



CEMENT & BUILDING MATERIALS REVIEW

Published by : Arab Union for Cement and Building Materials No.78 December 2019

- *Arab News*
- *International News*
- *Technical Articles*
- *New products*
- *Diary Dates*



Cement and Building Materials Review

Arab Album

International News

New Products

Technical Articles

Diary Dates

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- *The Magazine editorial staff welcome the contribution of experts to enrich the contents of the magazine .*
- *Articles are not to be returned to authors .*
- *Points of view expressed in the magazine do not necessarily express points of view of the AUCBM or the magazine itself . It is rather the opinion of the author. The AUCBM does not bear legal liability or responsibility from any article .*

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Pfeiffer ready2grind هو النظام الوحدائي المميز بطاحونه رأسيه مزودة بأربع اسطوانات طحن ذات الوفر التعويضي. و التي تم طلبها عشرات المرات!

المزيد و المزيد من العملاء من جميع أنحاء العالم يقبلون علي ready2grind: بنظامها المحكم للطحن الذي يجمع بين التقنيه الموثقه Pfeiffer MVR و الاعتماديه القصوي. أيا كان التطبيق، أيا كانت المادة - كن جاهز للطحن مباشره مع ready2grind

المميزات:

- اعتماده قصوي بفضل الطاحونه الرأسيه المزوده بأربع اسطوانات طحن ذات الوفر التعويضي.
- متوفره بسعات انتاجيه مختلفه حتي 660,000 طن في السنه.
- تصميم مكون من وحدات لتوفير أقصى مرونة.
- وقت أقل للتفتيد و التشغيل لسرعه دخول الأسواق.
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AUCBM's *Quarterly Cement and Building Materials Review (CBMR)*

EDITORIAL SCHEDULE FOR 2020

ISSUE	THEMES	EVENTS
March 2020	<ul style="list-style-type: none"> - Sustainable Development - Environment Protection - Alternative Fuels - RDFs / SRFs - Cleaner Production in Cement Industry - Filters, Baghouses & Dedusting Equipment - Emission Monitoring & Gas Analysis - Energy Saving - Case Studies - Interview 	
June 2020	<ul style="list-style-type: none"> - Bagging, Packaging & Dispatch - Loaders & Unloaders - Feeder Technology - Bulk Storage and Handling - Storage of fuel - Conveyors, Bucket Elevators - Occupational Health & Safety - Coal Preparation and Firing - Interview 	
* September 2020	<ul style="list-style-type: none"> - Low carbon cement - Concrete - XRF and XRD analysis - Chemistry of cement - Cement additives - Silo Cleaning & Blockages - Silo design consideration - Drive systems - Weighing technologies - Sampling Techniques & Samplers - Interview 	<p style="text-align: center;">AUCBM's 25th Arab International Cement Conference and Exhibition (AICCE25)</p> <p style="text-align: center;">November 2020</p>

December 2020	<ul style="list-style-type: none"> - Lubrication Systems - Maintenance in Cement Plants - Repair and welding techniques - Spare-parts Management - Vertical Mills - Crushers - Coolers - Burner Technology - Refractories & testing of refractories - Interview 	
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* September is a bonus issue that will be distributed to the Conference participants

Deadlines for receiving articles, press releases, or advert materials for 2020 issues are as follows:

March issue: **28th February 2020**

June issue: **29th May 2020**

September (bonus) issue: **31st August 2020**

December issue: **4th December 2020**

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24th Arab International Cement Conference and Exhibition (AICCE24)

24th Arab International Cement Conference and Exhibition (AICCE24)

The Arab Union for Cement and Building Materials (AUCBM) is an inter-Arab organization, affiliated to the Council of Arab Economic Unity – League of Arab States and Council of Arab Economic Unity. On 24th – 26th November 2019, the AUCBM’s “24th Arab International Cement Conference and Exhibition (AICCE24)” was held in Cairo, Egypt.

The event hosted more than 700 delegates and visitors from Arab and international institutions, companies, universities, and consultancy units working in the field of the cement industry and spare parts and equipment manufacturing. It gathered the high-level decision makers from Arab cement companies with counterparts and/or sales and commercial officials at international plants and equipment suppliers.

