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In times of increasing energy costs and strong environmental awareness our products assure saving of energy and protection of environment. For all industries it is an essential factor.
Dear Readers,

In spite of the difficult business environment last year we decided to launch refractories WORLDFORUM. This technical and scientific publication aims to bridge the interests of industry and applied research in the refractories sector and all fields of application for high-temperature materials in general.

We have already achieved the ambitious aim of placing refractories WORLDFORUM in the market on a global scale. Of course there are still plenty of international events and fairs that we shall have to address in future too.

As the field of applications for refractories has many facets (iron and steel, non-ferrous metals, aluminium, cement, lime, glass and ceramics industry, as well as foundries, petrochemistry, power generation, waste incineration), the topics covered by our publications are widely spread.

Taking this into consideration, we are delighted to announce that next year refractories WORLDFORUM will be published quarterly (volume 1/2009: 2 issues, volume 2/2010: 3 issues). This will give us a larger editorial volume. In addition, an online subscription will be available.

New is also the newsletter "refractories WORLDFORUM - hot topics", which will also be issued quarterly to update the readers on "Global News" between the regular issues.

For suppliers to the refractories community we are setting up the refractories suppliers directory. Until 31st December 2011 the on-line registration of product entries will be free of charge.

We should like to thank the international members of our Industrial and Scientific Editorial Boards and our various international cooperation partners (ACerS/US; DFFI/DE; FOGI-VDMA/DE; PRE/EU, MORE/DE, DGG/DE; FIRE/CA; TARI/JP; IRMA/IN; Refractories Window/CN, Stahlinstitut/DE, SEVC/ES), who have supported us during the launch of this publication, and we are looking forward to a further fruitful cooperation with them.

In the fourth quarter of 2010 we shall be personally present at the following meetings: International Refractories Colloquium in Aachen/DE and the fairs Aluminium in Essen/DE; IFAT in Munich/DE and glasstec in Düsseldorf/DE.

We shall be pleased to discuss with you media planning for next year. We should also be delighted if you got in touch with us by email using the contact form at www.refractories-worldforum.com

Looking forward to see you soon.

Yours

[Signature]

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COVER PAGE
The glass industry is one of the most important customer groups of Rath. We support our customers with our high quality refractory and insulating products for high temperature applications i.e. for regenerator, melting furnace and forehearth applications as shown on the title. RATH AG, 1015 Vienna/AT, www.rath-group.com
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refractories WORLDFORUM Cooperation Partners
Like other key technologies in a market where global networking is steadily increasing, refractories will maintain its technological leadership only through swiftly paced innovation. This presupposes intensive activities in applied research and development which, in turn, demands excellent personnel in efficient education and innovation systems.

The financial support available from the state government of Rhineland-Palatinate with moneys from European funds has paved the way for a new European Refractories Centre to be established in Höhr-Grenzhausen. This project is coupled with the simultaneous expansion of the FGK research institute for inorganic materials (Forschungsinstitut für anorganische Werkstoffe Glas/Keramik GmbH) and the setting up of the ECREF (European Centre for Refractories) at the same location.

The European refractories industry will thus have access to a campus for research activities close to both Koblenz’s University of Applied Sciences in Höhr-Grenzhausen, with its research institute for materials engineering / glass and ceramics and also Koblenz University itself. Chairs have been newly established for Materials Analysis at the University of Applied Sciences and for Technical Chemistry and Corrosion Sciences at the University of Koblenz’s Institute for Integrated Sciences. This has laid the foundation for a joint Master’s Degree Programme in Ceramic Science and Engineering. For the industry, however, the linking and integration of engineering technicians’ training with this strengthened field of study is just as important. In fact, plans are underway to step up the focus on ceramics even in secondary schools. This will allow ceramics as a subject to be followed right through from school level onwards and then integrated into the existing activities in Höhr-Grenzhausen (BFZK) and Koblenz.

All these measures are part of the innovation cluster “Metals – Ceramics – Plastics” set up in Rhineland-Palatinate in 2007. By 2013 the individual fields will be organized and equipped in such a way that an interlaced network initiated by project work can be created by 2019. The objective is to integrate all the agents and institutions, with all their varying approaches and contents, into a knowledge and innovation society in its own right.

