

refractories

WORLD FORUM

Hot Topics

Manufacturing & Performance of High-Temperature Materials

NEWSLETTER 3/2012



Fig. 1 World crude steel production on decline

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Global Steel Market: Outlook until Mid 2013 with Concerns in All Major Markets

Despite the world crude steel production for the 62 countries reporting to the *World Steel Association (worldsteel)* was with 131 Mt in May 2012 showing an increase of 0,7 % compared to May 2011 the outlook for the next months is according to *EUROFER (European Steel Association)* that the market confidence dips on resurfacing concerns [1]. Total apparent European steel consumption in 2012 is forecast in 2012 to fall by 5 %. Only from the 2nd quarter of 2013 onwards is EU steel demand forecast to improve again. EUROFER estimates that the growth in China is also slowing further and other BRIC countries losing steam as well. But also here a recovery is foreseen for 2013. For the US despite a moderate growth of the GDP an uncertainty in 2013 is the fiscal policy, which will be influenced by the outcome of the elections.

May 2012 global crude steel production

World crude steel production for the 62 countries reporting to the *World Steel Association (worldsteel)* was 131 Mt in May 2012, an increase of 0,7 % compared to May 2011. China's crude steel production for May 2012 was 61,2 Mt, representing an increase of 2,5 % compared to May 2011. Elsewhere in Asia, Japan produced 9,2 Mt of crude steel

in May 2012, up by 2,0 % compared to the same month last year. South Korea's crude steel production for May 2012 was 6,0 Mt, an increase of 2,0 % compared to May 2011.

In the EU, Germany produced 3,7 Mt of crude steel in May 2012, a decrease of -9,7 % on May 2011. Italy's crude steel production for May 2012 was 2,6 Mt, down by -3,3 % in this month compared to the previous year. In May 2012, France produced

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Elkem welcomes you at:

Aluminium 2012
Düsseldorf, 9 – 11 October
Hall 10 Stand F01

Colloquium on Refractories
2012
Aachen, 19 – 20 September
Booth 21

Highlights in Sep. 2012

ALUMINIUM 2012

9th World Trade Fair & Conference, 9 – 11 October 2012, Düsseldorf/DE

Further details available at: www.aluminium-messe.com

Ankiros Annofer Turckast 2012, 13 – 16 September 2012, Istanbul/TR

Further details available at: www.ankiros.com

Colloquium on Refractories, 19 – 20 September 2012, Aachen/DE

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1,5 Mt of crude steel, up by 1,3 % compared to May 2011. Spain's crude steel production for May 2012 was 1,3 Mt, -13,9 % lower than May 2011. Turkey's crude steel production for May 2012 was 3,1 Mt, an increase of 6,6 % compared to May 2011.

The US produced 7,7 Mt of crude steel in May 2012, up by 7,4 % on May 2011.

Brazil's crude steel production for May 2012 was 2,9 Mt, -11,7 % lower than May 2011.

The world crude steel capacity utilisation ratio for the 62 countries in May 2012 slid to 79,6 % from 81,3 % in April 2012. Compared to May 2011, it was 1,4 % lower. During the past 18 months, the ratio was at its highest in April 2011 with 82,8 % and the lowest ratio was in December 2011 with 70,7 %.

Weak confidence and cash and credit issues backfire on EU steel demand

EUROFER's Q3-2012 steel market outlook published mid of July 2012 [2] signals that market fundamentals may remain depressed longer than expected. Only from the 2nd quarter of 2013 onwards is EU steel demand forecast to improve again. The weak confidence in combination with liquidity and credit issues is showing a negative impact on the EU business climate. With global economic growth currently

hitting a soft patch, export growth is also cooling down, despite the weaker EURO. This is bad news for the manufacturing sector and for steel consumption in the EU.

Despite the EU escaping a technical recession in Q1-2012 thanks to the positive contribution from Germany, available data signal that economic momentum continued to slow down in the 1st half of the year. Moreover, sentiment has come again under pressure in recent months as concerns about the Eurozone crisis and particularly the indecisive way it is being dealt with by EU's policy makers have resurfaced.

