refractories WORLDFORUM

Hot Topics

Manufacturing & Performance of High-Temperature Materials

NEWSLETTER 4/2014

IMPORTANT DATES

27.02.2015 - 01.03.2015
IFEX 2015
International Exhibition on Foundry Technology, Equipment Supplies
Greater Noida / IN
www.ifexindia.com

13.03.2015 - 15.03.2015
GlassPex India 2015
Mumbai / IN
www.glasspex.in

19.03.2015 - 20.03.2015
ICRM 2015: International Conference on Refractory and Metallurgy
Moscow / RU
www .kom.misis.ru

25.03.2015 - 26.03.2015
ACerS St. Louis Section and Refractory Ceramics Division Joint Meeting
St. Louis / US
www.ceramic.org/meetings/acers-meeting

29.03.2015 - 31.03.2015
3rd China International Refractory Production and Application Conference
Shanghai / CN
www.refractorychina.cn

31.03.2015 - 03.04.2015
Metal + Metallurgy CHINA 2015
Shanghai / CN
www.mm-china.cn

Focus on Aluminium: Current Situation – Forecast – Recycling

End-use demand for aluminium in Europe will according to the European Aluminium Association (EAA) almost double in the coming decades, from 12 Mt/a today to a staggering 20 Mt/a in 2050. This is mainly a result of aluminium's growing use in transport, which has almost tripled since the 1990s. The European market is expected to grow from around 3,8 Mt/a today to 7 Mt/a in 2050, with the average use of aluminium per European citizen rising by nearly 64 % from 22 kg/a to 36 kg/a by 2050. EAA data also shows that Europe has become the world champion of aluminium recycling, producing 11 kg of recycled aluminium per person per year versus approximately 4 kg for the rest of the world. Europe produces 16 % of the worldwide aluminium,50 % of which is recycled. The annual turnover of the European aluminium industry counts for EUR 36,8 billion, which is generated by 255 000 directly employed persons.

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Seasons Greetings

Looking back on a very interesting year in 2014 with important fairs and international congresses (e.g. Refractory Conference Moscow/RU; ACerS St. Louis Meeting/US; Colloquium on Refractories Aachen/DE, ALUMINIUM 2014 and glasstec (both Duesseldorf/DE), I should like on behalf of the team of refractories WORLDFORUM to thank our business partners for the trustful and constructive collaboration and fruitful discussions.
The year 2015 marks already highlights with GIFA–METEC–THERMPROCESS–NEWCAST in Duesseldorf/DE (16.–20.06.2015), UNITECR in Vienna/AT (15.–18.09.2015) and ceramitec in Munich/DE (20.–23.10.2015). We are looking forward to meet you there.
The team of refractories WORLDFORUM wish our worldwide readership a peaceful time to reflect as the year draws to its close and a good start in a doubtlessly eventful new year.

Yours
Karin Scharrer

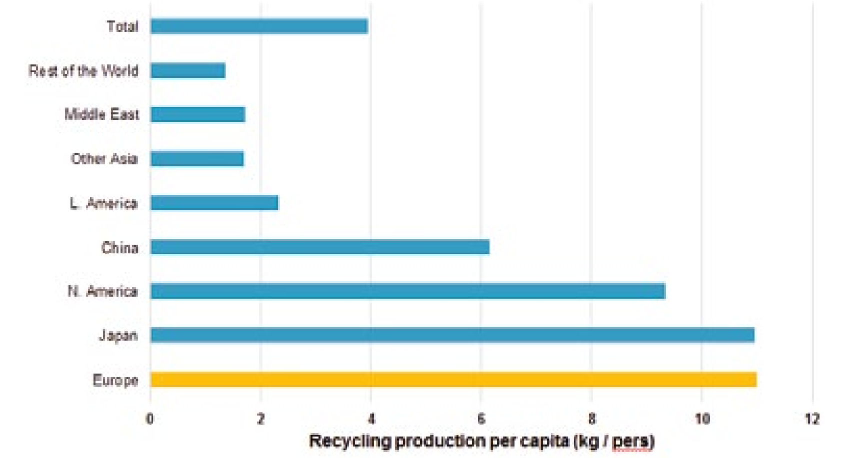

Fig. 1 Europe is the world leader in recycling (Source: EAA 2050 Low Carbon Roadmap "Lightening the load", 2012)

Despite consistent and growing demand for aluminium, primary production continues to fall dramatically. More than a third of EU27 primary production capacity has been lost since 2007.

One factor which serves to slow the growth of primary aluminium production is the capability to recycle the metal almost indefinitely.

For the refractories industry the growing demand in secondary aluminlum production means to serve the needs of a much greater variation in furnace types and consquently lining concepts. Electrolytic cells, hot metal transfer ladeles, cast house, melting and holding furnaces as well UBC furnaces are the most used installations.