Industrial companies will then have access to a broad-based network that keeps education and further education up to date and helps to advance innovations for the refractories industry and its user sectors swiftly and on an integrated and practice-oriented basis.

We are proud to have had and grasped the opportunity to found a European platform such as the ECREF, with support from PRE and the European Commission. This support means bids had to be invited on an international scale and that, of course, made the preparatory phase more complex and extensive. However, European orientation is a fundamental element in safeguarding the future of our activities, so it was absolutely essential that we took the time required for these procedures.

Our thanks go to all our German and international partners who have been and still are as committed as we are to this ideal. This commitment is the bedrock on which opportunities for cooperation in all its forms will flourish in the future.
Company News

France
Kerneos Erects New Briquetting Line
Kerneos, the leading producer of calcium aluminates, has announced the investment of EUR 4 million in a new briquetting line at its Dunkirk factory in Northern France. Kerneos is a major purchaser of bauxite and is facing increasing difficulties in using the qualities of bauxite available from its traditional sources, principally in China and Greece.
Changes in calcining technology used to process bauxite in China and supply frailties in Greece require Kerneos to take increasingly higher percentages of fine bauxites from both sources rather than the large block bauxite that is ideally suited to its furnace technology. The new plant is currently under construction and will come on stream in the second quarter 2011.
Pierre Baillagou, Vice President manufacturing, commented: "The reduced availability of large block material requires us to make our own blocks to guarantee our ability to meet the growing demand for our cements. Block materials are essential in maintaining high levels of energy efficiency. We have made strenuous efforts in recent years to minimise our energy consumption and it is not acceptable to allow our energy efficiency or product quality to fall because of raw material supply difficulties. Whilst briquetting raw materials adds to our costs it was the least expensive solution to the quality and supply problems we face and by far the most acceptable from an environmental point of view. In spite of these constraints of raw materials, we confirm our commitment to improve the quality of our products and services." www.kerneos.com

India
CUMI is Setting up a BFA plant
Carborundum Universal Limited (CUMI), a Murugappa Group company based in Chennai, supplies RS 50 – 75 crore for setting up a brown fused alumina (BFA) plant in Kutch district of Gujarat. The project is likely to be developed in joint venture with state-owned Gujarat Mineral Development Corporation (GMDC).
The company has identified Nakhatrana area of mineral rich Kutch region for the brown fused alumina project. The proposed plant will have a capacity of 35 000 t/a and it will be operational after 18 months from the date of the plants construction start. The company also has plans to set up a coal-based 20 MW power plant along with the project. CUMI has already entered into a memorandum of understanding with GMDC.
Kutch has large reserves of bauxite. In fact, Gujarat’s total bauxite reserves are estimated at around 170 Mt and the state has potential to generate 1 Mt of alumina. Apart from brown fused alumina, Carborundum Universal also makes semi-friable alumina, white fused alumina and ceramic alumina and caters to various markets such as refractory, bonded abrasives, coated abrasives etc.

Poland
Górka Cement – 10 Years Member of Mapei Group
The Polish calcium aluminate cement producer, Górka Cement celebrates 10 years as member of Mapei Group (www.mapei.com), a world leader in building materials, "making available": Group R&D support and engineering knowledge, which helped Górka to become the key European supplier for refractory and building material branches. As the results of mutual collaboration, together with positive sales and financial results, some 2009 soft indicators can be given: 0,13 % of tonnage claimed in 2009, no health incidents on site from January 2009. To express gratitude for the Górka crew commitment, the company will perform an Employee Open Day. Workers and their families can enjoy the barbecue menu and some open-air invents on the green area of Górka site.
Górka is serving the refractory and building materials branches close to 100 years. The refractory business seems to be slowly recovering after last two years challenges. Looking at some steel numbers: the crude steel production in EU27 for 6 months of 2010 was close to 90 Mt, which is 44 % more in comparison to 2009 but still 17 % less than in 2007. Generally, mature markets (Germany, France) are in positive mood but there are still some threats (Spain, Italy). The very positive phenomenon can be observed in the East European countries (Russian, Ukraine). Górka analysis says that if economy will go smoothly by 3rd and 4th quarters 2010 the bad times should be overcome. Hoping that good times are coming and to compete the offer, Górka created the Górkal 80 material, chemically pure, high alumina cement with contents of 80 % Al2O3. The material perfectly fits to present range of calcium aluminate products. Górkal cements are available with Al2O3 contents from 40 % up to 80 %. And the company's philosophy is to offer the pure cement (no modifications – "black boxes" – of any Górkal products in place). Górkal 80 cement is in launching process. Górka runs two separate lines (one for calcium aluminate cements and the second for high alumina materials). The G80 project and already commercially available new high alumina cement, Górkal 70F (very reactive, chemically pure, alumina binder) should give to the customer new features and better utilization of high alumina cements line (white cements: Górkal 70, Górkal 70F and Górkal 80) for the company. The calcium aluminate cements line (grey cements: Górkal 40 and Górkal 50) thanks to unique technology of production – sintering – is working very well, even in situations of raw bauxite supply frailties.

