

Magnium Australia: Carbothermic Magnesium Metal Technology

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Magnium Australia: Carbothermic Magnesium Metal Technology About Us About Us Mission News Projects Talent Our Story Uses Information Growth in Regional Australia Why Australia needs a foundry History of Foundries Zero Emissions Lightweighting Why Magnesium Metal Magnesium Spot Price The Aluminium Sector Titanium Magnesium in Defence Magnesium in Steel Magnesium in Technology Magnesium Applications in Aerospace Research How Magnesium is Safely Handled and Processed Industrial Policy of China Major Milestones for Industrial Projects in Collie Magnesium Metal: Hydrogen Transport The Rising Use of Magnesium Alloys Contact Us Purifying the essential element for a stronger tomorrow MAGNIUM AUSTRALIA LEARN MORE MAGNIUM AUSTRALIA WHAT WILL MAGNESIUM METAL BE USED FOR? LEARN MORE MAGNIUM AUSTRALIA WHY AUSTRALIA NEEDS A FOUNDRY? LEARN MORE PREV NEXT Monday-Friday 10:00 - 17:00 EST Phone 1300 888 388 Address 6 Morrison Way, Collie 6225, Western Australia Email australia@magnium.com.au We are Magnium Australia Magnium commercialises world-leading research from our national science agency to manufacture net zero carbon, zero toxin magnesium metal, deemed a critical mineral. The locally produced pure magnesium ingots (>99.8% purity per ASTM B92/B92M international standard) will drive the development of an advanced manufacturing supply chain and export industry and create jobs for regional Australians. Magnium reduces dependence on foreign materials and ensures supply chain integrity by unlocking domestic supplies of feedstock. The development of a large-scale magnesium plant will additionally support the growth of renewables, create hundred's of advanced manufacturing jobs, and provide access to global export opportunities. Magnium anticipates the production of 100,000+ tonnes a year of magnesium metal from the company's global operations by 2032. Magnium is primed to capitalise on its proprietary technology coupled with the rising demand for green critical minerals, driven in large part by their role in the transition to a low-carbon and digitized economy. The Magnium process is the only independently validated, scalable alternate to the Pidgeon process, which today accounts for 87% of the world's magnesium metal. The Pidgeon or silicothermic process is not viable short or long term given its negative impact on the environment and high amounts of carbon emissions. Magnium will take to scale new processes that engage low cost, low carbon energy supplies and highly efficient processes that reduce or eliminate toxic by-products to deliver globally competitive manufacturing of high-value metals. Critical minerals are essential for renewable energy and clean technology applications (batteries, permanent magnets, solar panels, and wind turbines), they have also required inputs for advanced manufacturing supply chains, including defence and security technologies, consumer electronics, agriculture, medical applications, and critical infrastructure. Our national science agency has an exclusive relationship with Magnium to commercialise Magsonic, a globally patented technology. Our national science agency is an R&D; collaborator in Magnium's project to build a net zero-emissions magnesium smelter in Australia. About Us What will magnesium metal be used for? Growth Industry History CONTACT Video Player <https://www.youtube.com/watch?v=r6RpVUESv9c> 00:00 00:00 00:00 Use Up/Down Arrow keys to increase or decrease volume. About Magnesium Metal As the eighth-most abundant metal in the universe and one of the lightest and most pliable metals used in alloy die casting and machining, magnesium has a wide range of uses and applications across many different industries. Of the structural metals, magnesium has the highest strength-to-weight ratio. The majority of use, 41%, is for alloying with aluminum to improve its strength, ductility, and corrosive resistance. 32% is for die casting applications such as electric vehicles, automotive components, power

tools, mobile phone handsets, notebook computers, and others. 13% is for steel desulphurization, and the remaining 14% is for other uses in chemical processing including the processing of titanium. Although too volatile, corrosive and combustible to be used in engineering applications by itself, pure magnesium can easily be combined with other metals, lightweight them, and moulded into almost any shape or texture. This creates the perfect compound material for thin-wall and complex structure formation and is a popular choice for projects that require intricate work. Magnesium metal also offers an attractive cost-to-material ratio, making it a growth in-demand option for use in bulk machining or mass production. Magnesium is... the 8th most abundant metal in the universe 34% lighter than aluminium 60% lighter than titanium 70% lighter than steel 100 times better than plastic at dissipating heat Stronger in most applications than other structural metals Listed on the critical minerals list of the US, UK, EU, and Australia Found in abundance in regional Australia Uses Common uses for magnesium in diecast alloy materials: Automotive casing and components Electronic technology casing Aerospace and space exploration Medical applications such as implants and internal braces Household items such as bicycles, power tools and stepladders Production Technology The benefits of our world class magnesium production technology: More efficient than existing processes Cleaner and more environmentally friendly than existing processes Cheaper to operate than existing processes Potential for continuous production Learn More Proud Member of Magnium Australia acknowledges Aboriginal and Torres Strait Islander peoples Magnium Australia acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land on which we work and meet each day, throughout Australia. We recognise Aboriginal and Torres Strait Islander peoples' continuing connection to land, waters and culture. We pay our respect to past, present and future Elders and to all Aboriginal and Torres Strait Islander peoples. Indigenous Engagement Strategy © MAGNIUM AUSTRALIA 2026. All rights reserved. Powered by Conversion Digital . TOP