

IMA News

Below are articles and summaries of magnesium related stories. IMA Member companies are asked to distribute the IMA News to their employees. IMA member company employees wishing to receive the monthly IMA News issues should send their email addresses to the IMA World Headquarters. We appreciate all member company press releases and announcements for inclusion in the monthly IMA News issues. Please send your news to info@intlomag.org.

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72nd Annual IMA World Magnesium Conference - Still Time!

It's not too late! There's still time to register for the IMA's 72nd Annual World Magnesium Conference, scheduled for Sunday, May 17 through Tuesday, May 19. Taking place at The Fairmont Hotel Vancouver, Canada, this is one event you don't want to miss.

The program for the 2015 Annual Magnesium Conference will be centered on IMA's theme, The Global Voice and Resource for Magnesium. The IMA Annual Conference offers a comprehensive industry experience with technical papers from the brightest minds in the industry. Authors offer the latest breakthroughs and freshest ideas in every aspect of the magnesium industry.

Learn something new! Motivational, industry and business speakers will deliver the information needed to help you stay on top of coming trends and opportunities. Speakers and topics include:

- Robert McHale, Alcoa Mill Productions Lancaster, Future Impact of Magnesium in the Aluminium Industry
- Alan Clark, CM Group, Global Magnesium Supply Demand Balance in 2014
- Dr. Armin Plath, Volkswagen Group Research, Materials and manufacturing processes for sustainable lightweight design at Volkswagen AG
- Jinxiang Xu, China Magnesium Association, Report on China Magnesium Industry
- Daisuke Konishi, Japan Magnesium Association, The direction of development of Magnesium products in Japan
- Tim Skszek, Magna International, The right place for magnesium in a mixed material vehicle

Relax and enjoy! Participate in a number of networking events that encourage camaraderie and fun. An element of relaxation is also in the mix with the invigorating location of Vancouver, an Oceanside oasis on the mainland of British Columbia.

Networking and social events include the popular President's Reception at the Vancouver Aquarium on Sunday, May 17; the Member's Only Boat Cruise around the Vancouver Harbour on Monday evening and the Closing Reception & Banquet on Tuesday evening.

There's still time to Exhibit! Join us for this extraordinary opportunity to showcase your products and services. IMA's 2015 Annual World Magnesium Conference in Vancouver, Canada is the place to promote the latest and greatest advances in your products, services and technologies!

IMA's Exhibition will be open Monday, May 18 and Tuesday, May 19 for almost 20 hours of quality face-to-face time with current and potential customers.

IMA delegates come prepared to ask questions, discuss problems, issues, and needs with exhibitors, so booth personnel must be technically adept to take full advantage of this channel of communication with customers. Click [here](#) for more information, or [Reserve your booth now!](#)

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Global Automotive Lightweight Materials Congress



The 4th annual Global Automotive Lightweight Materials Congress 2015 is returning to London, 29th-30th April, to deliver 20+ case studies from OEMs, Tier 1 component providers and material suppliers. From design strategies for composites, aluminum and steel to tried and tested techniques for multi-material joining and recycling, industry leaders will assess how to cost-effectively reduce the weight of automotive body, chassis and interiors for global markets.

Demonstrating the very latest advances in Lightweight vehicle design, you will be able to draw transferrable lessons on which materials can most cost-effectively reduce weight in different parts of the vehicle and how to drive down the costs of supply and high volume multi-material manufacturing.

Case Studies Will Be Provided On The Following Key Topics: Multi-material Design, Multi-material Joining, Material Supply, Forming, and Sustainability. Case studies will be delivered by industry experts from leading companies such as Mercedes-Benz, Ford Motor Company, Bentley, Jaguar Land Rover, Audi, Toyota, and many more.

As the 10th event in the GALM Global Series, GALM conducted brand new research with over 40 light-weighting experts at OEMs and suppliers to identify the very latest critical challenges faced by industry and deliver a fresh agenda that effectively addresses key challenges in design and manufacturing.

Registration closes April 30th. Don't miss your chance to participate in this exciting industry event. IMA Members receive a 15% discount off conference rate. To receive the discount make sure to enter the discount code: **GALMIMA** at checkout. Visit the [event webpage](#) for details or to register now, or click [here](#). And make sure you stop by and visit the IMA Booth. See you in London!