Sri Lanka
Bogala Graphite Sees Lubricant Helping Recovery from Losses
Graphite miner and exporter Bogala Graphite said support from ist German parent firm and manufacture of new lubricant products should help it recover from losses last year. The company, a subsidiary of Graphit Kropfmuehl AG of Germany, has seen a slight increase in orders in the last quarter of 2009. Losses in the financial year 2009 rose to 127,7 million rupees from a loss of 100 million in 2008, revenues declined from 383 million rupees to 241 million. Orders received in the last quarter 2009 showed a marginal increase.
The company is one of the world’s few vein graphite producers and used to export around 6000 – 6500 t of value-added graphite each year before the global recession.

Chief executive Amila Jayasinghe said Bogala Graphite last year broke away from the traditional grades of graphite and with help from the parent firm started a successful campaign in India to market graphite-based lubricants. The product will be initially produced in Germany from raw material exported by Bogala Graphite. The full benefit of these exercises is expected to bear fruit in the first quarter of 2011 when the manufacture of the lubricants is moved to Bogala Graphite from Graphit Kropfmuehl. The relocation of a ball mill from the United Kingdom to Sri Lanka two years ago also enables Bogala Graphite to produce high value classified graphite powder. The firm cut costs last year and further reduced the work force to 183 at the end of 2009 from 295 in 2008. The main shareholder Graphit Kropfmuehl gave a soft loan to fund the restructuring, including a voluntary retirement scheme, and helped repay high interest rupee loans. It also agreed to convert a 150 million-rupee loan taken by Bogala Graphite and technical fees payable to it into capital.

China / India
Tata Refractories Ltd. is Working towards Expanding Magnesite
Tata Refractories Ltd. (TRL), a leading Indian producer of refractories, has confirmed that its Chinese subsidiary, TRL China, is working towards expanding its magnesite-based refractory unit in Bayuquan, North-East China, from 54 000 t/a to 90 000 t/a capacity. In India refractory demand is growing by some 17 %/a. Production at the plant will supply mainly the Indian market, and some 10 % will go to the Chinese market. TRL China is 92 % owned by TRL, and the remaining 8 % is owned by a Chinese joint venture partner. The expansion, which will cost an estimated INR 500 million (USD 11 million), is expected to be completed by December 2010.

According to the World Steel Association, India’s steel demand maintained stable growth during the global economic crisis. Demand is expected to grow by 13,9 % in 2010 and 13,7 % in 2011, after 7,7 % in 2009. In 2011, India’s steel use will reach 71,6 Mt. TRL is currently exploring the possibility of acquiring magnesite mines in China. TRL is also in the process of establishing a refractory unit in Vishakhapatnam, Andhra Pradesh, to produce mainly synthetic raw materials for refractories and eventually high alumina refractories. To meet future refractory raw material needs in India, the company also has plans to acquire...
dolomite and quartzite production facilities in India.

