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The New Era In Titanium Manufacturing - Powder Metal Components -

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Seaside B (Long Beach Convention and Entertainment Center)

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Current titanium alloy mill product and finished components are produced using Kroll process sponge which is consumable arc melted and is primarily Ti-6Al-4V alloy. This technology was the result of a very successful 1950's government funded "Mini-Manhattan Project" which helped create the titanium industry. This technology, *created 60 years ago*, is still the primary source of today's titanium mill product and component supply.

Dynamet Technology, having pioneered the production of titanium powder metal near-net-shape components has commercialized its manufacturing technology. The clean and energy efficient process permits significant cost reduction in production by decreasing buy/fly ratio of strategic components (vs. ingot metallurgy hog out or forged product). The mechanical properties achieved and minimum tensile specifications are shown to meet the requirements of conventional wrought product.

Boeing, working closely with Dynamet Technology over the past two years, has evaluated high density and full density preform shapes. The data generated demonstrate excellent product quality with a high degree of reproducibility. This work has developed a data base to enable utilization of the manufacturing technology on Boeing civil aircraft.

A second equally important (to affordability) benefit of the manufacturing cycle is the significant reduction in supply lead times. Typical missile and aircraft components which benefit from this new era manufacturing paradigm are demonstrated.

See more of: [Session 4: Titanium Processing II](#)
 See more of: [Titanium Metallurgy](#)