Many other refractories lined furnaces are increasingly used in the secondary processing of aluminium such as coreless induction furnaces and rotary dross recovery furnaces to name only two of many.

In a strongly growing and constantly evolving market the furnace builders, refractories manufacturers and lining installers are constantly striving for advantage in better designs, consistently high quality materials and innovative cost effective installation systems. The aluminium industry provides technical challenges but also substantial rewards for participants.

Europe is the world champion in aluminium recycling (Fig. 1). On average we produce 11 kg of recycled aluminium per person per year vs. 4 kg on average for the world. Europe has built up a huge recycling capacity of 12,3 Mt. Recycling facilities are present in almost all European countries. In 2013, the consumption of scrap increased by 2,7 %, a trend that has continued in Q1 2014 (+10,1 % year on year). Export of scrap towards China and other Asian countries remain very high and this is a big concern for Europe, in terms of supply of raw materials and energy efficiency – producing aluminium from scrap saves 95 % energy.

To meet the growing demand for primary aluminium in Europe, more metal is now being imported to Europe mainly from the Middle East and Russia.

*(The full version of this paper will come up in refractories WOLRDFORUM **7** [1]. Additionally, a review of the aluminium industry 2014 will be published. Publication date: 12.02.2015).*

news flash

France

Imerys Refractory Minerals' New Website

www.imerys-refractoryminerals.com is the new site of Imerys Refractory Minerals. Designed around the Imerys Refractory Minerals products and markets, the new site shows to customers the Group's global portfolio and allows the visitor to better understand the Group's business expertise and industrial footprint.

New brochures, technical datasheets and security sheets, product guides and also packaging are being deployed in order to guarantee coherence of the new Imerys Refractory Minerals branding. As part of ongoing efforts to harmonize Imerys Refractory Minerals brand image, AGS and DAMREC changed their name into Imerys Refractory Minerals Clérac and Imerys Refractory Minerals Glomel respectively. Imerys Refractory Minerals mines, processes and markets a large variety of natural and synthetic refractory minerals (clay, chamotte, andalusite, mullite). The division lists 17 industrial facilities in 6 countries and employs some 1600 people.

www.imerys-refractoryminerals.com

Germany

ALUMINIUM 2014 Set New Records

The rising demand for this "white gold" also shaped the performance of this year's ALUMINIUM 2014 (7 – 9 October), which, after the successful move from Essen to Duesseldorf two years ago, once again drew record participation.

A total of 934 exhibitors (2012: 907 / +3 %) from 50 nations put on display the entire production and processing chain – from smelting and processing to semi-finished and finished goods to recycling. At the same time, ALUMINIUM set a new visitor record. Counting 24 261 visitors (2012: 21 508 / +13 %), the world's leading trade fair experienced another massive increase.Major orders from the aerospace industry and expanding markets in the automotive sector: aluminium is the metal experiencing the strongest demand increases globally. The automotive and aerospace sectors are the driving forces propelling this sales bonanza. 140 kg, the amount of aluminium that goes into each car built in Europe has tripled since just 20 years. At 160 kg, that share is even higher in the US. What's more, forecasts call for continued growth, according to statements released by the industry association at ALUMINIUM 2014. ALUMINIUM underscored its role as a global marketplace and recorded important gains, especially from abroad. The level of internationality – meaning the share of international exhibitors – climbed to 63 % (2012: 59 %). The corresponding value for visiting companies marked a new record high at 56 % (2012: 53 %). Today, nearly one in four foreign visitors comes from outside Europe – an absolute top value in the international trade fair business. The economic trend index tallied for ALUMINIUM by an independent and representative market research company on behalf of Reed Exhibitions indicated that more than 60 % of the companies surveyed expect demand to continue to increase, while 30 % assume that the currently positive economic situation will at least hold steady. Only one in ten companies expects a moderate or slightly downward development. The US market, the aluminium industry's third-largest global market with total industry sales of USD 35,0 billion, has grown by 4,7 % annually since 2009, resulting in overall growth of 30 % over the last five years. Here too, the automotive and aerospace industries are key growth drivers. In the automotive sector alone, the demand for aluminium in the US increased by 22,1 % last year (Source: IBIS World Industry Report, July 2014). The next ALUMINIUM trade fair will take place from 29 November – 1 December 2016 in Duesseldorf.

UAE

Emirates Float Glass: New Facility Enhances Automotive Glass Production

Emirates Float Glass (EFG), a subsidiary of Dubai Investments PJSC (DI) and the first state-of-the-art integrated float glass facility in the United Arab Emirates (UAE), has successfully commissioned a new facility aimed at enhancing its production capabilities to cater to the automotive glass sector.