USA
Magnesita and Krosaki Harima Establish Joint Venture
Magnesita Refrataíros SA of Brazil and Krosaki Harima Corp. of Japan, are to join forces to supply the North American market through a new joint venture based in the US state of Indiana. The joint venture, split 40 to 60 % between Magnesita and Krosaki respectively, will be headquartered at Crown Point, Indiana, where technical and engineering services will be managed. The refractory plant will be located at York, Pennsylvania, the site of LWB Refractories’ US operations (refractories and dolomite production), which were acquired by Magnesita in 2008. This aims at supplying steel flow control refractories used in continuous casting to steel producers in the USA, Canada, and Mexico. And the companies can share technology, products, and manufacturing facilities in North America. Hiroaki Miyahara, the CEO of Krosaki Harima Inc. will also act as CEO of the joint venture. This move represents an increasing interest in Magnesita by the Japanese group. In 2007, Magnesita was acquired by Brazilian private equity firms GPI and Gávea, but during the year Krosaki also acquired a 2,71 % share of the Brazilian magnesia and refractories group.

Venezuela
Sidor Output down, Requested to Reduce Refractories Imports
Sidor saw its production of liquid steel drop by 63,5 % to 308 000 t during the first quarter 2010, compared to the same period in 2009. The works are currently producing at a monthly rate of 100 000 t with a projection of reaching 600 000 t for the first half of the year and then rising in second half year to reach a total of 2,1 Mt for the year, the lowest output level in a decade. Sidor’s production is still at low levels despite promises of imminent reactivation, but the nationalized steelmaker continues to import material it needs to operate, causing friction with domestic suppliers. According to local reports, the country’s main refractory producer Caldeys de Venezuela is requesting that the government stop encouraging Sidor to import refractories to support its output. Sidor started importing refractories last year to maintain output levels in support of other state-owned companies.

Germany
50 Years Ceramic Additives Supplied by Zschimmer & Schwarz
Zschimmer & Schwarz, a medium-sized, chemical company located in Lahnstein, is an international supplier of auxiliaries for the fibre, ceramic, leather and fur industries and of manufacturing surfactants for the cosmetics and cleaning agents industries. Today their ceramics division offers a standard programme of more than 600 special products for the ceramics and powder metallurgical industries, which are applied in individual technological steps, e.g. adjusting defined rheological properties or for dispersing, plasticizing and binding.

In 1960 the first activities in the ceramics industry were started by Werner Weiand, who headed up the ceramics division until his retirement in 2002. A special product range for the refractories industry became soon a special focus to enhance process technology in this user segment.

Turkey
Kumars Starts up a Second Fused Magnesia Furnace
Turkey’s top dead burned magnesia (DBM) producer, Kumas Kütahya Manyezit Isletmeleri AS (Kumars), is starting up a second fused magnesia (FM) furnace, boosting its total FM production capacity to 13 000 t/a. Kumars started to install the new furnace in January 2010. The new furnace will produce 97,32 % MgO and 98,24 % MgO grades for refractory applications. Kumars is thereby now almost totally independent of having to use Chinese fused magnesia. Its fused magnesia capacity has been developed to serve the own requirements at present. However, the plant has been built with the capability to expand production to supply external markets in the future if the market demands. Kumars prompted to expand DBM and develop FM capacity in view of the high price and shortage of Chinese exports of DBM/FM during 2007/2008. Kumars’ feedstock for its FM production is dead burned magnesia, not the more commonly used caustic calcined magnesia. The Turkish steel industry, a major consumer of refractories, had declined some 6,5 % during 2008/2009 and with it demand for DBM and FM. The recovery from recession has also allowed Kumars to approve an earlier devised plan to build a new 25 000 t/a DBM shaft kiln, which is expected to go on stream in early 2011.

Russia / Slovakia
Magnesit Group to Increase Production of Refractories in Europe
Magnesit Group is implementing an investment project to re-equip and modernize the company’s European production facility – the Slov magn factory in Lubeník, Slovakia. This project will help the Group substantially strengthen its position in Europe and other countries by increasing the production of state-of-the-art periclase carbon refractories for the steel industry and spinel refractories for the cement industry.