So far, solid order books have softened the manufacturing sector downturn, keeping activity and capacity utilisation at satisfactory levels. However, corporate and consumer retrenchment will translate into new orders remaining subdued for the time being. Meanwhile, construction activity across the EU will remain under pressure as well, due to a lack of new publicly or privately funded projects.

This will backfire on steel demand in the EU. Apparent European steel consumption is estimated to have fallen by 9 % year-on-year in the 1st half of 2012. Demand in the 2nd half of the year is seen stabilising around the depressed levels of H2-2011.

Total apparent European steel consumption in 2012 is forecast to fall 5 %.

EUROFER still expects a case scenario with a moderate improvement of the business cycle in 2013 and a corresponding pick-up in real and apparent consumption. However, confidence and access to finance need to improve to get the market moving upward again. For other markets EUROFER estimates that the growth in China is slowing further and other BRIC countries losing steam as well. But also here a recovery is foreseen for 2013. For the US despite a moderate growth of the GDP an uncertainty in 2013 is the fiscal policy, which will be influenced by the outcome of the elections.

Worldsteel estimates are that by 2013, steel use in the developed world will still be at 14 % below the 2007 level whereas in the emerging and developing economies, it will be 45 % above. In 2013, the emerging and developing economies will account for 73 % of world steel demand in contrast to 61 % in 2007.

References

- [1] May 2012 Crude Steel Production, published by world-steel 20th June 2012
- [2] Q3-2012 Report of EUROFER's Economic Committee published 16th July 2012

India

CUMI Acquires Fused Minerals and Refractories Manufacturer in South Africa

CUMI International Limited Cyprus, a wholly owned subsidiary of *Carborundum Universal Ltd (CUMI) India*, a part of the USD 4,4 billion *Murugappa Group*, has entered into a binding agreement with *RHI AG/AT* for the purchase of 100 % of the equity of RHI's South African subsidiary, *RHI Isithebe (Pty) Ltd*, including the refractory manufacturing facilities of *RHI Refractories Africa (Pty) Ltd*, in South Africa. Isithebe is one of the largest fused mineral manufacturing facilities in Africa and can deliver up to 30 000 t of various fused minerals a year. CUMI is one of the few companies globally that is not only involved in fused minerals and refractories, but also have existing operations in South Africa. CUMI is a fully vertically integrated abrasives, electro-minerals, ceramics, refractory company with operations in Australia, Canada, China, India, Middle East, Russia, South Africa, Thailand and the USA. The Isithebe Plant will be renamed as *Thugela Refractories, Isithebe (TRI)*. The change in ownership is expected to continue providing benefits to TRI's customers, employees and the local community. The deal will be formally concluded as soon as the necessary clearances are obtained and all conditions precedent are met.

Founded in 1900, the USD 4,4 billion Murugappa Group is one of India's leading business conglomerates. The Group has 28 businesses including eight listed companies actively traded in NSE & BSE. The organization has a workforce of over 32 000 employees

Canada

Orbite Launches Construction of High-purity Alumina Plant

Orbite Aluminae Inc. announced that it launched construction for the conversion of its high-purity alumina (HPA) plant in Cap-Chat, in the Gaspé region. This project represents an investment of USD 26–30 million after refundable tax credits, which are subject to approval from government tax authorities. The work will be completed before the end of 2012, and commercial production is slated to begin in early 2013. Orbite estimates that the plant will produce 3 t/d of high-purity alumina in the 12 months that follow its commissioning. Since 2009, the Cap-Chat plant has been used as a pilot facility to develop the patented Orbite technology for the manufacturing of smelter grade alumina for aluminium plants, whose needs in Quebec alone have now risen to more than 6 Mt/a.