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MMTA Membership Partnership

IMA is pleased to announce a new partnership agreement with Minor Metals Trade Association (MMTA), which will provide for new advertising and growth opportunities for IMA. Per the agreement, effective immediately and thru December 31, 2015, MMTA will advertise for IMA on their website, IMA will receive an entry in the MMTA Members' Directory, which includes a member page on the MMTA website and an entry in the MMTA Annual Review Booklet. This represents an excellent opportunity for

IMA to reach a larger segment of the industry and to grow an association. Additionally, this partnership will bring added value to IMA membership, as all IMA members will receive the Partner Association Discounted Rate for eligible MMTA events.

As this is a reciprocal agreement, IMA will be providing MMTA with equivalent advertising opportunities and will extend a comparable discount to MMTA members for eligible IMA events.

Learn more about MMTA by visiting their website, www.mmta.co.uk

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GIFA - June 16-20, Dusseldorf, Germany - "The Bright World of Metals"

GIFA is the most important trade fair for foundry technology in the world. In 2011 size, competence and rating by visitors and exhibitors received top marks. Featuring exhibitors from 45 countries, 48,700 visitors, and top grades from visitors and exhibitors - 98% were satisfied with GIFA 2011!

The four metallurgy trade fairs GIFA, METEC, THERMPROCESS and NEWCAST are coming closer and closer and it is apparent that the events from June 16th to June 20th, 2015, with the motto "The Bright World of Metals", will once again be providing a complete picture of the international market. As in the past, GIFA is the biggest of the four trade fairs and makes as young and energetic an impression as ever in spite of being almost 60 years old. With its Technical Forum and the GIFA Conference, it is not simply an event for placing technology orders but also a high-quality lecture and conference forum. The emphasis is on the latest technical innovations from the research pipeline, the aim of which is to be implemented directly in practical operation.

The GIFA is the platform for excellent Business activities and is the indicator for the innovations which will orientate the future. Here contacts are maintained, and only here will you have the opportunity to communicate directly and personally with renowned manufacturers of foundry technology from all over the world. Foundries and their suppliers are innovators of the future. At the GIFA, they present new trends and promote technical development in order to sustainably improve the living conditions of people.

Exhibitors from all over the world present the most modern technology clearly structured according to subject area for efficient foundries in the 3rd millennium. With 640 Exhibitors covering nearly 463,000 sq. ft., the breadth of products and services on display is stunning.

A visit to GIFA is worth your while! Visit the GIFA 2015 event page for details and to register, www.gifa.com. And make sure you stop by and visit IMA - Booth 15C26. See you in Germany!

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GALM Intelligence Membership

New IMA Member Benefit - GALM Intelligence! IMA Members receive an exclusive discount off this exciting new service.

GALM Intelligence is a new digital platform specifically designed for OEMs, Tier 1s and material suppliers. It is the world's first digital content platform dedicated to automotive light weighting and is a one-stop resource packed with job-function specific case studies, recorded conference presentations and data analysis. GALM Intelligence delivers solution-based content and global case studies to help determine which lightweight materials can cost-effectively reduce weight in different parts of the vehicle and drive down cost of supply in high-volume multi-material manufacturing. Featuring an online library of 250+ case studies in video, audio, in-depth articles and presentation slides, GALM Intelligence is a truly dynamic online offering for suppliers of magnesium components and OEMs.

Membership is required to access these resources, and now IMA members received 10% off the annual rate. To claim this exclusive 10% discount for International Magnesium Association members, simply visit www.galmintelligence.com/join and use promo code, **GALMIMA**, at checkout. To learn more about GALM Intelligence visit their website, www.galmintelligence.com.

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Help IMA Promote the Magnesium Industry

The IMA needs your help. The Industry Promotion team is working on putting together a promotional video for magnesium. These types of high quality, visually stunning videos are becoming very common; in fact you may have seen the video recently released by the Chromium industry. As the global voice of the magnesium industry, the IMA plans to create a video which provides information in a visually appealing format. To help us towards that goal, we are asking members for any video they may already have, or could obtain from a customer, that they would be willing to release for use to the IMA. Video would need to be HD quality, and could be of any phase in the production of magnesium or magnesium based products. Video clips of finished products, such as automobiles, would also be appreciated.

Please submit your videos via email to info@intlomag.org or if the files are too large for email submission, contact IMA for additional instructions. A release form can be found [here](#) and should be completed and returned along with your submission.