The project, which is to be completed by 2011, calls for a production increase of up to 25 000 t/a for carbon oxide products and of 30 000 to 35 000 t/a for fired products. In addition, these products will be made from “Russian magnesite,” meaning high-quality refractory materials, including fused periclase or sintered cinder with an MgO content no less than 97 %, manufactured by the Group’s enterprises from high-quality magnesite deposits in Russia. Production will be increased by applying more efficient methods and modernizing facilities, which include machines for processing, raggging and grinding fused periclase. Moreover, the company will install state-of-the-art mixing and pressing equipment and rebuild the machines for treating items in ovens as well as introduce the production of resin-bonded refractories.

Magnezit Group is developing the Satka production facility in the Chelyabinsk Region in Russia, where it intends to construct additional production lines for dense-sintered periclase cinder. The company is also building a cutting-edge production facility for fused periclase and decarbonized magnesite in the Krasnoyarsk Territory. With its high-quality resource base and cutting-edge technology, the company plans to consolidate its position and reach a new level of development.

Slov magn, the largest producer of refractory materials in Eastern Europe, was incorporated into the Magnesit Group in 2008.
Personal News

Harald Dittrich Appointed HRMS General Manager

German refractory raw materials trading company, Hargreaves Raw Material Services GmbH, has appointed Harald Dittrich as its General Manager. Before he was 25 years with LWB Refractories GmbH in several leading positions. From his nearly 30 years of experience in refractories production he knows refractory consumers needs. This knowledge will help him in developing new customer-oriented materials with HRMS in the future.

Market News

India Refractories Market is to Reach 1,5 Mt in 2010

While most of the world’s refractories industry suffered under the global downturn, India remained relatively resilient and its steel market – the greatest consumer of refractories – is expected to grow by 12,1 % in 2010. India, with China, was among the emerging economies which started to improve in 2009.

Events

Italy FIRE Meeting at CIMTEC

During the FIRE Board Members Meeting twenty-five members present had the privilege to listen to three special guests who presented their views on the research needs they had identified in their own company: M. Michel Varlez spoke for Vallourec Research, Michaela Martino on behalf of Riva and Christian Rampitsch for Voest-Alpine.

The main discussion during the meeting was centered on the definition of the new research themes to be announced in 2011, at the upcoming UNITECR 2011 in Kyoto/JP, and to be started early in 2012. The main decision, approved unanimously, was to welcome two new partners at the FIRE Annual General Meeting of the members, to take place in Vancouver, 6th and 7th October 2010. Those new partners are the Wuhan University of Science and Technology, Hubei Province/CN, to be represented by Prof. Yawei Li, and Henan Gengsheng Refractories Co. Ltd., Henan Province/CN, located in Gongye and to be represented by its chairman Shunqing Zhang.

In reviewing FIRE activities, it was noticed that since the beginning of its academic activities, in September 2006, FIRE had granted 14 MSc diplomas, one PhD diploma at the end of 2009, 6 more MSc and one PhD are to be granted by the end of 2010. Presently 7 MSc and 6 PhD students are involved in different FIRE projects. As of June 2010, FIRE students, researchers and associates have published more than 61 papers and 27 technical reports have been circulated to the FIRE members.

Finally, new plans have been discussed to recruit more students and new industrial members, mainly users of refractories, in order to monitor FIRE growth at a reasonable rate.

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Young Academics’ Workshop on Innovative Refractory Ceramics  

In late March, doctoral students involved in the Priority Programme 1418 “Refractory - Initiative to Reduce Emissions – FIRE” meet in Hardheim to join seminars and workshops on the manufacturing of refractory materials, related technological principles and industrial processes. From 29 March to 1 April 2010, the Priority Programme 1418 of the German Research Foundation invited doctoral students and project coordinators to its first Young Academics’ Workshop. Held in Hardheim in cooperation with the Maschinenfabrik Gustav Eirich GmbH & Co. KG, the workshop aimed to foster participants’ research on the generation of innovative refractory ceramics. The three-day workshop offered lectures and seminars as well as opportunities to visit facilities of leading German refractory manufacturers. Participants were invited to acquaint themselves with technological standards and processes required for manufacturing refractory materials for various applications. The Priority Programme, dedicated to the development of an entirely new generation of high-performance refractory ceramics, is uniting researchers and doctoral students from 10 German universities. The programme is focusing on the development of low-carbon and carbon-free thermal shock resistant ceramics applicable for clean and smart refractory components. While significantly reducing CO₂ emissions, the new materials will help improving the quality and energy efficiency of metallic processes. The German Research Foundation is providing an annual fund of EUR 1.8 million. Contact: Prof. Dr.-Ing. habil. Christos G. Aneziris (aneziris@ikgb.tu-freiberg.de).

