film circuits are getting more complex with the introduction of thick Cu/Ni in certain applications, the Ion Beam Milling process allows us to achieve nearly vertical sidewall profiles repeatedly.

Ion Beam Milling also allows us to etch metals, such as Pt, that otherwise cannot be etch effectively using the traditional wet etching method. Most common thin-film metals such as Au, TiW, Ti, Pt, Pd, Cu, Ni, TaN can be etched using the Ion Beam Milling process.

Note: Some thin film circuit designs may be eligible for the Ion Beam etching process but may incur additional costs and will be based on factory's capacity. Inquire with ATP Sale's Department to see if your design is eligible for the Ion Beam etching process.