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March Magnesium Review from Metal-Pages

The Chinese magnesium market has consolidated gains after a brief increase last week. The market has been soft in the first quarter due to weak demand but rebounded recently as producers in Shaanxi cut production to prevent prices from falling further. Some 14 producers have started equipment maintenance which usually takes place in July and August. End-users from the magnesium alloy and powder industries are buying on a hand-to-mouth basis.

The export market has picked up, said traders. China exported 38,833t of the metal in the first two months of 2015, up 15.65pc against 33,576t in the same period last year, according to official customs data.

Magnesium metal in the US is locked in a holding pattern as a slight near-by tightness offsets languishing demand levels. Buying activity on the spot market remains sporadic as consumers largely live off long-term contract deliveries and consumers are reluctant to buy forward in case prices come under renewed downside pressure. Although spot business has so far failed to show signs of building traction in the traditionally busier second quarter, domestic holders of material appear in no hurry to slash prices in a bid to generate sales.

But there are still reports of offers for Russian origin material finding their way into the market at lower levels, which is helping to put a cap on prices. An increase in tentative offers for Russian material comes as a weaker rouble against a stronger dollar is making exporting magnesium to the US more competitive.

It comes as concerns mount over the ongoing strike action at Israel Chemicals Limited's (ICL) Dead Sea Works (DSW) plant, which makes potash. ICL's Dead Sea Magnesium (DSM) subsidiary is not understood to have been directly impacted by the labour dispute, but offers of material into the spot market by DSM, which is a magnesium supplier to the US and ships up to 20,000t/yr, are reportedly drying up.

A report in Israeli business publication Globes noted that ICL's Sdom magnesium plant has been producing at low levels since the strike began.

Underlying demand, however, for magnesium in the US remains robust as the aluminium alloying sector is being underpinned by the automotive industry, while volumes into the extrusions and can sheet industries are expected to pick up in the second quarter.

The European magnesium market is looking stable through the rest of this month on a similar outlook in China, the key supplier to Europe. Producers in China appear to be trying to establish a floor and are showing a united front in that regard. Most Q2 business in Europe has already been done, and attention will be on the secondary aluminium sector for demand through the rest of this quarter. The secondary aluminium sector supplies the car industry, which has been strengthening for several

months in Europe.

Chinese producers had indicated several weeks ago that prices had been nearing their production costs, although that level has seemed a variable rate in the past. Still, the downtrend trend of recent months appears to have been halted at present and into the early weeks of the current quarter.

Commodities are internationally traded in dollars, which has been firming against the euro, something that should mute European buying interest for the time being. The euro has weakened in the past week, standing at \$1.06, off a couple of cents.

Many minor metals and alloys, such as magnesium, ferro-manganese, ferro-silicon, antimony, cadmium, vanadium and molybdenum are used in car production. About half of magnesium production ends up in magnesium alloys and the rest is used to make beverage cans.



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News in Japan

Hokkaido University succeeded in creating the porous crystal from magnesium

(Source: Keikinzoku Tsushin 20th Jan., 2015)

The study group of Shinichiro Noro, Associate Professor of Research Institute for Electronic Science of Hokkaido University, succeeded in creating the porous crystal from light metals such as magnesium. By using these materials, carbon dioxide can be separated from gasses with good selectivity at room temperature. They are applicable to separation films or a gas storages.

The group aims at developing the gas separation film within 4-5 years.

The group synthesised porous substances by combining bipyridine dioxide, one of the organic compounds, with magnesium and calcium. The inside diameter of the pores is 0.4 nanometer (one billionth of meter), and many tunnel-like pores form lines in the same direction. In an experiment, when passing mixed gases of methane and carbon dioxide through the porous crystal, carbon dioxide was adsorbed and only methane came out. Nearly 100% of carbon dioxide was adsorbed. The separation of nitrogen and carbon dioxide is said to be possible.

They are now at a stage in which they established the synthesizing method of the materials and obtained the crystals. They will develop a technique of making a stable film and propose gas separation films for Carbon dioxide Capture and Storage (CCS).

Chuo Seiko established processing technique of magnesium

(Source: of Nirasaki Commerce and Industry Association News, and Yamanashi Daily News 23rd Jan. , 2015)

Chuo Seiko, engages in metalwork for 45 years since the establishment of a business, established a processing technique of magnesium. Their technology is highly acclaimed, and they make a deal directly with the major manufacturers of the electric tools. The company undertakes processing of bodies of nailing machines using high-pressure air and air impact drivers that are major manufacturers' products. Approximately 40% of the received order is magnesium processing.