One hundred and fifteen companies took part in the Exhibition, with 126 stands distributed on an area of 1,010m². Booths were booked by 21 Arab and 94 international companies; exhibitors are companies working in the field of manufacturing of cement, cement production equipment, and environment protection technology.

Besides around local visitors, 221 companies with 544 delegates had registered for participation at the AICCE24. Arab participating companies (110 companies and 259 delegates) came from Algeria, Egypt, Iraq, Jordan, Kuwait, Lebanon, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, UAE, and Yemen. International delegates (111 companies and 283 participants) were from Australia, Austria, Belgium, China,





Cyprus, Denmark, France, Germany, Greece, India, Italy, Pakistan, Poland, Russia, Spain, Sweden, Switzerland, Thailand, The Netherlands, Turkey and United Kingdom. The Conference program, with six sessions during three days, had 47 presentations. AUCBM's 77th Board of Directors' and 42nd General Assembly meetings were held in concurrence with the

Conference and Exhibition. For more detailed information, please visit www.aucbm.net.

Useful Links:

- Delegate List: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=DelegateListReport>
- Exhibitors List: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=ExhibitorsListReport>
- Exhibition Floorplan: http://www.aucbm.net/Uploaded%20Files/24th_conference/exhibition/FloorPlan/24th-floorplan.pdf
- Papers List: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=PaperListReport>
- Conference Program: http://www.aucbm.net/Uploaded%20Files/24th_conference/Program/24th_Program.pdf
- Sponsorship: <http://www.aucbm.net/conference/ConferenceDefault.aspx?Confid=7&con=Sponsor>





Yanbu Cement wins Best Cement Plant 2019 award



Yanbu Cement Co. won the “Best Cement Plant of the Year 2019” award at the Cemtech Europe conference held in Berlin earlier in October 2019.

Yanbu Cement was selected among global peers for "Recognizing Excellence and Promoting Best Practice" in key areas including sustainability and energy efficiency, environment and safety excellence, as well as the increase in production capacity by 15 percent with minor capital investment and carbon dioxide emission reductions.



This achievement to the company's strategy for the last three years, stressing that Yanbu is in constant pursuit of excellence and implementation of best practices in accordance with international standards.

The award is also credited to the Saudi government's support of the local cement sector and the great efforts of the company's team. The company realized these achievements under a strict policy of cost reduction and effective Saudization in its industrial sector.



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Arab News

EGYPT

Egyptian government reduces the price of gas for cement producers

The government has reduced the price of natural gas for cement producers to US\$5 per one million British thermal units (BTU). Previously the price was US\$8MBtu. The government has reduced the price at a similar rate for other industrial users including iron, steel, aluminium, cooper, ceramic, and porcelain plants. It will now review the price of gas every six months.

[Global Cement](#)

Titan Cement acquires indirect majority ownership of Alexandria Portland Cement

Greek-owned Titan Cement has made a major acquisition in buying the International Finance Corporation (IFC)'s 17.3% stake in Alexandria Development Ltd. Alexandria Development Ltd is 82.7% indirectly held by Titan Cement. It is the 88.9% owner of Alexandria Portland Cement. Alexandria Portland Cement made losses of US\$4.56m in the nine months to 30 September 2019.

[Global Cement](#)

Siemens presents digitalisation study to the Egyptian Ministry of Industry

Siemens has submitted an integrated survey of the digitalisation potential of various industries in four zones to the Ministry of Industry (MoI)

with a view to improving the competitiveness of the country's products. The Germany-based technology company has already signed contracts for the supply of digital efficiency solutions with El Ameria Cement and Lafarge Egypt. It is also negotiating with Misr Beni Suf for the installation of thermal emission measuring units at its 3.5Mt/yr integrated cement plant in Beni Suf, Maadi.

