

ASX Release

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ASM PRODUCES PERMANENT MAGNET METAL ALLOY

Highlights:

- ASM has produced 200kg of ferro-neodymium (FeNd - Nd 80.3%, Fe 19.9%), a key constituent of strip cast permanent magnet alloys.
- ASM is working with the Korea Institute for Rare Metals (KIRAM) to produce a strip cast permanent magnet alloy which will be formed and sintered into permanent magnets.
- Samples of permanent magnets will be distributed to Korean industry for evaluation.

Australian Strategic Materials' (ASX: ASM) (ASM) Ziron Tech team in Korea has successfully produced 200kg of FeNd, a key rare earth alloy used to produce sintered permanent magnets (via powder metallurgy). Sintered rare earth permanent magnets have high magnetic strength and heat resistance and are essential for advanced and clean technologies including electric vehicles. The FeNd alloy was produced using ASM's low energy metallisation process and has significant environmental advantages over the industry standard process.



Figure 1: 200kg of FeNd metal alloy

The 200kg of FeNd alloy will be used in the production of rare earth permanent magnets in partnership with the Korea Institute for Rare Metals (KIRAM), a division of KITECH (the Korea Institute of Industrial Technology). KITECH is a South Korean government research institute which will produce the sample magnets for testing by Korean industry, expected to be complete by the end of the year.

Contact Information

Contact David Woodall, Managing Director, ASM Ltd, +61 8 9227 5677

Investors Natalie Chapman, Corporate Communications Manager, +61 418 642 556

Media Marcha Van Den Heuvel, Hill+Knowlton Strategies, +61 2 9286 1226 or +61 468 960 457

The FeNd alloy will go into a strip casting process at KIRAM to be converted into NdFeB (iron-neodymium-boron) magnet alloy powder. This powder will then be subjected to assay and magnetic strength testing to determine-product acceptability.

ASM Managing Director, David Woodall said: “The successful production of the key FeNd alloy, which is essential in the production of permanent magnets, is another significant milestone in ASM’s “mine to manufacturing” strategy. We are looking forward to seeing the progress of KITECH’s permanent magnet production run, as Korea continues to secure its supply chain to provide stability, security, and sustainability for its vital new technology manufacturing sector. This is strongly aligned with ASM’s strategy.”

“With partners, Dongkuk R&S, we are progressing the design and construction of our 250kg per day continuous metal plant in Korea (as announced on 2 November 2020). We expect to see the first phase of commercial operation within four months. This will represent the start of ASM’s metal business, which should prove very exciting for our shareholders.”

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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

ASM is focused on producing specialty metals and oxides for advanced technologies and is the 100% owner of the [Dubbo Project](#).

Located in central-western NSW, ASM’s cornerstone Dubbo Project has a long-term resource of [zirconium](#), [rare earths](#), [niobium](#) and [hafnium](#)– a globally significant source of these [critical materials](#) for a diverse range of emerging and sustainable technologies.

ASM, together with its partners, is advancing oxide separation and [metallisation technologies](#) to create a range of value-added materials from the Dubbo Project. ASM’s pilot plant in South Korea has been completed with successful production of titanium, neodymium, praseodymium, dysprosium and zirconium metal. ASM’s innovative metallisation process is energy efficient (titanium production uses 70% less energy) and has significant environmental advantages than the industry standard Kroll process.

ASM is progressing an optimisation study with key products for metallisation having been defined to be supplied from the Dubbo Project, and with the potential inclusion of flotation that have potential to positively impact the capital and operating costs of the project, along with increasing the revenue stream. The metals feasibility study is planned to be completed by the end of 2020 with the optimisation study to be completed by the end of Q1 2021.