The company started magnesium processing approximately 15 years ago and found out a safety method of processing through many experiences. During processing, they suppress the ignition with special liquid and dispose shavings diligently. About the processing method, the company changed the process from the method in which each portion was machined one by one, this was major process in those days, to that in which whole portions were machined at once named "Integral processing". The company increased production efficiency and reduced costs by this method.

Osaka University and Japan Transport Engineering Company established high quality magnesium welding technique by ultrasonic wave TIG

(Source: Keikinzoku Tsushin 27th Jan., 2015)

Joining and Welding Research Institute of Osaka University and Japan Transport Engineering Company (Yokohama City) established high quality magnesium alloy welding technique by ultrasonic wave TIG.

TIG welding of magnesium alloys has a problem of strength reduction due to blow holes occurred during solidification of melted metals.

The blow holes are almost vanished by applying 25 to 40 kHz ultrasonic to welding torch, because cavitations (iteration phenomenon of generation and vanishing of bubbles) occur and vanish the blow holes.

It was also found that the ultrasonic TIG welding had narrow arc and deep melted area compared with the conventional TIG, and the effectiveness was confirmed for both general-purpose magnesium alloys and flame-retardant magnesium alloys.

This study was carried out as a part of " Innovative New Structural Materials Research and Development" conducted by New Energy and Industrial Technology Development Organization (NEDO). Participating of Japan Transport Engineering Company, the railroad vehicle maker, promises the realization of more light weight railroad vehicles by applying magnesium than aluminum bodies.

NEDO and Sankyo Tateyama developed a world's first magnesium casting technology

(Keikinzoku News 30th Jan., 2015)

New Energy and Industrial Technology Development Organization (NEDO) and Sankyo Tateyama Inc. developed a continuous casting technology of small-diameter magnesium alloy billets for small-size forging products. They established the continuous casting technology of the small-diameter magnesium billets (diameter 55-100mm) for the first time in the world which is directly applicable to forging. Approximately 50% of costs can be reduced with this technique compared with conventional technologies.

The difficulties in plastic forming of magnesium such as forging due to easy cracking have caused high production costs and constricted its expansion. For the practical use of high strength and high reliability materials, it has been required to establish a forging technology which enables strengthening by microstructure control and has high productivity and high competitiveness in both quality and production costs. About the small forging parts used for industrial and transportation equipment in particular, there exists a manufacturing method in which bars are extruded from billets (150~300mm diameter) so as to have good quality (fine microstructure) and adequate dimensions for small size forging, and these bars are used as the raw materials.

However, the high price of the materials and the problem of productivity pushed up product costs and has been one of the bottlenecks of its market expansion. They

established a new casting technology using insulated mold in which the molten metal is rapidly solidified by water sprayed at the bottom end of the mold without solidifying in the mold as much as possible. They obtained fine and uniform solidified microstructure (minimum grain size: 10 micro-meter) compared with the structure of conventional billets, and high forging performance. They are now proposing to apply it to the field where weight reduction of forging parts is required, and advancing the development of its application. In addition to this development, they have started to develop multi-mold simultaneous continuous casting technology to reduce the production costs as the measure for mass production. They are creating various production techniques to get the material cost equal to the conventional mass produced billets.

Domestic Magnesium Market - December, 2014

(Source: December issue of Import/Export Statistics (customs clearance basis) of METI - Compiled by The Japan Magnesium Association)

Import

Based on Import/Export Statistics of December 2014, magnesium metal import was 3,222.5 tons (23.8% increase from the same month the year before), magnesium powder 416.5 tons (43.1% increase), and other products 121.1 tons (40.0% decrease).

Since magnesium metal showed stable increase, and powder category changed from monthly big changes to increase, the overall import in November was 3,407.7 tons (21.5% increase) despite declined other products sector.

The breakdown of the metal category was that the pure magnesium was 2,686.2 tons (33.6% increase), high purity magnesium was 6.3 tons (N.A.), die-casting use was 526.9 tons (9.6% decrease), and casting alloys/Mg-Li alloys was 3.1 tons (68.5% decrease). The pure magnesium showed favorable increase whilst die-casting alloy and casting alloys/Mg-Li alloys decreased again.

6 tons of high purity magnesium was imported from China for the first time this year.

In December, the average import price of pure magnesium metal has continuously increased for four months to 289.7 yen per kg (12.6 yen per kg or 4.5% increase from the month before).

