



IMA News

July 19, 2013

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Below are articles and summaries of **magnesium** related stories. Members are asked to distribute the update to their employees – if their employees wish to receive the IMA Weekly Update, please send their email addresses to the IMA Head Office. We appreciate your company press releases and announcements for inclusion in the Weekly Update.

INDUSTRY CALENDAR

August 21 – 22, 2013
Global Automotive Lightweight Materials Detroit
2013
Detroit, Michigan
<http://www.global-automotive-lightweight-materials-detroit-2013.com>

September 3 – 5, 2013
Euro LightMAT 2013
Bremen, Germany
<http://www.dgm.de/dgm/lightMAT2013/>

October 6 – 8, 2013
[5th Asian Symposium on Magnesium Alloys](#)
Toki Messe
Niigata, Japan

October 28 – 29, 2013
[IMA North American Applications Seminar](#)
BuhlerPrince, Inc.
Holland, Michigan, USA

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ASSOCIATION NEWS

IMA 71st Annual World Magnesium Conference in Munich, Germany:

- *Dates and Hotel information to be announced soon!*

Welcome our New IMA Member!

Registration Discount for IMA Members at the Global Automotive Lightweight Materials Detroit 2013

Magnesium: The Lightest Structural Metal in Automotive Presentation Shared

IMA Membership Directory and Buyer's Guide Form Now Available Online - *Now Available Online*

The IMA Invites You to Join Our LinkedIn Group

*** The IMA regrets that we did not include the contact information for our new IMA European Director, Mr. Christian Payn on Page 1. We regret the error. Please read all about him in the August issue of the IMA News!*

Articles follow below

INDUSTRY NEWS

Magnesium Metal Market Benefitting From Automotive Emissions Reduction Targets

Article follows below

ASIA NEWS

Scientists Develop Heat-Resistant Magnesium Alloys for Aircraft

Global and China Automotive Magnesium Alloy Industry Report, 2012-2015 China Magnesium Industry Market Bulletin

Articles follow below

EDITOR'S NOTE: IMA makes every possible effort to substantiate the articles which appear in the Update. However, as this is not always possible IMA does not warrant the details nor accuracy of any given article. Please keep in mind that materials are attained through press releases, outside articles from numerous sources and publications. Such materials often contain opinions which are not that of the association nor should they be construed as such. We realize that in the case of some materials, the translations might often lead to less than perfect grammar, etc. It is our position however to print as submitted rather than take upon ourselves the editing of such materials which would entail potential changes unwanted by any given author.

ASSOCIATION NEWS

Welcome our New IMA Member!

We would like to introduce you to our newest Associate member!

- **SFM-SA**, Martigny, SWITZERLAND; Producer member (April 2013)

Website: www.srm-magnesium.ch

Discount for IMA Members at the Global Automotive Lightweight Materials Detroit 2013

IMA members have been offered a 15% discount at the Global Automotive Lightweight Materials Conference in Detroit (August 21-22, 2013). This year's Conference is about Taking a Per Material, Per Application Analysis to Achieve Cost-Effective Mass Reduction for High Volume Manufacturing of Lightweight Multi-Material Vehicles by Identifying the Right Materials for the Right Applications. Follow this link for more information on sessions being held and registering for the conference.

<http://www.global-automotive-lightweight-materials-detroit-2013.com>

Magnesium: The Lightest Structural Metal in Automotive Presentation Shared

Martyn Alderman of Magnesium Elektron presented Magnesium: The Lightest Structural Metal in Automotive at the Global Automotive Lightweight Materials Conference in London on April 24, 2013. A copy of the presentation can be viewed [here](#). IMA Members have been offered a 15% discount at the Global Automotive Lightweight Materials Conference in Detroit from August 21-22, 2013.

IMA Membership Directory and Buyer's Guide Update Form - **Now Available Online**

The 2013 IMA Membership Directory and Buyer's Guide form is now available in the [Members Only](#) section of the IMA website. You are now able to download the form whenever your organization needs to make changes to primary contact information or capabilities and certifications. Please send the completed form at any time to info@intlomag.org or by fax to the IMA Head Office at ++1-847-526-3993. You can also mail the form to the IMA Head Office at International Magnesium Association, 1000 N. Rand Road, Suite 214, Wauconda, IL 60084, USA.

The IMA Invites You to Join Our LinkedIn Group

LinkedIn is an excellent virtual networking tool and knowledge sharing resource, allowing people to make connections without actually going out and meeting people face-to-face and exchanging business cards. The venue offers the opportunity to exchange strategic ideas with a much larger base of **magnesium** professionals from around the world. With the steady popularity of social networking usage, LinkedIn fits in perfectly within the **magnesium** business professional networking environment.

Our IMA Group community is growing very quickly. We have 294 members worldwide who use LinkedIn for connecting with current business contacts to build and develop relationships to further levels as well as meet new professional contacts. It offers group discussions that create awareness and information sharing within the thriving **magnesium** community.