[Global Cement](#)

Egyptian Tourah Portland Cement considers offers for Tourah plant mills and kilns

Germany-based HeidelbergCement subsidiary Egyptian Tourah Portland Cement has said that it will accept offers for some items proposed for sale under auction of equipment from its decommissioned 1.0Mt/yr Tourah plant in Tura near Cairo, from which it expects to raise a total of Euro1.71m. The company said it had received 'several bids.' It stopped production in June 2019 due to its inability to cover costs.

[Global Cement](#)

IRAQ

Iranian province invests in Iraqi cement plant

Iran's Khuzestan province plans to invest in a US\$35m cement plant project in Al-Emareh, which was a joint initiative with Iraq. The project was launched in the mid-2010s and is

reported to be in its 'final' stages. The Iranian province borders Iraq and it hopes to increase its international investment profile.

Global Cement

JORDAN

Lafarge Jordan Cement says cuts staff to stay in business

Lafarge Jordan Cement said it was cutting 200 jobs to enable it to remain in business after accumulating losses of \$87 million from the closure of one plant and the partial shutdown of another.

Jordan's cement sector, with a capacity of nine million tonnes, is saturated as demand has plunged to around 4 million tonnes and local manufacturers face competition from regional markets where clinker production costs are much lower.

LafargeHolcim owns 50.3% of the Jordanian company, with the government's pension fund holding 21.8% and another 10% held by a Moroccan investor.

Jordan's oldest cement firm was forced six years ago to close its main Fuhais plant, with a two million tonne capacity, near the capital after pressure from local residents prevented it from switching to lower cost alternative fuels.

It also had to pay 45 mlnn dinars in compensation to residents that worsened the losses, adding this "negatively affected the company's competitiveness".

Reuters



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OMAN

Al Tasnim Cement Products opens Duqm ready-mix concrete plant

Al Tasnim Cement Products has opened a 425m³/hr ready-mix concrete plant in Duqm's Special Economic Zone. Four batching plants will supply cement to the facility; one on-site and three elsewhere in Duqm.

Global Cement

Oman Cement Company issues tender for Duqm plant

Isahawa Cement Company (ACC), the newly-founded Oman Cement Company (OCC) subsidiary, will operate the group's upcoming Duqm cement plant, for which an engineering,

procurement and construction (EPC) contract tender has been issued.

The new facility will include a coal-fired power plant and waste heat recovery (WHR) power plant. OCC Chief Executive Officer Salim Abdullah Al Hajiri described the commissioning of the 1.7Mt/yr integrated plant as a 'reverse integration' process, whereby the plant will initially grind clinker produced at other OCC cement plants beginning in September 2021 before upgrading to fully integrated cement production in March 2022.

Global Cement

SAUDI ARABIA

Al Jouf Cement signs technical contract to convert line to white cement production

Al Jouf Cement has signed a six-month technical contract with China's Riga Company to convert its second production line to produce white cement.

Global Cement

Saudi Industrial Exports Company extends sales and marketing deal with Al Jouf Cement

The Saudi Industrial Exports Company (SIEC) has signed a one-year sales and marketing contract extension with Al Jouf Cement. It previously agreed with Al Jouf in November 2017 to sell 72,000t/yr to Jordan.

Global Cement

Yamama Cement to sell old production lines

Yamama Cement plans to sell its production lines 1 – 5 as part of a move to a new site. The

old lines have a combined clinker production capacity of 5600t/day. The lines were 'temporarily' shut down in early 2017 due to poor market conditions.

Global Cement

SYRIA

Syria - Katerji Family to Invest US\$300 Million in Cement Business

Katerji family has announced that it will invest US\$300 million in Al-Maslamia #cement factory near Aleppo, strengthening their control over the provinces' reconstruction.

Katerji International Group is negotiating an investment in the Al-Maslamia cement plant, near Aleppo, of approximately US\$300 million to produce 3 million tonnes a year, in exchange for sharing the revenues, at a rate yet to be agreed upon.

Observers believe that the investment agreement of Al-Maslamia Cement Factory, if secured, would be a form of privatization of the public sector.

The Khaterji International Group is owned by the brothers Husam, Mohammed and Baraa Katerji.