Also, the average import price of magnesium alloys rose by 11.0 yen per kg from the previous month to stand at 331.5 yen per kg.

The total imports of January-December 2014 consisted of 32,596.6 tons of magnesium metal (15.4% increase vs the same period the year before), 4,182.3 tons of magnesium powder (8.5% decrease), and 2,236.9 tons of other products (182.8% increase). The total became 39,015.7 tons (16.1% increase) and remained almost stable as a whole although severe situations continued in the powder/grain sector which decreased from the previous year.

Export

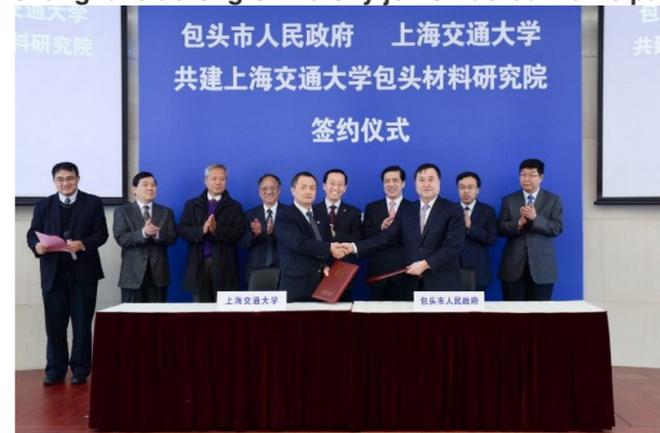
In December 2014, export of magnesium alloys was zero although 4 kilos of pure magnesium were exported to U.S.A. 3.0 tons of other products (33.6% increase vs the same period the year before) were exported. In these, export to China was 2.9 tons.

The total exports of January-December 2014 consisted of 566.8 tons of pure magnesium and magnesium metal/alloys (72.5% increase vs the same period the year before), 8.5 tons of magnesium powder (1.9% increase), and 86.5 tons of magnesium products (120.9% increase). By the way, export of other products to China totaled to 77.1 tons (122.4% increase vs the same period the year before).

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March China Magnesium Industry and Market Bulletin

Shanghai Jiaotong University joins Baotou Municipality for industrializing rare earth-magnesium alloy materials technology



On Mar.3, Baotou government signed a cooperation agreement, in Shanghai, with Shanghai Jiaotong University. Both sides will build Baotou material research institute, Shanghai Jiao Tong University. The coming institute, through complementary advantages, will focus technology innovation and resources, construct the integration of management, research and production, and inject vitality to industry transformation in Baotou.

Mr.Zhangjie, president of Shanghai Jiao Tong University, said Shanghai Jiaotong University has 119 years of development history, with top science and technology R & D team, especially with strong scientific research strength in the field of new materials. The coming institute will further promote the scientific research achievements of Shanghai Jiaotong University into practical productive forces, promote scientific and technological achievements of domestic industries to the development of both integration and industrialization.

The coming institute, locating in Rare Earth Hi-Tech Zone, Baotou, Inner Mongolia, will, in accordance with the "explicit demand and mature technology" principle, select related programs, and, based on the characteristics of Baotou city industry, focus on promoting the electronic communications with the rare earth magnesium alloy materials, high purity aluminum industrialization process, high efficiency rare earth aluminum alloy wire,

aluminum alloy and magnesium alloy for automotive industry.

Chaohu Eontec-Yunhai Sci. & Tech. went through industrial and commercial registration

On Mar.24, DongGuan Eontec announced that Chaohu Eontec-Yunhai Sci. & Tech., a JV between Eontec and Yunhai Special Metals, went through industrial and commercial registration and received business license, following the approval from Chaohu Market Supervision Bureau.

Eontec-Yunhai Sci. & Tech. was registered with 10 mln. RMB yuan of capital, of which Yunhai Special Metals will invest 2 mln. yuan, taking 20% of total share, and Eontec, 8 mln. yuan, sharing 80%. Eontec-Yunhai Sci. & Tech. will engage in the R & D of new alloy materials, and production & sale of precision die castings from both magnesium alloy and aluminum alloy.

Inner Mongolia Transport Magnesium Science and Technology operates the phase I magnesium project

On Mar.1, Inner Mongolia Transport Magnesium Science and Technology put phase I magnesium project in operation. As scheduled, the project will yield 1kt of ordinary and high-quality magnesium ingot, with output reaching 800kt in Mar.

