

# refractories

## WORLD FORUM

Hot Topics

Manufacturing & Performance of High-Temperature Materials

NEWSLETTER 2/2012



Fig. 1 Impressions ALUMINIUM 2010  
(Photo: Reed Exhibitions)

see page 1



Fig. 2 Leslie Power, VP Refractories, held the opening speech at the opening ceremony of the new lab in India  
(Photo: Almatiss)

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## ALUMINIUM 2012 Grows in Düsseldorf with New Themes

The preparations for ALUMINIUM 2012 (9 – 11 October 2012) are going at full speed. Four months before the start of the fair, 750 companies from more than 40 countries have made firm bookings. Nearly 950 exhibitors are expected, when the world's biggest meeting place for the aluminium industry open its gates – in this year for the first time in Düsseldorf. The exhibition area will increase to 75 000 m<sup>2</sup> this year (2010: 65 000 m<sup>2</sup>). The 9<sup>th</sup> edition of ALUMINIUM will bring together aluminium producers, processors, providers of technologies and equipment for the production, further processing and finishing of aluminium as well as the representatives of the application industries. The organiser *Reed Exhibitions* and his partners *GDA Gesamtverband der Aluminiumindustrie* and *European Aluminium Association (EAA)* expect visitors from more than 100 countries.

### On growth course

ALUMINIUM 2012 shows the whole value chain for aluminium – from the raw material over semi-finished to finished products for all fields of application for aluminium. This year, suppliers of plant technology and equipment form the largest exhibitor group, followed by the sectors semi-finished products, casting and surface treatment. All major players of the industry will present themselves at ALUMINIUM, including *Alcoa*, *Constellium*, *Hydro*, *Trimet*, *SMS*, *BWG* and *Sapa*.

The halls of ALUMINIUM 2012 will be dedicated to special exhibition segments following the value chain. Primary Production and related technologies (Hall 9), Foundries and Heat Treatment as well as Recycling (Hall 10), Semi-finished Products (Halls 11

and 12), Surface and Finishing, Welding and Joining (Hall 13), Metal Working and the segment devoted to aluminium joining technologies such as welding and joining.

### ALUMINIUM 2012 extends its range of theme pavilions

The existing subdivision of the fair into segments in the form of theme pavilions, which was very well received by exhibitors and visitors in the past, will be continued and developed. This year there will be five national and six theme pavilions offering visitors a concentrated overview of the respective exhibition topics. One of the largest joint stands is the Chinese Pavilion. There will be further national presentations this year in the form of the Danish Pavilion, the long-

see page 2

## Fair High-light in Sep. 2012 in Düsseldorf

### ALUMINIUM 2012

9<sup>th</sup> World Trade Fair & Conference, 9 – 11 October 2012, Messe Düsseldorf/DE

Further details available at: [www.aluminium-messe.com](http://www.aluminium-messe.com)

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standing Dutch Pavilion, the French Pavilion and the Scandinavian Pavilion.

A new ALUMINIUM feature is the Competence Centre Surface Technology, combining the Surface Pavilion – a firm fixture at the event for many years now – and the Coating Pavilion, introduced in 2010. The amalgamation means that visitors in the future will have a focal point for all matters relating to surface refinement.

A further début will be the Distributor Pavilion being organised by the WGM (*Semi-finished Nonferrous Product Wholesalers Federation*). The joint stand will offer a forum at the event especially for aluminium distributors and metal wholesalers.

The Foundry Pavilion in Hall 10 is already nearly fully booked: roughly 30 exhibitors will be displaying their casting technology solutions.

From now on, Hall 9 will be devoted to primary production and associated technologies. The Primary Pavilion provides a forum for suppliers and technology providers such as suppliers of metallurgical technology to be present in the neighbourhood of the big primary producers.

Hall 14 is home to the Welding and Joining Pavilion. Spread across an area of more 200 m<sup>2</sup> roughly

10 exhibitors from the fields of plant, machinery, equipment and resources for welding, joining, cutting and coating of aluminium will be presenting their products and services.

ALUMINIUM is also featuring a platform for scientific institutes in the form of the Research Forum, supported by the *Fraunhofer Institute for Production Engineering and Applied Material Research/DE*. The Forum gives research institutes the possibility to present their institute and projects at an info counter and in a presentation area.

For the first time ALUMINIUM 2012 will be offering hands-on shows of innovative products in a number of special areas. These include the "Automotive Innovation" show in Hall 10, the "Solar Area" in Hall 11 and "Building Solutions" in Hall 13, where exhibitors will present their brand new products.