We encourage all IMA members to take advantage of the opportunities for **magnesium** discussion contributions and networking expansion. Utilize the IMA Group to meet amazing professionals within the **magnesium** industry across the globe. LinkedIn provides key resources that **magnesium** professionals need to be informed and even continue to grow.

Please visit our IMA Group website on LinkedIn and join today! You can find us here:

http://www.linkedin.com/groups/International-Magnesium-Association-IMA-107283?goback=%2Eanp_107283_1346872555081_1

INDUSTRY NEWS

Magnesium Metal Market Benefitting From Automotive Emissions Reduction Targets

Automotive lightweighting and China growth driving demand for magnesium

Roskill estimates that consumption of magnesium reached a new peak in 2012, 1.1Mt, with demand having grown by 5.5%py over the last decade. The largest end-uses for magnesium are die-cast magnesium and aluminium alloys, each accounting for a third of total consumption. The transportation industry is the largest consumer of die-cast magnesium and the second largest consumer of aluminium-magnesium alloys behind packaging.

The magnesium industry has benefited from a rise in automotive output, led by China, as well as increases in specific consumption of magnesium per vehicle as manufacturers seek to comply with government-imposed emission reduction targets and the rising cost of fuel impacting consumer buying trends. Continued lightweighting efforts mean growth in magnesium consumption is set to continue, at 5.0%py through to 2017. Die-cast magnesium use is likely to rise faster, at 6.5%py, but the market will be tempered by lower rates of growth in steel desulphurisation and iron nodularisation.

Growth in Chinese consumption has more than offset a slight fall in the rest-of-world (ROW) since 2007, and Asia now accounts for 43% of the global total, up from 35%. North America represents a further 20% of consumption, and Europe 15%. India and South Korea have shown strong growth over the last five years, but from a low base in volume terms, meanwhile Russian consumption has almost doubled owing to increased titanium production. Asia, more specifically China, will continue to exhibit the highest growth in demand for magnesium on a regional basis through to 2017.

China dominates global supply, but internal competition is often overlooked

Production of primary magnesium continues to be dominated by China, which Roskill estimates accounted for 75% of global output in 2012. Russia and the USA together represent a further 16%, followed by smaller contributions from Israel, Kazakhstan, Brazil, Serbia and the Ukraine. Malaysia and South Korea have entered the market in recent years, albeit on a small scale, but these and some limited expansions at existing operations have done little to dampen China's growing share. Secondary magnesium, output of which totaled 211kt, is sourced mainly from die-cast scrap. For secondary material, North America is the main contributor to secondary supply, followed by Europe, as these regions remain large magnesium-based product users.

China's leading position in primary magnesium output reflects the domestic availability and low cost of ferrosilicon and energy (in the form of coal, coke and electricity), which are the main inputs to the energy-intensive, thermal Pidgeon process favoured in China. Nevertheless, faced with rising energy prices and government pressures to lower emissions, Chinese magnesium companies have invested in process optimisation to lower costs. Although China is often viewed as one entity when considering magnesium supply, internally the industry is also highly competitive, with recent increases in coke-gas availability resulting in a shift in domestic output to Shaanxi, thus limiting growth in Shanxi and Ningxia and resulting in the loss of output elsewhere.

The low CAPEX of Pidgeon process plants means a shift in domestic output from province to province is relatively straightforward, but has resulted in significant overcapacity. Roskill estimates Chinese primary capacity at 1.3Mt, but of that only 0.8-0.9Mt is utilised; the remainder is mothballed or uneconomic. This trend caused at least one major producer in China to shutter output in 2012, and is also a factor driving industry consolidation.

Despite cost competitiveness and overcapacity in China, a new 100ktpy electrolytic plant in Qinghai is due to open during 2013, which could further alter the domestic landscape. Several companies using new processes, or variations on existing electrolytic and thermal methods, also continue to investigate primary magnesium production in other countries, especially Australia and Canada. However, unless these projects can compete with Chinese Pidgeon process costs and be economic at current and forecast near-term pricing levels of US\$2,500-3,000/t, China looks set to steadily increase its share of the market as demand grows.

Source: <http://www.finance.yahoo.com> (8-July-2013)

ASIA NEWS

Scientists Develop Heat-Resistant Magnesium Alloys for Aircraft

Japanese scientists have developed two strong, nonflammable magnesium alloys that could be used in aircraft construction.

Magnesium, a lightweight metal, is not currently used in airplane bodies because it can easily catch fire.

But Yoshihito Kawamura, a materials science professor at Kumamoto University, and his colleagues said April 17 they have overcome that weakness.

One of the two magnesium alloys contains an undisclosed rare earth element as an ingredient. It remains strong even at high temperatures and can withstand temperatures of up to 875 degrees before igniting.

The other alloy contains a non-rare earth element and has an ignition temperature of at least 1,050 degrees.

The U.S. Federal Aviation Administration bans the use of magnesium alloys in civil aircraft because they typically have low ignition temperatures of around 500 degrees.