As a result of the successful development of the Orbite technology, the pilot plant is undergoing

conversion to a state-of-the-art high-purity alumina production plant. This construction represents the first ultra-high technology implementation in the heart of the Gaspé region. Orbite is also working closely with local academic institutions to ensure that the jobs created through the company's activities and planned expansion projects go to members of nearby communities. In addition to the current HPA plant construction, the company is confidently planning its future in the Gaspé region by conducting a feasibility study for its smelter grade alumina plant in the Grande-Vallée region. The production of smelter grade alumina in the area will provide a key economic lever for the Quebec economy by helping the province's aluminium smelters to lower their production costs. Indeed, the patented technology developed by Orbite will not only enable smelter grade alumina to be produced without producing red mud – a major ecological advantage – but will lower overall greenhouse gas emissions and optimize the commercialization of all of the by-products generated through metallurgical extraction from aluminous clay deposits in Quebec. Finally, Orbite is proud to be associated with a number of economic partners in Quebec that have supported it for many years, including *Revenu Québec*, the *Ministry of Municipal Affairs, Regions and Land Occupancy*, the *Min-*

istry of Economic Development, Innovation and Export Trade, and the elected officials and citizens in the Bas-Saint-Laurent and Gaspésie-Îles-de-la-Madeleine regions. Orbite currently owns 100 % of the mining rights over a total of 60 984 ha including the Grande-Vallee property measuring 6665 ha, the site of an aluminous clay deposit located 23 km south of Grande-Vallee, and a 2600 m² facility in the process of being converted into a high-purity alumina plant in Cap Chat, in the Gaspé region. An NI 43-101 report identified over 1 billion t of aluminous clay in part of the deposit. The company also owns 10 different families of intellectual property rights (and patent pending), protected by Canadian and US patents, for extracting alumina and for which patents are also pending in other countries

Europe

NSG: Float Glass Production Will Be Reduced

The *NSG Group (Nippon Sheet Glass Co., Ltd.)* in Japan has announced its intention to reduce its float glass production capacity in Europe. The Group announces its intention to put its architectural float furnace at Porto Marghera, Venice/IT on 'hot-hold'. This means that the furnace will be kept in an active state from which it can be restarted at short notice. It is intended that production will recommence on this line when market conditions permit. The Group is taking action to reduce capacity and output to match the requirements of its customers. The decision follows the Group's announcement on 14 May 2012 of its intention to postpone the restart of one of its float lines in Gladbeck/DE which is currently undergoing a planned cold repair. The impact on the Group's financial outlook for the financial year 2013 is being reviewed and will be announced once finalised.

North America

NGS Reduces Float Glass Production

The *NSG Group (Nippon Sheet Glass Co., Ltd.)* in Japan has decided to reduce its float glass production capacity in North America. One of the two float lines at the Group's plant in Laurinburg, North Carolina/US will be idled. This process is expected to be completed between August and September 2012. It is intended that production will recommence on this line when market conditions permit. The Group is taking action to reduce capacity and output to match the requirements of its customers. The impact on the Group's financial outlook for the financial year 2013 is being reviewed and will be announced once finalised.

Belgium

CEMBUREAU Welcomes New Chief Executive

CEMBUREAU, The European Cement Association, is pleased to welcome *Koen Coppenhelle* as the

new Chief Executive of the Association. He takes over from *Jean-Marie Chandelle*, who retired at the end of June. Koen Coppenhelle has been Head of European Affairs for *ArcelorMittal* in Brussels since November 2007 and was Senior Counsel European Affairs with *General Electric Europe* in Brussels between September 2000 and November 2007, following a distinguished legal career. CEMBUREAU is also pleased to announce the appointment of *Claude Loréa*, Technical Director, as a Deputy Chief Executive of the Association.

USA

APM to Sell Dearing Operating Assets

Advanced Primary Minerals USA Corp. has reached an agreement to sell APM USA's operating assets and select real property in Georgia/US to *Paul Coughlan*, Vice-President, Business Development of the Corporation and to a company to be formed, which will be controlled by Coughlan and *David Avant*, Vice-President Operations of the corporation. The sale package includes all equipment and leaseholds connected with the Dearing, Georgia, leased facility, the 80 ac (1 ac = 4047 m²) Tudor mine property and associated mineral resource and data, as well as a 16,9 ac property containing a house and storage building and a 19,47 ac tract of vacant land. The sale price of the assets is USD 893 000, settled with USD 492 000 cash on closing and USD 401 000 in assumed liabilities, namely the leases and purchase obligations, primarily for the land and building comprising the Dearing plant as well as the asset retirement obligations associated with the Tudor mine and Dearing plant site. APM, through its wholly owned subsidiary, *Advanced Primary Minerals USA Corp.*, operates a kaolin processing plant in Dearing, Georgia and has been active in Georgia and South Carolina for over 10 years exploring for, evaluating, extensively testing and securing high quality kaolin resources. Target markets include ceramics, paper, paint and coatings, catalysts and other specialty industrial applications.

