Increased Demand for Titanium Recycling Among Precious Metal Recyclers

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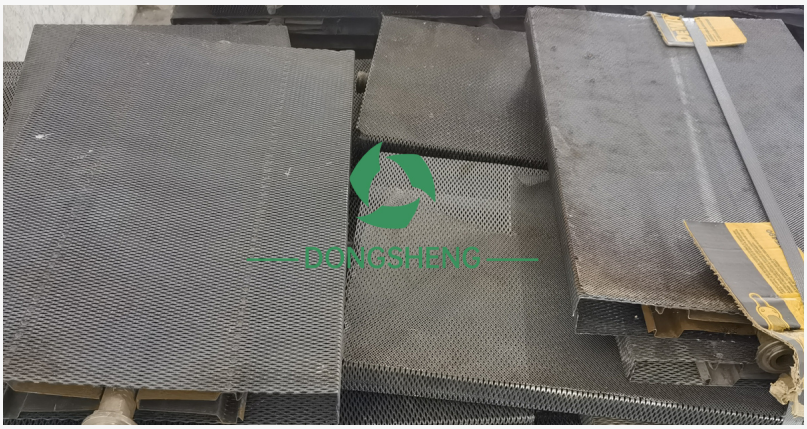

Titanium Recycling

CA, UNITED STATES, September 22, 2025 /EINPresswire.com/ -- Precious metal recyclers in Europe and North America have significantly expanded their investments in titanium recycling operations in recent years. According to the Global Titanium Scrap Recycling Market Report, the titanium recycling market is projected to grow by over 12% year-on-year by 2025, with processing margins exceeding 50% for aerospace-grade titanium scrap.

> DONGSHENG metal specialize in the refining and recycling of precious metals, including germanium, ruthenium, rhodium, palladium, iridium, platinum, gold, and silver.”
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Aviation giants like Boeing and Airbus have mandated “closed-loop titanium recycling” policies, requiring suppliers to achieve 100% scrap recovery. This policy has directly fueled the growth in titanium recycling demand.

Recyclers employ advanced technologies to process titanium chips, reducing melting loss rates from the traditional 30% to below 10%. This enables recycled titanium ingots to be directly reintroduced into high-end manufacturing processes. This technological breakthrough significantly enhances the value and application potential of recycled titanium.

Industrial Titanium Recycling Primarily Focuses on Titanium Anodes and Electrodes

Within industrial applications, the recycling of titanium anodes and electrodes holds significant importance. These components are widely used in chemical processing, electroplating, and water treatment industries, valued for their exceptional corrosion resistance.

Through Hydrogen Plasma Smelting (HPS) technology, recyclers can reduce oxygen content in titanium alloys below 1000 ppm within 8 minutes. The regenerated TC4 alloy achieves a tensile strength of 882 MPa and an elongation of 10.7%. This high-performance recycled titanium fully meets manufacturing requirements for titanium anodes and electrodes.

nickel-recycling

Molten salt electrolysis represents another critical technology. It processes titanium cutting waste at lower costs while achieving high product purity (up to 4N5), enabling targeted separation of bulk titanium metal from impurity elements with an electrolytic efficiency of 80%.

DONGSHENG Precious Metal Recycling

Beyond titanium recovery, nickel recycling demand is also surging. Particularly in battery manufacturing, the nickel-metal hydride (NiMH) battery recycling market is expanding at an annual rate of 8%-10%.

Synergistic recycling technologies are emerging as a new trend. Research indicates that when processing lithium-ion and NiMH batteries together, the hydride alloys in NiMH batteries promote the reduction of high-valent metals in lithium-ion battery cathodes, reducing reaction activation energy by 15%. This synergistic effect enhances recovery efficiency while lowering costs.

Recyclers have discovered equipment commonality between titanium and nickel recovery. Many facilities designed for titanium scrap processing can be adapted for nickel recovery after minor adjustments, thereby increasing equipment utilization and return on investment.

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