Syrian Observer

TUNISIA

Carthage Cement points to positive future

Carthage Cement has announced a general improvement in its financial indicators as it forecast a gross operating income of US\$25m for 2019. This would represent a 123% improvement from US\$11.2m in 2018. Ibrahim Sana, Carthage Cement's CEO anticipates a gross operating income as high as US\$55m

in 2023, with a targeted turnover of US\$140m. The company also announced a 0.1Mt export contract for cement to be sent to Spain.

Global Cement

UAE
JSW Cement seeks funding for Fujairah plant ahead of January 2020 commissioning

India-based JSW Cement has applied to borrow between US\$50m and US\$55m from two UAE-based banks to continue development on its planned 1Mt/yr integrated Fujairah plant, the capacity of which it plans to double to 2Mt/yr within a year of its scheduled January 2020 opening. The loan will bring the project's total investment to US\$110m. The government has granted JSW Cement a 35-year quarry lease

and a licence for the extraction of up to 6Mt/yr of limestone for use at the plant, which will be served by a Terex MPS 1200t/hr crushing plant.

Global Cement

A&K International Investment sells 29% of RAK Cement

A&K International Investment has divested itself of 29% of total shares from its stake in RAK Cement to an undisclosed buyer. RAK Cement's profit fell by 79% year-on-year to US\$0.39m in the first half of 2019 from US\$1.88m. Its intended purchase of an integrated cement plant and quarry in the UAE was abandoned in September 2019.

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- **CONCRETE ROADS CONGRESS HELD FOR THE FIRST TIME IN ANKARA**
- **CONCRETE ROADS CAN SAVE \$700 MILLION**
- **CONCRETE ROADS HAVE AN ECONOMIC LIFE OF MORE THAN 50 YEARS**

Held under the auspices of the Ministry of Transport and Infrastructure, and with technical support from the General Directorate of Highways (KGM), the Turkish Cement Manufacturers' Association (TÇMB) and the European Concrete Paving Association (EUPAVE) under the theme of "Superstructure Solutions for the Benefit of Society", the "1st Concrete Roads Congress and Exhibition" kicked off at the Ankara KGM Halil Rifat Paşa Conference Hall with opening speeches, and with the participation of Enver İskurt, Deputy Minister of Transport and Infrastructure. In his opening speech, Dr. Tamer Saka, Chairman of the Board of the TÇMB, noted that the adoption of concrete roads, in addition to asphalt roads, would contribute to the country's economy by reducing the current account deficit.

The "1st Concrete Roads Congress and Exhibition", which served as a platform for the discussion of every aspect of concrete roads, based on the results of studies, including the technological developments witnessed in concrete road construction in Turkey to date, was held with the participation of Enver İskurt, Deputy Minister of Transport and Infrastructure, and Abdulkadir Uraloğlu, General Director of Roads. Representatives of the

relevant departments of universities and related organizations, as well as stakeholders in the road sector in our country, came together at the Congress.

In his opening speech, Dr. Tamer Saka, Chairman of the Board of the TÇMB, noted that the adoption of concrete roads in addition to asphalt roads would contribute to the country's economy by reducing the current account deficit. Saka said, "Concrete roads are a long-lasting, solid and domestic alternative that require very little maintenance or repair throughout their useful life. As you know, bitumen, the binder used in asphalt roads, is a byproduct of imported crude oil, for which we rely heavily on foreign resources. In contrast, cement and concrete are completely domestic products."

50 years of service life

Mr. Saka stated that Continuously Reinforced Concrete Roads – as a solid and domestic alternative to asphalt in road and highway construction – are resistant to heavy vehicular traffic loads and has a service life of more than 50 years, and that "Roller Compacted Concrete Roads, which have started to be constructed in rural areas, are 40% more economical in terms of the initial construction cost, and last 3–4 times longer."

Concrete Barriers Save Lives

Mr. Saka highlighted that concrete barriers reduce mortalities from road traffic accidents by around 20%, and are in wide use across Europe, suggesting that "Concrete barriers conforming to the EN 1317 standard should be in common use on traffic islands in our country."