Saudi Arabia

EUR 10 Million Steel Structure Deliveries from Ruukki for Outotec Smelter

Ruukki/Fl has signed a EUR 10 million contract with *Outotec/Fl* to deliver the steel structures for an ilmenite smelter to be built in Saudi Arabia. Ruukki's delivery comprises the steel frame structures and wall as well as roof cladding for the ilmenite smelter and casthouse.

Outotec is to build ilmenite smelting facilities for *Cristal Global*, the world's second largest titanium dioxide pigment producer. The new facilities are to be located in Jazan Economic City, Saudi Arabia and are scheduled for completion in 2014. Ilmenite is an iron titanium oxide and the primary ore of titanium.

Manufacture of the structures to be delivered by Ruukki will mainly take place at the *Bolintin Deal Plant* in Romania. Manufacture and deliveries will start in autumn this year and be completed during spring. Ruukki provides its customers with energy-efficient steel solutions for better living, working and moving. Ruukki operates in some 30 countries and employs around 11 800 people. Net sales in 2011 totalled EUR 2,8 billion.

Brasil

Announcing New Almatris do Brasil Ltda

Almatris announces the implementation of *Almatris do Brasil* with the business headquarters in Campinas and a new warehouse at Osasco, São Paulo. The new Almatris office will manage local Brazilian sales, customer service, logistics and direct importation of all the Almatris products, including calcined and reactive aluminas, tabular aluminas, cements, magnesia and alumina-rich spinels and all other special Almatris products. "Almatris today celebrates bringing our 100 years of alumina expertise directly to the Brazilian refractory, ceramic and polishing industries" said *Jose Martin*, Commercial Director – Refractories, Americas.

Russia

Magnezit Group Conducts Construction of Multi-hearth Furnace

Magnezit Group is conducting the construction of an unique technological unit for Russia and the CIS countries. The multi-hearth furnace is supplied by *Polysius/DE* and part of the investment project aimed at increasing capacities by 2,5 times of the *Satka Complex* for production of dead-burnt magnesia clinkers in the Chelyabinsk region. Annual production capacity of the furnace will amount to 100 000 t calcined magnesia. The full cycle of construction and assembling work is scheduled to be

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Editorial Department
Karin Scharrer (KS)
Phone: +49(0)7221-502-241
E-mail: k.scharrer@goeller-verlag.de

Advertisement Department
Corinna Zepter (Advertisement Manager)
Phone: +49(0)7221-502-237
E-mail: c.zepter@goeller-verlag.de

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completed autumn 2012. The multiple-hearth furnace is intended for primary burning (calcination) of raw magnesite at a processing temperature of 1000–1050 °C. The finished product will be used in the production of dead-burnt magnesia clinker. The new unit ensures production of material with certain characteristics, which considerably reduce the risk of waste production during further technological treatment. The magnesite calcination in a multiple-hearth furnace is an alternative process to magnesite calcination in a rotary kiln and corresponds to the highest world standards of environmental safety. The unit has a diameter of 7,85 m and 32 m in height. The furnace process chamber is shaped as a vertical cylinder with 19 horizontally positioned hearths, dividing the furnace into chambers with various temperature conditions. Material movement from one hearth into another one is ensured by gravity and by a special shaft passing through the furnace with paddles fixed in a certain manner. The furnace is equipped with 40 main gas burners supplied by *Hans Hennig*/DE and has an automated control system.

The whole complex of the multiple-hearth furnace has a very high degree of automation. Furnace assembling has already begun and the bottom hearth, the 19th, has been already installed onto supports. This bottom hearth weights about 28 t and has a length of 8 m. Assembling of all the hearths will be done with the help of a mobile crane with a capacity of 160 t supplied by *Liebherr*/DE. Magnesia clinkers and magnesia-based products are now in strong demand both in Russia and beyond its borders. The 1st stage of the Complex for production of dead-burnt magnesia clinker with a capacity of 50 000 t/a was commissioned at 5 September 2008.