Portugal  

INFUB 2011 – 9th European Conference on Industrial Furnaces and Boilers  

The main objective of the conference in Estoril from 26 to 29 April 2011 is to provide an improved up-to-date understanding of the fundamentals, principles and practices associated with the design and operation of industrial furnaces and boilers and, in a broader view, of industrial systems and processes generating, transforming or using thermal energy from combustion. The conference will be a means of disseminating information concerned with recent research and development activities in the field of furnace and boiler technology and related areas such as process and combustion control, efficiency optimization of high-temperature energy application, and reduction of pollutant emissions. It is intended that waste incineration, biomass and oxygen-fuel combustion will all feature heavily in the conference programme as well as more conventional aspects of combustion. The conference will provide a forum for delegates involved in research, development, design and operation of furnace and boiler systems, and will also be of interest to those working in areas such as combustion science, fuel technology, energy management and air pollution control. Abstracts should be submitted to: cenertec@cenertec.pt

Germany  

Record Number of Exhibitors at IFAT ENTSORGA 2010  

IFAT ENTSORGA 2010 in Munich opens at the fairgrounds of Messe München GmbH from 13 to 17 September. IFAT ENTSORGA will occupy one more hall than IFAT 2008 to be able to host the enlarged number of exhibitors (approx. 2700). Messe München and the BDE, Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V., (Federation of the German Waste, Water and Raw Materials Management Industry) have agreed on a cooperation coming into effect as of 1 January 2010: ENTSORGA will be moving to Munich, and IFAT became therefore IFAT ENTSORGA. Within this cooperation, the successful concept pursued so far at IFAT will be further expanded. In addition to the already comprehensive sections on water and sewage treatment, there will now, through ENTSORGA, be a stronger section on waste and recycling. It will provide greater coverage of the broad field of raw materials recovery and utilisation, for example, and the savings this brings in terms of carbon emissions, on the road towards achieving climate goals. IFAT ENTSORGA is therefore reflecting increasing awareness that with the depletion of natural resources there is an even more urgent need to use the available resources efficiently by employing innovative technologies and services. Refractories play an important in the thermal technology of waste treatment and recycling processes. IFAT ENTSORGA will take place now every two years, with a running time of five days. After this fair the next dates are in 2012 from 7 to 11 May. www.ifat.de

Japan  

UNITECR 2011 – Call for Papers  

The Technical Association of Refractories, Japan (TARJ) hosts the 12th United Technical Conference on Refractories to be held on 30 October to 02 November 2011 in Kyoto under the motto „Refractories – Technology to Sustain the Global Environment“. Deadline for abstract submission of papers is 31 December 2010. Abstracts should be send to: unitecr-info@tarj.org

Peru  

2010 XXXVI ALAFAR Congress 2010 in Lima  

ALAFAR – The Latin American Association of Refractory Manufacturers – will organize its XXXVI Congress in Lima from 6 through 9 December of this year under the main theme „Technological Innovation in the Refractories Industry“. Technical papers about the main theme or other papers related with the refractory industry, which could contribute to the enrichment of the Congress should be submitted to: comitetecnico@alafarperu2010.org ALAFAR has 32 members manufacturing refractories and 16 affiliate members: raw materials, machine and equipment producers supplying the refractory industry.

Germany  

Optimization of Industrial Fuel Technology and Thermal Process Technology  

The conference and exhibition organized by VDI Wissensforum is addressed to users of fuel technology in the field of thermal technology in the segments metal, glass and ceramics. Attend should experts of engineering offices, equipment suppliers as well consultants and members of universities and institutes. Central themes are: new plant, furnace and burner concepts, energy saving, emissions, life cycle analysis, energy efficiency, process automation, SPS-integrated energy balances. The conference will take place at Best Western Queens Hotel Karlsruhe/DE from 21 to 22 September 2010 . www.vdi-wissensforum.de