

ASX Release

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ASM Titanium Powder Approved for 3D Printing by Korean Advanced Manufacturing Company

Highlights:

- Independent 3D-printed metal part producer HANA AMT has confirmed the high purity of ASM's titanium powder
- A 75kg/day run of titanium (Ti) metal powder was successfully produced by Ziron Tech at a pilot scale (metal purity 99.918%)
- Significant environmental benefits of ASM's novel metal process were confirmed by HANA AMT

Australian Strategic Materials (ASX: ASM) (**ASM**) has received confirmation of its high-purity titanium powder from [HANA AMT](#), a Korean 3D printing group. HANA AMT performed a detailed analysis of 20kg of the titanium powder, confirming a purity of 99.918%.

The titanium metal powder assayed came from a run of 75kg produced at ASM's metallisation pilot plant during January 2021. ASM and HANA AMT have signed a non-disclosure agreement as they progress negotiations towards an initial 1,500 tonne per year offtake agreement for titanium metal powder.



Figure 1 – a) 20kg titanium metal ingot produced by ASM, b) Creation of Ti metal powder, c) HANA AMT 3D-printed metal products

Contributing to the progress of this agreement, the independent assay analysis of ASM's titanium powders demonstrated the following comparison with industry standards (table 1):

Contact Information

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Titanium Metal Powder		
Elements	Industry Standard - %*	ASM Ti Powder - %
Ti	Balance	99.918
Fe	< 0.010	0.002
Al	< 0.005	0.003
Cr	< 0.005	0.003
Mo	< 0.005	0.001
Mn	< 0.005	0.001
Ni	< 0.005	0.002
Zr	< 0.005	0.001
Cu	< 0.005	0.003
Co	< 0.005	0.002
B	< 0.005	0.001
C	< 0.005	0.001
Ni	< 0.010	0.009
H	< 0.005	0.003
O	< 0.080	0.050

*Table 1 - Assay Comparison completed by HANA AMT
* ASTM B299 – Standard Specification for Titanium*

ASM managing director, David Woodall said, “This independent review of ASM’s titanium metal powder is a great validation of our patented metal process, confirming the high purity and the environmental benefits of the metal ASM can produce for the manufacturing sector in Korea. We look forward to progressing negotiations and continuing discussions with other potential offtake and strategic partners during our time in Korea.”

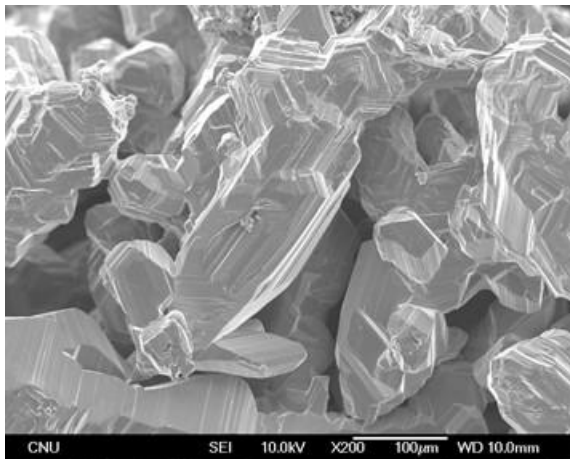


Figure 2 – a) SEM Image of ASM’s Ti powder



b) ASM’s Ti powder sparks bright orange, indicating high quality due to low oxygen

“Our team continues to work closely with the Korean Institute of Rare Metals (KIRAM) to produce sample permanent magnets for the Korean market to review over the coming weeks. This is a promising start of the year, with 2021 a foundation year for ASM, as we progress our vision to become a fully integrated critical metals producer – supplying metals from the mine direct to manufacturers, through the delivery of the Dubbo Project and the establishment of our metals business.”



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This document has been authorised for release to the market by David Woodall, Managing Director.

About Australian Strategic Materials – www.asm-au.com

Australian Strategic Materials Ltd (ASM) is an integrated materials business and emerging “mine to manufacturer” producer of [critical metals](#). The company’s cornerstone [Dubbo Project](#) (100% owned) is a proven long-term resource of [rare earths](#), [zirconium](#), [niobium](#), and [hafnium](#) located in central-western NSW, Australia. It represents an alternative, sustainable and secure source of these metals, which are critical for a diverse range of advanced and clean technologies.

ASM’s metals business is founded on a novel [metallisation process](#) that converts oxides into high-purity metals, alloys, and powders using less energy than conventional methods. The pilot plant in South Korea has proven the commercial scalability of the process and successfully produced a range of high-purity metals and alloys, including titanium, neodymium, praseodymium, dysprosium, and zirconium. Following this success, ASM’s first metallisation plant will be constructed in South Korea to supply a range of critical metals including rare earths, zirconium, and titanium.

A Dubbo Project optimisation study will be completed by the end of Q1 2021, targeting improved capital and operating costs, along with an increased revenue stream. Elements of this optimisation study include simplifying the flowsheet, increasing recoveries of rare earths, and potentially including a front-end flotation circuit.