The new offline facility, encompassing investments of over AED 10 million, is equipped with the most modern machinery from Europe, and comes with completely automated programming and production line, with limited human intervention, in order to ensure consistent quality parameters vital for the automotive glass industry. Demand from the automotive and transport sectors accounts for 15 – 20 % of the float glass market across the globe. Of this, 95 % goes to the automotive industry, including buses and coaches, trucks, and off-road mobile machinery and the rest is for the other transport sectors: trains, metros, trams, ships, boats and all types of aircraft. EFG is aiming to be the one-stop-shop for all the required glass in the architectural and automotive glass industry with its products ranging from clear, tinted to pyrolytic coated glass. This new facility will further leverage the market leadership of another DI subsidiary Lumiglass Industries LLC, which produces security laminated glass and bullet resistant glass with wide applications for automotive and other industries.

Kazakhstan

Kazakhstan, and Iran:
JV on Building Glass Manufacturing Plant

The subsidiary of Baiterek National Holding JSC/KZ, Investment Fund of Kazakhstan, and the Kaveh Glass Industry Group's Kaveh Float Glass Co/IR signed an agreement on establishing of a joint venture for the purpose of implementation of the construction of a plant for the production and processing of flat glass with a capacity of 197 000 t/a in Kyzylorda.

Implementation of this project worth about KZT 52 billion will be carried out by the new Orda Glass project company, whose shareholders are The Investment Fund of Kazakhstan, and strategic investor Kaveh Float Glass Co. Funding for the project will be carried out both at the expense of shareholders' equity, and the loan. Thus, 30 %, which is about USD 85,2 million of the cost of the project, is financed by the shareholders, 70 % (USD 198,7 million) account for borrowed funds. A subsidiary of Baiterek National Holding JSC – Development Bank of Kazakhstan JSC is considered as a source of the borrowed funds. In accordance with the agreement, the construction of a new plant on the territory of the new industrial zone of Kyzylorda will begin in October 2014. Commissioning is scheduled for the third quarter of 2017. The plant will produce products that comply with the European quality standards: flat glass (1,971 Mt/a), hardened flat glass (3700 t/a), mirrors (3 Mm^2/a), windows (7700 t/a) as well as energy-saving glass with magnetron deposition (11 Mm^2/a). Reportedly, 70 % of the products will be sold on the domestic market, the rest will be sent for export, mainly to the countries of the Customs Union and Central Asia.

Iran

ESCO Targets USD 250 Million Annual Exports

Esfahan Steel Company – ESCO aims to export products worth USD 250 million per annum in the near future. During 21.03.–22.09, the company's exported amounted to USD 60 million, hoping that with the launch of a round bar production project at the complex, the figure will grow further. The company will observe international standards in the production of round bars. ESCO produced 1,41 Mt of raw steel and registered a 51-% increase year-on-year. Last year's figure amounted to 933 000 t. The company plans to increase production capacity to 3,6 Mt. In five years, the company's production capacity shall reach 6,2 Mt. ESCO produces iron, iron girders, iron wires, steel round bars and chemical products, including coke and aluminum sulfate. Iran ranks 15th in global steel production. Last year, the country produced 15,6 Mt of raw steel and 16,5 Mt of steel products. The major raw steel producers of Iran are Mobarakeh Steel Mill with approximately 47 % of the market share, Khuzestan Steel Company with 23 %, Isfahan Steel Mill with 20 % and Iran National Steel Industries Group with 10 % of the market.

Russia

RUSAL Lauches Pilot Plant to Produce Scandium from "Red Mud"

A leading player in the field of aluminium production, UC RUSAL has launched a pilot project at the Urals Aluminium Smelter (UAZ) to extract primary scandium concentrate from red mud.

Nearly 2,5 t of primary scandium oxide concentrate can be produced in the new unit. In the course of 2014, a total of RUB 74 million have been invested in the project. For converting primary scandium concentrates into marketable commercial products, the company is planning to create a pilot plant, along with the technology needed. The content of scandium oxide is expected to reach 99,0 % in that case. The pilot plant will be capable of producing 500 kg/a and the market price for such products is between USD 3000 – 5000 per kg. Aluminium-scandium alloys would be produced at the RUSAL's smelters from the obtained scandium oxides. Scandium is known to greatly improve the quality of aluminium alloys and having their own source for the raw materials would greatly reduce the costs for the company to produce these alloys.

Oman

Lime Project to Be Launched This Year

The Belgian Carmeuse Group, a world leader in the production of lime and lime-related products, is on course to bringing part of its world-scale lime calcining plant in Oman's Dhofar Governorate into operation during the second half of this year.