Inner Mongolia Transport Magnesium Science and Technology relies on the rich coal resource in Erdos plateau and high-quality dolomite mineral resource in Qingshuihe River, Inner Mongolia, employs advanced production technology, by which coal will be modified as semi coke, tar and gas and then the gas will be used to smelt magnesium, builds the circular economy by modified coal and magnesium metal, and promotes the innovation and the transformation of coal industry development. All project, with investment at 2 bln. RMB yuan, will be carried out by 3 phases, and finally realize 1.85 mln. tones of modified coal and 50kt of magnesium annually.

At present, phase I project, with 0.7 bln. RMB yuan of investment and 600kt/a of modified coal, enters into normal production. The company, considering the overall doldrums in magnesium market, plans to delay the construction of phase II and phase III projects.

Inner Mongolia Transport Magnesium Science and Technology, founded in Oct., 2010 and locating in Magnesium Industry Base, Qingshui County, Inner Mongolia, is the key project attracting investment by Hohhot municipality, and operated by Zhejiang Yunsheng Group.

Many magnesium producers plan to overhaul their magnesium production lines ahead of schedule in Fugu

Hit by long-term doldrums of magnesium market, Tianyu Group decides to perform routine overhaul for its magnesium production and semi coke lines. The Group, with 50kt/a of primary magnesium capacity, will bring about 20kt/a of capacity in overhaul bracket.

Fugu Taida Coal & Magnesium, as Tianyu Group, also plans to overhaul its magnesium line, inclusive of rotary kiln, in early April, 2015. The overhaul, as scheduled, will last half month and, during the maintenance, all its magnesium lines will be halted. Sunlight Metal was informed this magnesium line, with 85t of output per month, ranks No.one in terms of magnesium output. Some sources from the company said "The overhaul, generally, was performed in Jul. and Aug. each year, however, we, facing such a downturn market, decide to do so earlier. Accordingly, semi coke, once used for magnesium production, will be transformed into electricity for our own power station."

Sunlight Metal was informed many magnesium producers in Fugu will, in advance, shut down and then overhaul their magnesium facilities, inclusive of Jingfu Coal & Chemical, Haotian Group, Jinwantong Magnesium, Huashun Magnesium, Zhongxin Coal & Chemical, Tongyuan Magnesium, and Wanyuan Magnesium. During the alternative overhauls lasting for 3 months, each producer will basically cut down capacity by 30-40%.

University of Science and Technology Liaoning rolled out 0.05mm thick magnesium alloy foil

Led by Prof. Judongying, Research Center for Magnesium Alloy Rolling, University of Science and Technology Liaoning, designs independently, by filling domestic black, a set of six-roller mill for 450mm wide magnesium alloy. By the pilot experiments, they solve the edge cracking, shape control, tension control, lubrication, and surface crack, and roll out a variety of magnesium products with thickness less than 1.5mm, especially of magnesium alloy foil which is 0.05mm thick and 180mm wide.

Research Center can make AZ31 magnesium alloy coil that end users recognize, which is 0.3X300mm with maximum weight at 100kg and over 500m length by batch production. The Research Center, currently carrying out the research on deformation mechanism, composition and structure as for rolling magnesium alloy, magnesium alloy battery and honeycomb magnesium alloy, will further improve existing process and equipment and strengthen basic researches for world-class level.

Ningbo Institute of Material Technology develops magnesium air battery

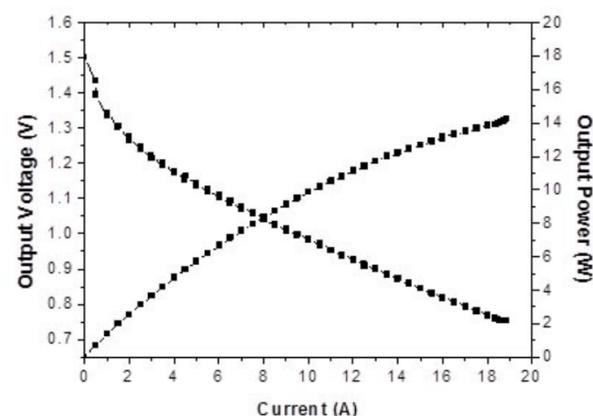


By optimizing structure and process for cathode air diffusion electrode and based on developing high performance oxygen reduction catalyst from manganese oxide, Power Lithium Battery Engineering Laboratory, Ningbo Institute of Material Technology, Chinese Academy of Sciences, develops successfully 1000Wh magnesium air battery.