#### ALUMINIUM 2012 Conference

The German *GDA – Gesamtverband der Aluminiumindustrie e.V.*, is organizing the ALUMINIUM 2012 Conference which will accompany ALUMINIUM 2012. Planned for the three exhibition days are five different sessions, with six presentations each, on the application-related topics Automotive, Transport,

Building, Surface and Aluminium Markets. The presentations will be given by well-known speakers who have close contact to actual practice, coming from the areas of the aluminium production, processing and applications industries. The conference will be held in English.

#### ALUMINIUM and COMPOSITES EUROPE – the largest platform for the topic of lightweight construction

This year, ALUMINIUM and COMPOSITES EUROPE will once again be held as parallel events. The international trade fair for fibre-reinforced plastics displays the entire value creation chain in the composites industry – from material production to the finished products in the application industries such as automotive construction or aerospace. With 1300 exhibitors, both trade fairs together form the largest platform for the topic of lightweight construction.

Dr Mike Seidensticker

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Australia

#### Hydro is Considering Full Curtailment of the Kurri Kurri Aluminium Plant

The Kurri Kurri plant, wholly owned by *Hydro*, has three pot lines with a total annual production capacity of 180 000 t. Following the curtailment of one pot line in January 2012, current primary aluminium production is 120 000 t. The plant, located near Newcastle in New South Wales, currently employs 344 people. Book value of Kurri Kurri is around NOK 1,1 billion.

Saudi Arabia

#### Ma'aden Alcoa Joint Venture

*Alcoa* and the *Saudi Arabian Mining Company, Ma'aden*, have recorded a major safety milestone during construction of their aluminium smelter at Ras Al Khair, in Saudi Arabia: 25 Mh worked without a lost work day injury. Part of the fully integrated aluminium complex being developed jointly by Ma'aden and Alcoa, the 740 000 t/a smelter is scheduled for completion in 2013. In its initial phases, the joint venture will develop a fully integrated industrial complex which will become the world's preeminent and lowest-cost supplier of primary aluminium, alumina and aluminium products, with access to the growing markets of the Middle East and beyond. The complex comprises: a bauxite mine with an initial capacity of 4 Mt/a; an alumina refinery with an initial capacity of 1,8 Mt/a; an aluminium smelter with an initial capacity of 740 000 t/a; a rolling mill, with initial capacity of

380 000 t/a. The mill will be the first in the Middle East capable of producing food grade can sheet, and will be one of the most technically advanced mills in the world. First commercial production from smelter and mill is scheduled for 2013, followed by first commercial production of alumina from the mine and refinery complex, scheduled for 2014. Alcoa will supply alumina to the smelter in the interim period.

Abu Dhabi

#### Mubadala Considers an Alumina Refinery at Its Emal Smelter

The owners of the world's largest aluminium smelter, which is being built in Abu Dhabi, are studying the addition of an alumina refinery to the site that could transform the emirate into a global hub for aluminium production. *Mubadala Development*, a strategic investment company owned by the *Abu Dhabi Government*, has issued a tender to study the feasibility of developing a refinery at its existing *Emirates Aluminium (Emal)* smelter site in Taweelah. That would give the operation much greater control over its own supply chain by allowing it to convert bauxite ore into alumina. No other smelter in the Gulf has a refinery yet. Emal, a joint venture between *Dubai Aluminium (Dubal)* and *Mubadala*, is building the world's largest single-site smelter at a 6 km<sup>2</sup> location at the Khalifa Industrial Zone in Taweelah, between the cities of Dubai and Abu Dhabi. About USD 5,7 billion has already been spent developing the first phase of the project, with USD 4,5 billion being spent on the second phase,

putting the country among the world's top aluminium producers. The second phase of the project is expected to be completed by 2014. The plant will also be able to supply molten aluminium to processors based around the site, reducing the cost of transporting the metal in solid ingots and billets that have to be remelted.

Italy

#### Aluminium 2000: 8<sup>th</sup> World Congress

The Aluminium 2000 World Congress has reached its 8<sup>th</sup> edition which will be held in Milano/IT, from 14.–18. May 2013, following the great successful participation of the past edition in Bologna 2011 and the previous ones. This event is organized by *Interall Srl* and promoted by important European Aluminium Associations, industries and universities. Many major experts in aluminium technologies from all over the world have already confirmed their participation as speakers at the congress. The congress will deal with metallurgy, extrusion, surface finishing, corrosion, casting, environmental technologies and all the most important subjects related to the aluminium industry. Three parallel sessions for three full days will ensure, by mean of 100 papers, that all subjects will be covered in detail and, on top of that, the technical team of the organizing committee will take care of evaluating the presentations and giving priority to the selection of innovative studies and researches, new industrial applications and case histories. A special "focus" of the session Market and Strategies will deal with the topic Alu-

