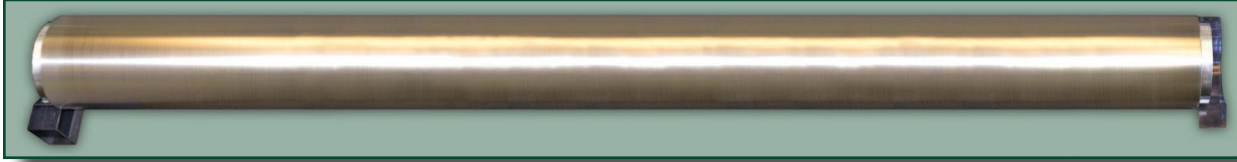


Market Sheet

Alloy Uniformity of a 3.2m CuGa Sputtering Target

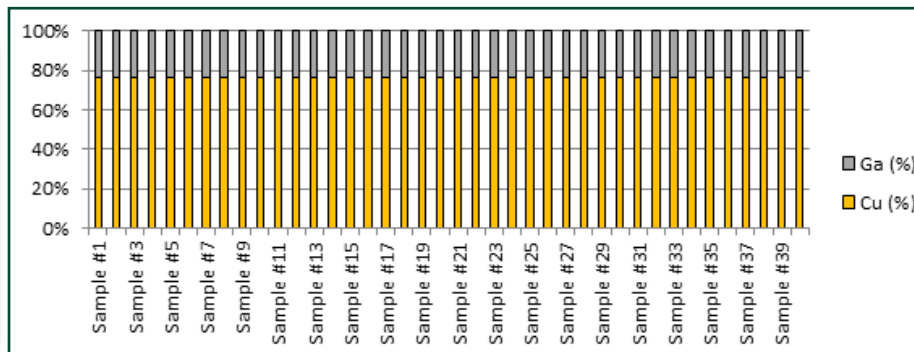


Many of the quality checks that are performed on rotary sputtering targets (such as dimensional accuracy, leak detection, or alloy composition) can be done without disturbing the finished product. There is a destructive test that Indium Corporation performs periodically to determine the uniformity of alloy composition across and throughout the target material. In this particular test, a 3.2-meter copper-gallium (CuGa) sputtering target was sacrificed to verify the quality of Indium Corporation's hybrid consolidation process used to build it and other such CuGa targets.



- A one-piece, 3.2-meter-long, rotary sputtering target was produced around a stainless steel backing tube. The material was machined down to 8mm thickness.
- The CuGa sputtering target was drilled to recover material shavings from 20 evenly spaced areas along the length of the target. The samples were taken from 2 separate depths at each area, for a total of 40 samples.
- Each sample was analyzed for alloy composition and density.
- The target was found to be very homogenous. The standard deviation of the elemental composition across the target was found to be 0.10 at a depth of 3.18mm and 0.13 at 6.35mm.

	3.18mm Depth		6.35mm Depth	
	Cu (%)	Ga (%)	Cu (%)	Ga (%)
Average	76.15	23.50	76.27	23.38
Standard Deviation	0.10	0.10	0.13	0.13
Minimum	76.01	23.31	75.94	23.14
Maximum	76.33	23.65	76.54	23.70



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