The competitive advantage achieved due to implementation of this project up to now remains unachievable for other refractory manufacturers based in Russia and in the CIS countries. After commissioning of the 2nd stage of the project, including the multiple-hearth furnace, the calcination complex will correspond to the best world analogues production units – singular manufacturing facilities in Australia, Ireland and Netherlands. The investment project for increasing capacity of the Complex up to 13 000 t/a for dead-burnt magnesia clinkers production also includes the construction of another unique unit i.e. a high-temperature Polysius shaft kiln with a production capacity of 80 000 t/a.

By now, the Magnezit Group is finishing the preparation of the documentation project for the construction of this kiln. It is intended for burning of briquetted calcined magnesia. This new kiln will have improved production capacity and has no analogues in the CIS countries. The total volume of investments for expansion of the production capacity of this Complex for the production of dead-burnt magnesia clinkers, i.e. for the construction of a mul-

multiple-hearth furnace and a high-temperature shaft kiln exceeds RUB 1,8 billion.

Iran

Iran's Aluminium Company Inks MoU with Tajikistan

Iran's Alumina Company signed a memorandum of understanding (MoU) with *Tajikistan* in the field of exporting Alumina Company's products to the Central Asian country. Head of Tajik trade delegation and Managing Director of Iran's Alumina Company signed the MoU with the aim of increasing bilateral cooperation in different industrial products, export and sale of alumina and aluminium hydrate to Tajikistan. Iran's Alumina Company located in Jajarm will export 100 000 t of alumina powder and 100 000 t of aluminium hydrates within 20 months to Tajikistan. The total value of MoU signed between Iran's Alumina Company and Tajikistan is estimated to be USD 80 million.

USA

New Vice-President at Alcoa

Christian Jepsen joined *Alcoa* as Vice-President, Corporate Development. He will be responsible for developing and implementing Alcoa's portfolio growth strategies, including merger and acquisition, and divestiture activities. Jepsen will also serve on the Alcoa Executive Council, the senior leadership team that sets strategic direction for the company. Jepsen comes to Alcoa from *FLSmidth*, a global engineering company headquartered in Copenhagen/DK, that serves the cement and minerals industries. His most recent position was Group Executive Vice-President and CEO of the company's USD 3 billion global minerals business.

During his 22 years with *FLSmidth*, he has served as Chief Financial Officer in several of the company's larger businesses both in Denmark and the US. Since 2000, he has led businesses and served in senior executive positions for *FLSmidth*'s operations in the US and globally. Jepsen earned a bachelor's and master's degree in business administration at *Aarhus University*/DK and completed the *Harvard Business School*'s Advanced Management Program in 2003 as well as the General Management Program at the *European Center for Executive Development, CEDEP*, in Fontainebleau/FR in 1995. *George King*, Managing Director and Vice-President for Corporate Development, will continue to serve in a key leadership role within the Group, including overseeing major transactions on behalf of the company. He will report to Jepsen. Alcoa is the world's leading producer of primary aluminium, fabricated aluminium and alumina. Approximately 75 % of all of the aluminium ever produced since 1888 is still in active use today. Alcoa employs approximately 61 000 people in 31 countries across the world.

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WORLD FORUM

Manufacturing & Performance of High-Temperature Materials

preview of issue 4/2012 (extract)

Company Profiles/Interviews

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Exhibitor Showcase Glasstec 2012

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- Material Design for New Insulating Lining Concepts (Almatis/DE)
- Volatilization of Refractory Silica in Hydrogen Water Vapour Gas Streams (Palmer Technologies/AU)
- NANOBOND – the New Cement-free Castable for Quick Lining and Fast Repairing (Refratechnik Steel/DE)
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Reports

- 11th ESG Conference/NL
- FOGI -Refractories in Industrial Furnaces/DE
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Economy & Markets

- Glass Packaging Market (FEVE/EU)

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- Foam Sprayed Porous Insulating Refractories (UFSCAR/BR)
- High Alumina Self-flow Castable with Different Binders (National Institute of Technology/IN)

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Corinna Zepter, Advertisement Manager

Phone: +49(0)7221-502-237

E-mail: c.zepter@goeller-verlag.de

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