minium for Africa and Africa for Aluminium. One full day (parallel session) will be dedicated to innovative technologies and applications in casting and die-casting held by *DIEM-TECH*, the Engineering Dept. of *Bologna University/IT*, already known for R&D on extrusion technologies. During the 4<sup>th</sup> day of the congress a specific Extrusion Workshop is also foreseen, organized and handled by *DIEM-TECH*. Aluminium 2000 Congress offers also the opportunity to promote the brand and encourage the business being sponsor or exhibitor. An exhibition space during the whole duration of the congress and sponsorship opportunities will encourage the business and add high value to the companies' participation. [www.aluminium2000.com](http://www.aluminium2000.com)

Japan

#### **SDK to Raise Prices for Aluminium Hydroxide and Alumina**

*Showa Denko K.K. (SDK)* has decided to increase its prices for aluminium hydroxide and alumina, and started discussions with customers. Specifically, the price for aluminium hydroxide is to be raised by USD 90 per t or more as from shipments on

1. June 2012; the price for alumina by USD 130 per t or more as from shipments on 1. June 2012; and the price for fused alumina by USD 190 per t or more as from shipments on 1. July 2012. SDK has worked to increase production efficiency and made other efforts to reduce costs. As the costs of raw materials and fuels remain at high levels, however, it is not possible for SDK to fully absorb the increased costs through its own efforts. Thus, SDK has concluded that it has no alternative but to ask its customers to bear part of the cost increase in order to ensure the stable supply of its aluminium hydroxide and alumina.

India

#### **3<sup>rd</sup> International Conference High-Tech Aluminas and Unfolding Their Business Prospects (Aluminas 2013)**

The *Indian Ceramic Society* and the *CSIR Central Glass and Ceramic Research Institute/IN*, endorsed by the International Ceramic Federation/IT are organizing the 3<sup>rd</sup> International Conference High-Tech Aluminas and Unfolding Their Business Prospects (Aluminas 2013), during 7.–9. March 2013 at CSIR in Kolkata/IN. Co-organisers of the conference are

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the groups *Almatis Alumina Private Limited*, *Hindalco Industries Limited* and *CUMI Carborundum Universal Limited*. The conference will present talks on manufacture and business related to knowledge-

## 55<sup>th</sup> INTERNATIONAL COLLOQUIUM ON REFRACTORIES 2012

September 19<sup>th</sup> and 20<sup>th</sup>, 2012 · EUROGRESS, Aachen, Germany



Conference Topic

# Refractories for Metallurgy

- |             |                      |                                      |                       |
|-------------|----------------------|--------------------------------------|-----------------------|
| ▶ Pig iron  | ▶ Light metals       | ▶ Foundry technic                    | ▶ Wear                |
| ▶ Steel     | ▶ Non ferrous metals | ▶ Shaped and unshaped refractories   | ▶ Isolating material  |
| ▶ Cast iron | ▶ Metallurgy         | ▶ Installation and full-line service | ▶ Recycling           |
| ▶ Corrosion | ▶ Continuous casting |                                      | ▶ Functional products |

For further information please contact:



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based, new alumina products, in addition Plenary and Invited talks that describe new and exciting scientific ideas that have aluminium oxide as a major component or at least one of the important components. The main topics to be covered are alumina nanoparticles and nanofibres, nanostructured alumina coatings, thin films and other forms, nanofluids and their possible industrial applications, as well as miscellaneous high-tech, high-purity alumina ceramics. As in previous occasions, there will be dedicated sessions for corporate presentations. There will also be arrangements for exhibition. Further details available at [www.incers.org](http://www.incers.org).

India

### Almatis Opens a New Application Laboratory in India

The inaugural ceremony for *Almatis/DE* new state-of-the-art application laboratory in Falta/IN was held on 31. January – 1. February 2012. Customers representing 20 companies joined the Almatis team for lab demonstrations, a plant tour and a technical session conducted by *Dr Andreas Buhr*, Global Technical Manager for Almatis' refractory business. Customers were excited to see the capabilities of the new lab which include cutting-edge equipment for castable preparation and testing, vibrating tables for flowability determination, exothermic equipment and climate cabinet for monitoring castable setting, cold crushing strength and cold modulus of rupture testing equipment, as well as high temperature laboratory furnaces.

The laboratory was inaugurated in traditional Indian style, first welcoming each of the visiting customers, followed by cutting of the tape and lighting the lamp. The plant tour with the Almatis Operations team was interesting for many visitors and they could see Almatis' pull system and methodology of operations. *Dr Andreas Buhr* and the PMD team involved the customers in lab demonstrations, analysing the role and value addition of reactive aluminas and dispersing aluminas in high-end recipes together with actual mixing, workability and flow behaviour of the mixes made with Almatis' premium aluminas. The customers, also comprised of members from the steel industry, appreciated the initiative taken by Almatis.