Concrete Roads can bring savings of \$700 million

In his opening speech at the Congress, Nihat Özdemir, Member of the Board of the TÇMB, said, "If 50% of the highways and state roads, 10% of provincial roads and 20% of the local administration road networks were to be constructed from concrete, we could save \$700 million in initial construction costs." Mr. Özdemir highlighted, "We will thus save up to \$8.1 billion in 10 years when including maintenance and repair costs, as is the case in developed countries, and will have generated longer-lasting and even permanent solutions." He further added: "We are the best producer of asphalt roads in the world. Let us also be the best producer of concrete roads. Let's try different methods. We can construct composite roads with asphalt laid on concrete or fully concrete roads with an economic life of 50 years. Let's review the results together. If it turns out to be for the benefit of our country, we can use both and create competition, thus leading to public welfare."

1st Concrete Roads Congress and Exhibition was held with the participation of more than 1,000 people, including managers and technical officials from domestic and foreign public institutions, municipalities and special provincial administrations, as well as academicians and representatives of the private sector. Participants from various countries, including the United States, Germany, Belgium, Chile, Poland and France, spoke about concrete road applications in their own countries, and specialists and academicians delivered a total of 24 presentations during the technical sessions.

About TÇMB

The Turkish Cement Manufacturers' Association (TÇMB) is a non-governmental organization that was founded in 1957 with the status of an association. It represents a total of 66 organizations, including 49 integrated plants and 17 grinding plants. The TÇMB is the sole non-governmental organization representing the cement sector, which produces the most vital material for the development and construction of the country. Representing the Turkish cement sector internationally, the TÇMB has been a member of the European Cement Association since 1972 and has successfully accomplished many tasks in various areas, including research & development, training, international cooperation, certification, compilation of sectoral data, and cooperation with academia, non-governmental organizations and other stakeholders. As a member of the European Cement Association (CEMBUREAU), the TÇMB also handles the international relations of the Turkish cement sector.



AUMUND takes its Commitment to Quality to another level by Manufacturing its own Chains

AUMUND Fördertechnik GmbH is a global player with decades of experience as an international producer of machines and major components. A bucket elevator chain, as the absolute mainstay of the chain bucket elevator, has a particularly significant role to play. This is why AUMUND is giving its in-house research and development team its highest priority mandate ever; to make new chain developments and improvements, not least because the demands on bucket elevator chains are continually increasing. Its own chain manufacture gives AUMUND independence from outside suppliers and total ownership of control and quality of its chains, enabling it to rapidly bring to market new developments and improvements in chains, alongside its standard portfolio.

TILEMANN Ketten & Komponenten has produced bucket elevator, reclaimer and conveyor chains as well as specialised components, for more than 100 years with a tradition of utmost precision and process reliability. Now that this specialist manufacturer with its modern manufacturing machinery and more than 25,000 references in high-quality chains and

key components belongs to the AUMUND Group, AUMUND Fördertechnik has its own source, which not only supplies to AUMUND but also to SCHADE Lagertechnik GmbH and SAMSON Materials Handling Ltd (both AUMUND Group Companies) as well as to renowned general contractors for original equipment, and other prominent globally active end customers.

Purely on the face of it, today's bucket elevator chains look hardly any different from examples 15 years ago, but with bucket elevator chains the "inner values" are more important. AUMUND uses innovative materials which enable ever-increasing tensile strength and, importantly for tall bucket elevators, an ever-decreasing weight component. In its production process TILEMANN favours improved heat treatment methods and optimised manufacturing and assembly procedures. One example is continuous monitoring of the press-in pressure of the bolts during assembly, in order to confirm that the fit is exactly within the specified range. This creates an optimum interaction of the chain with the drive and tensioning segments. Process checks are carried out at shorter intervals all the time, and documentation is issued in more and





A glimpse of the TILEMANN (AUMUND Group) production facility at its Essen (North Rhine-Westphalia) location – photo AUMUND

more detail, facilitating exact trace of chain supply. To keep up this rate of modernisation AUMUND has invested several million Euros in manufacturing at TILEMANN and in so doing has optimised the production process and increased productivity. In order to meet the increased demand in the market for chains and to further decrease lead times for customers, AUMUND is planning further investment in production in 2020 by expanding the factory facilities.