In 2001, Kawamura and coworkers developed a magnesium alloy that had ignition temperatures of at least 620 degrees. Subsequent advances in global research and development on magnesium alloys have led to calls for lifting the ban on their use in aircraft.

The two new alloys were sent to the FAA, where they underwent combustion tests that confirmed their heat resistance.

"We hope to develop magnesium alloys that would be authorized for use in aircraft," Kawamura said. "In the long run, we want to make alloys that can be used in space probes."

The researchers added they hope to develop mass production technologies and conduct joint research with aircraft manufacturers in the future.

Source: <http://www.ajw.asahi.com> (18-April-2013)

Global and China Automotive Magnesium Alloy Industry Report, 2012-2015 China Magnesium Industry Market Bulletin

Reportstack, provider of premium market research reports announces the addition of Global and China Automotive Magnesium Alloy Industry Report, 2012-2015 market report to its offering Global automotive magnesium alloy industry in recent years is getting out of the shadow of the financial crisis and magnesium price skyrocketing, both production and consumption have been restored. Favorable factors such as the rapid recovery of American and Japanese automobile industry, the upgrading of product structure of Chinas automotive industry, international magnesium-aluminum price ratio back to less than

1.3, and the lightweight of vehicle all have provided impetus for the rebound of automotive magnesium alloy market. In 2012, the global automotive magnesium alloy consumption reached 214,000 tons, a year-on-year increase of 4.9%. During this period, China with rich magnesium resources and a huge automotive industry has become a hot spot for investments in the industry.

After 2008, affected by the increased tax rate of magnesium alloy exports as well as the rapid development of automobile industry, Chinas automotive magnesium alloy industry showed contrarian growth against the financial crisis worldwide, thus changing the previous situation that domestic magnesium alloy auto parts mainly relied on imports. In 2012 Chinas capacity of magnesium alloy auto parts reached 47,000 tons/a, and the demand over the corresponding period was 45,000 tons, a basic balance between supply and demand. However, as a great number of automotive magnesium alloy producers in China are the new entrants with weak technical reserves and products concentrated in the middle and low ends, high-end automotive magnesium alloys still depend on imports.

In nowadays China, joint venture branded vehicles occupy the main medium- and high-end market, which is precisely the most important consumer market for automotive magnesium alloy. These automakers are extremely concerned about the supply quality and stability of automotive magnesium alloy, which is also the basic literacy that some new manufacturers lack. For these reasons, magnesium alloy parts used in joint venture branded vehicles are often provided by regular suppliers, which increasingly becomes an obstacle to the development of new entrants. Moreover, products of Chinese firms are mostly concentrated in magnesium alloy wheel, steering wheel and other several products, with relatively single variety and narrow coverage, which to some extent also limits their development.

In China, following the structural upgrade of automobile industry, a step-by-step increase in the proportion of medium- and high-end cars, the clearer trend of automotive lightweight, the gradually improved production technology of automotive magnesium alloy, coupled with the effect of cancelling magnesium alloy export duties in January 2013 by China Customs, the demand for automotive magnesium alloy is expected to achieve sustained growth in future.

In addition to a detailed analysis on the development status of the global and China automotive magnesium alloy industry, this report also highlights the automotive magnesium alloy business of five multinational companies i.e. Meridian, STOLFIG, TAKATA, Autoliv and GF as well as 21 domestic companies e.g. Nanjing Yunhai Special Metals Co., Ltd., DongGuan EONTEC Co., Ltd. and Shanghai Meridian Magnesium Products Co., Ltd..

In response to the financial crisis, Meridian as the global automotive magnesium alloy industry leader has implemented strategic adjustment in industrial distribution since 2009, which has significantly improved capacity in key areas. In 2011, Meridian expanded operations in the UK and raised the capacity of local factories twice that of 2010. In May, 2012, the production capacity of Meridians joint venture in Shanghai, China saw an increase of 20%; followed by another rise of 30% in early 2013.

Beijing Guangling Jinghua Science & Technology Co., Ltd. (also known as Gonleer) is one of the major automotive magnesium alloy manufacturers in China. By 2004, the company has completed the whole industry chain layout from the upstream minerals to the downstream smelting and processing. In 2013, its products have covered five major areas i.e. magnesium and magnesium alloys, sacrificial anode, mechanical parts, sections and magnesium sheet, with annual capacity up to 50,000 tons, becoming a supplier of magnesium alloy auto parts for Volkswagen, Hyundai, Ford and other well-known carmakers. Relying on its rich resources of magnesium and magnesium alloys, Nanjing Yunhai Special Metals Co., Ltd. has also achieved comprehensive coverage of the whole industry chain over the past few years. As a key supplier of magnesium alloy auto parts for Chery Automobile, the company reaches capacity of 3,000 tons/a automotive magnesium alloy in 2013.

To view the table of contents for this market research report please visit <http://www.reportstack.com/product/122334/global-and-china-automotive-magnesium-alloy-industry-report-2012-2015.html>

Source: <http://www.reportstack.com> (15-July-2013)