A senior management personnel from a reputed refractory manufacturer commented, "The program was very well organized and certainly the interaction was rewarding." This was echoed by the Technical Manager of a monolithic manufacturer "Very nice lab and it was a good experience for us. We feel your lab will be useful for the joint development work." Almatis' business activities in India trace back to 1995 when the Falta tabular processing plant was established. Now, at its Falta plant, Almatis Alumina Private Limited processes both tabular alumina and calcined aluminas from Europe.

Almatis Alumina Private Ltd. consists of the Falta manufacturing site and the regional office in Kolkata, providing quick response to the rising market demand in India. We offer the full Almatis specialty alumina product portfolio. As part of the global Almatis policy, the Falta site has established a management system in conformity with ISO 9001, ISO14001 and OHSAS 18001. It is a leading refractory raw material supplier in India. With the addition of the Falta application laboratory, Almatis now operates five similar laboratories throughout the world to provide local service to customers.

Germany

### Sasol Expands Ultra-high Purity Aluminas Capacity

*Sasol Limited's Olefins & Surfactants Division* (headquarters in Hamburg/DE) announced that it will expand in a first step its capacity to produce ultra-high purity aluminas (UHPA) by at least 3000 t/a. Construction will begin at Brunsbüttel, the company's Germany manufacturing site on a process to supply Sasol North America's Ceralox® alumina production facility in Tucson, Arizona with ultra-high purity alumina precursor. Sasol Olefins & Surfactants, a recognized leader in ultra-high purity alumina materials for sapphire and other applications for more than 20 years, will then convert the Brunsbüttel alumina precursor into tailored products for customer specific applications. Of particular focus to Sasol are the increasing raw material requirements of single crystal sapphire producers due to rapidly growing LED applications. Sasol's new UHPA product platform will include an expanded portfolio of calcined ultra-high purity aluminas with tailored particle sizes, densities, and chemistries to meet the product demands of all major sapphire growing technologies. New ultra-high purity calcined aluminas for structural ceramics, lighting, and new emerging battery applications will also be produced using the new ultra-high purity alumina feedstock from the Brunsbüttel facility. Project completion is estimated for the third quarter of 2013.

Worldwide

### Rio Tinto Hopes to Sell Alumina Plants by September

*Rio Tinto* hopes to seal the sale of four alumina plants in France and Germany by the end of September. Rio Tinto Alcan said at the end of March it had received a binding offer from private equity group *HIG* for its three specialty alumina plants in France and one in Germany and would respond to the offer after consulting unions. The world's third-largest diversified miner is selling the non-metallurgical grade alumina plants – in Gardanne, La Bathie and Beyrede in Southern France and Teutschenthal in Germany – as part of a worldwide plan to scale back its aluminium business.

# refractories

## WORLDFORUM

Manufacturing & Performance of High-Temperature Materials

### preview of issue 3/2012 (extract)

#### Company Profiles/Interviews

Komage/DE – Gouda Feuerfest/NL – Elfusa/BR – Tokai/IT – Lachenmeier/DK – Processmetrix/US – Bruker/DE – FLIR/DE – Motim/HU – GIMM/US – Andylar Refrakter/TR – Fraunhofer ISC/DE

#### Exhibitor Showcase ALUMINIUM 2012

#### Technology Trends

- Antioxidants in MgO-C-bricks (Refratechnik Steel/DE)
- State-of-the-art Monolithics for the Aluminium Smelting Industry – Economic Viability and Reliability (EKW/DE)
- New Spinel-containing Calcium Aluminate Cement for Corrosion-resistant Castables (Kerneos/FR)
- Andalusite Matrix for Light Castable (Damrec/FR)

#### Reports

- Expansion of Almatis in Qingdao/CN
- MagMinConference 2012/AT
- Modernized Blast Furnace 9 of ThyssenKrupp Steel Europe in Duisburg/DE

#### Economy & Markets

- An Overview on Iran's Refractories Industry – Challenges and Opportunities
- Recent Trends of Refractories for Steelmaking in Japan

#### Special Circulation at:

- Ankiros Annofer Turkcast 2012, Istanbul/TR, 13–16 September 2012
- Colloquium on Refractories, Aachen/DE, 19–20 September 2012
- Aluminium 2012/Composites Europe 2012, Düsseldorf/DE, 9–11 October 2012
- 6<sup>th</sup> Int. Symposium on Refractories, Zhengzhou/CN, 18–21 October 2012

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