The battery consists of 5 single cells in series, taking AZ31 magnesium alloy as anode and 10% NaCl solution as electrolyte, and employs air diffusion electrode and manganese oxide catalysts as cathode. The battery is 200mm x 150mm x 150 mm in size, weighing 2.3 kg with 430Wh/kg of energy density and maximum output power up to 80W. It, with bright commercial prospects, can be used for field power supply, mobile power supply, standby power and emergency power supply.

mobile power supply, standby power and emergency power supply.

Metal air battery, with its abundant raw materials, safety and environmental protection, and high energy density, is known as the "new green energy" for the twenty-first Century, and has good prospects of development and application. Anode for metal air battery is active metal (such as Mg, Al and Zn), which, when discharging, is oxidized to the corresponding metal ions Mn⁺; electrolyte is alkaline or neutral medium, such as a KOH or NaCl solution. Cathode, on the other hand, is oxygen in air, which, when discharging, is reduced to OH⁻. Because oxygen can completely rely on battery external supply, cathode in metal air battery actually is the catalyst which helps reduce oxygen.



Wanfeng Auto Wheel intends to wholly acquire Wanfeng Meridian for 1.35 bln. RMB yuan

On Mar. 17, Zhejiang Wanfeng Auto Wheel announced it will, through non-public offering of not more than 61950000 shares and accordingly raising no more than 1.75 bln. RMB yuan, wholly acquire Wanfeng Meridian from Xinchang Tianshu Investment Management subordinate to Wanfeng Auto Holding. Wanfeng Auto Wheel said that not more than 1.35 bln. RMB yuan, which is the part of above-mentioned less than 1.75 bln. RMB yuan collected by non-public offering will be used for this acquisition. Its stock share will resume trading on Mar.17.

Xinchang Tianshu Investment Management was founded on Oct,29,2003, in which Wanfeng Auto Holding holds 70% and remaining 30% of shares is for its partner, Shaoxing Fengyuan Investment. Wanfeng Meridian comes into operation from Nov. 6, 2013 on.

Announcement said that this acquisition, upon its complete implementation, will further enrich and optimize product mix, and improve, from all-round level, the competitive edge of main operation business. By this acquisition, Wanfeng Auto Wheel will, by reshuffling internal management, continuously enhance their ability for internationalization operation management, and ,through the integration, enhance the intensity of market development and its overall profitability.

Metallurgical industry dominated magnesium consumption in China

In 2014, China consumed 370.7kt of magnesium, 5.47% up y-on-y, of which 250kt was for metallurgical industry, accounting for 67.44% of total domestic consumption, and 112.7kt for fabrication industry, sharing 30.41% of total.

Magnesium consumption by segment in 2014 (Unit: kt)

	Year	2012	2013	2014
Metallurgical	Additive in Al alloy	81	88.2	97.5
	Desulphurization (steel and iron)	31.2	32	33
	Nodularizer for spheroidal graphite cast iron	27	28	30
	Metal reduction	61.5	84.7	81.5
	Rare-earth magnesium alloy	6	7	8
Fabrication	Casting, die casting and profile	97.3	104.6	112.7
Other		6	7	8
Total		310	351.5	370.7
y-on-y change,%		11.99	13.39	5.47

The first two month saw primary magnesium output hit 117.8kt, up 2.43% y-on-y

Data from Chinese Nonferrous Metal Industry Association showed primary magnesium output, from Jan. to Feb. 2015, closed at 117.8kt, up 2.43% y-on-y, of which Shaanxi contributed 61.9kt, up 18.2%; Shanxi 36.7kt, up 6.09%; Ningxia 10.6kt, down 33.57%; Xinjiang 4.2kt, down 33.57%; Henan 1.2kt, down 76.13%; Jilin 0.3kt, down 56.44%; Sichuan 0.8kt, up 32.96%, and Qinghai 2.1kt, up 7913.95%.

As shown above, primary magnesium output, in the first two months in 2015, declined generally, but Shaanxi, the dominant area for higher output, remained strong, while growth, to some extent, was seen in Shanxi, Sichuan and Qinghai.

Export of magnesium products closed at 75.6kt, up 12.37% in the first two months

Data from China Customs said the first two months in 2015 saw export of magnesium articles hit 75.6kt, up 12.37% y-on-y as indicated below.