Carmeuse Majan LLC, a joint-venture company led by Belgium-based Carmeuse Holding SA, is setting up the project in Salalah Free Zone with an investment of around USD 180 million. The venture is seen as a showcase of Dhofar's immense potential to attract local and international investment in the commercial exploitation and development of its

IMPRINT

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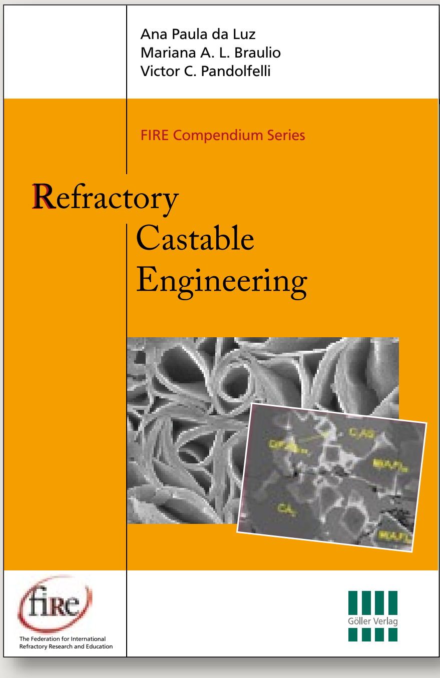
prodigious mineral wealth. A total of 8 kilns, each with a capacity to produce 125 000 t of lime, are envisioned as part of the Carmeuse's Oman project. Development of the plant is planned in phases with initial production foreseen in the course of the second half of 2014. The plant's output is primarily targeted at India where demand for lime products, a key ingredient in the manufacture of a wide range of commodities, is rising sharply. The Gulf region, with its booming industries, is also seen as a promising market for Carmeuse's products. Dhofar's relative proximity to the Indian subcontinent and Middle Eastern markets, coupled with the presence of a world-class deepwater port in Salalah, are key factors underlying Carmeuse's decision to invest in the Sultanate, according to the company. Adding to the project's robust appeal is the availability of massive quantities of high quality limestone in the hinterland of the port. Significantly, the lime calcining venture is expected to contribute to a further spurt in general cargo volumes handled by the Port of Salalah. Burgeoning mineral exports have continued to fuel the growth of general cargo volumes, which soared to a record of 7,94 Mt at the end of 2013, up 9,5 % from the previous year's high of 7,25 Mt. A new General Cargo Terminal is under construction at the logistics hub to cater to the steady growth in mineral products and other bulk commodities. The Carmeuse Group is a leading global producer of lime, with more than 150 years of experience in the extraction and processing of high calcium limestone and dolomite stone into lime and lime-related products for industrial and commercial customers. Staffed by more than 4000 people, Carmeuse is present in about 90 locations across Europe, North and South America, Africa, Middle-East and Asia. Total consolidated group net turnover in 2013 amounted to over EUR 1 billion.

Italy

ALUMINIUM 2000 Congress and International Conference on Extrusion and Benchmark

The next edition of the the 9th ALUMINIUM 2000 Congress and the 5th ICEB – International Conference on Extrusion and Benchmark Conference, to be held 12–16 May 2015, will be a very special one: two events together, in one place, at the same time, in the beautiful city of Florence/IT.

The Congress will bring together aluminium and light alloys specialists in a single venue, creating a very attractive and unique opportunity for industry managers, technicians, researchers, technology suppliers and other qualified speakers for meeting and understanding the latest researches, developments and future trends. About 600 participants from more than 55 countries will come together, 120 speakers are expected. Main topics of the Congress are: Markets and Strategies, Alloys Billets and Related Equipment, Rolling Technology, Architecture and Special Uses, Transport and Automotive Industry, Anodizing, Coating, Automation, Measuring, Testing and Quality Techniques, Advanced Applications and Research, Environmental Protection and Recycling, Casting and Die Casting. The main topics of the ICEB Conference are: Process Sustainability, Process Management, Process Monitoring, Plant and Process, Process Simulation, Product Quality, Alloys, Dies, and New Processes. ALUMINIUM 2000 and ICEB will also appeal to aluminium distributors, architectural designers, and mechanical engineers – particularly those in the extrusion and casting industry; financial investors will also be interested. 4 parallel sessions for 3 full days will ensure that all subjects will be covered in detail. Papers will be reviewed by the Scientific Committee of the Conference in order to select the most innovative studies and researches, new industrial applications and interesting case studies. The Special Market Session will have the special focus on the sessions Market and Strategies as well as New Emerging Countries including: Extrusion Technologies and Their Analysis by FEM Simulation, Application of Nanotechnologies in the Aluminum Industry, New Light Alloys as well as Special Technologies for Ecology and Zero Discharge. In addition, workshops on extrusion, software and finishing will take place. Participants will have the occasion to visit leading companies active in the aluminium industry.



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