Of which, export of magnesium unwrought ended at 38.83kt, up 15.65%; other magnesium and alloy unwrought 18.23kt, down 1.42%; power(rasping, turnings and granule) 16.57kt, up 25.36%; waste and scrap 411.5t, down 9%; magnesium wrought 591.5t, down 15.49%, and magnesium article 996.9t, up 14.59%.

Export of magnesium article by Feb.2015 (unit:t)

Item	Jan.	Feb.	Subtotal
Magnesium unwrought (min.99.8%)	22710.5	16122.0	38832.5
Other magnesium and alloy unwrought	9921.8	8306.7	18231.5
Waste and scrap	304.3	107.2	411.5
Magnesium raspings/turnings/granules according to size & powders	8681.3	7885.7	16567.0
Magnesium wrought	186.0	405.5	591.5
Magnesium articles	544.8	452.2	996.9
Total	42348.7	33282.2	75631.0

Domestic magnesium price plunged through 13000 RMB yuan/t, lower than aluminum price

Since mid March, primary magnesium price, because of sluggish demand from downstream industry and the pressure from inventory and fund withdrawal from circulation, has continued to fall down. At the end Mar., cash price for magnesium ingot, in Fugu, hit 12750-12850 RMB yuan / t, 12900 RMB yuan / t in Taiyuan and 12950-13150 RMB yuan / t in Wenxi.

As current price fell below 13000 RMB yuan/t, favorable news has not appeared, and market participants take bearish sentiments. Against the background of warm spring, magnesium market is still much too cold. More worryingly, raw materials industries are in a similar operation state, and real economy has no sight of recovery, yet.

To sum up, fund withdrawal from circulation and inventory will, by the end of March, keep magnesium market sluggish, and producers will meet severe challenge. Given continuous loss, some producers plan their overhauls in Apr., earlier than scheduled as ever, while some producers plan to cut down production. Following the coming decline in output, magnesium market will reach supply and demand balance again. Insiders from magnesium industry have been endeavoring for the arrival of bright spring.

(Contributed by Ms.Luoshejuan, Sunlight Metal)

Magnesium ingot price by Sunlight Metal (unit: yuan/t)

Date	Shaanxi	Taiyuan	Wenxi	Ningxia	FOB(USD/t)
Mar.2,2015	13100-13200	13300-13400	13400-13500	13300-13500	2340-2370
Mar.3	13100-13200	13300-13400	13400-13500	13300-13500	2340-2370
Mar.4	13100-13200	13300-13400	13400-13500	13300-13500	2340-2370
Mar.5	13100-13200	13300-13400	13400-13500	13300-13500	2340-2370
Mar.6	13100-13200	13300-13400	13400-13500	13300-13500	2250-2280
Mar.9	13050-13150	13250-13350	13350-13450	13250-13450	2250-2280
Mar.10	13050-13150	13250-13350	13350-13450	13250-13450	2250-2280
Mar.11	13000-13100	13200-13300	13300-13400	13200-13400	2230/2260
Mar.12	13000-13100	13200-13300	13300-13400	13200-13400	2220/2250
Mar.13	13000-13100	13200-13300	13300-13400	13200-13400	2200/2230
Mar.16	13000-13100	13200-13300	13300-13400	13200-13400	2200/2230
Mar.17	12950-13050	13150-13250	13250-13350	13150-13350	2200/2230
Mar.18	12900-13000	13100-13200	13200-13300	13100-13300	2200/2230
Mar.19	12900-13000	13100-13200	13200-13300	13100-13300	2200/2230
Mar.20	12850-12950	13050-13150	13200-13300	13050-13250	2200/2230
Mar.23	12850-12950	13050-13150	13200-13300	13050-13250	2200/2230
Mar.24	12850-12950	13050-13150	13200-13300	13050-13250	2200/2230
Mar.25	12800-12900	13000-13100	13150-13250	13000-13200	2200/2230
Mar.26	12800-12900	13000-13100	13150-13250	13000-13200	2200/2230
Mar.27	12750-12850	12950-13050	13150-13250	12950-13150	2190/2220
Mar.30	12700-12800	12900-13000	13100-13200	12900-13100	2180/2210

Sunlight Metal collects and publishes daily ingot quotation and FOB price from key magnesium production regions objectively, independently and systematically. Being taken into account the viewpoints from both supplier and consumers, Sunlight Metal price, rationally reflecting the change in market, is the most authoritative in domestic magnesium sector for 5 years running. For more detail and inquiry, pls. contact us at info@chinamagnesium.net

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