About the AUMUND Group

The AUMUND Group is active worldwide. The conveying and storage specialists have special expertise at their disposal when dealing with bulk materials. With their high degree of individuality, both its technically sophisticated as well as innovative products have contributed to the AUMUND Group today being a market leader in many areas of conveying and storage

technology. The manufacturing companies AUMUND Fördertechnik GmbH (Rheinberg, Germany), SCHADE Lagertechnik GmbH (Gelsenkirchen, Germany), SAMSON Materials Handling Ltd. (Ely, England), as well as AUMUND Logistic GmbH (Rheinberg, Germany) are consolidated under the umbrella of the AUMUND Group. The global conveying and storage technology business is spearheaded through a total of 19 locations in Asia, Europe, North and South America and a total of five warehouses in Germany, USA, Brazil, Hong Kong and Saudi Arabia.

Contact

AUMUND Fördertechnik GmbH
info@aumund.de
www.aumund.com

Menzel goes digital and stays flexible

Menzel Elektromotoren has transferred to digital order management. As a result, the manufacturer of large industrial motors has shortened its response times and improved the quality of operational processes, whilst creating transparency through a unified data base, which is available to every employee in real time. From product inquiries to manufacturing processes and intralogistics, all data is now entered and transmitted electronically. Using the latest Human Interface (HID) tablet computers, staff can instantly document production progress, order material via an ERP interface, and access a comprehensive archive of technical drawings, checklists, guidelines, and manuals. By scanning the QR code on a drive system, employees and customers can easily access associated documentation at any time. Technical documentation for the customer can be automatically generated in up to seven languages in no time at all, thanks to a translation program especially implemented for Menzel. Time-consuming data synchronization and media disruption have been effectively eliminated.

Menzel Elektromotoren has converted to paperless order management, streamlining processes and fulfilling customer requirements even faster and more flexibly

Paperless data transfer and direct, automatic plausibility checks of inputs have improved data quality, whilst significantly reducing errors. Each production step is tracked and monitored, which increases inhouse transparency and process integrity. This allows for even better customer service. Menzel embraces the opportunities offered by the latest digital technologies, continuing to differentiate itself from the market to ensure fast and flexible fulfillment of customer requirements. Standardized, user-friendly processes as well as efficient information flows lay the basis for this. Further exciting digitization projects are already at advanced planning stages, all aiming to continuously improve manufacturing processes and provision of customer-focused, state-of-the-art three-phase asynchronous motors and DC motors for any application.

Direct request for industrial motors available worldwide: <https://www.menzel-motors.com/enquiry/>



Menzel Elektromotoren has converted to paperless order management, streamlining processes and fulfilling customer requirements even faster and more flexibly

About Menzel Elektromotoren

Based in Berlin, Menzel Elektromotoren GmbH has been manufacturing and distributing electric motors for more than 90 years. The medium-sized company specializes in the delivery of large electric motors, including special models, within the shortest possible time. The product range comprises high and low voltage motors, DC motors, transformers, and frequency inverters. Services include motor production and short-term adaptation of stocked motors to application-specific requirements. In order to ensure fast deliveries to the customer at all times, the company maintains a very extensive inventory including more than 20,000 motors with a maximum performance of up to 15,000 kW. Qualified engineering, experienced staff, and state-of-the-art production and testing facilities help Menzel provide excellent reliability. Menzel operates subsidiaries in the UK, France, Italy, Spain, and Sweden, and cooperates with numerous partners worldwide.

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POLLRICH takes over fan range of Rußwurm Ventilatoren GmbH

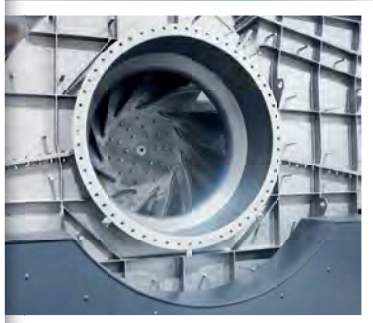
In May 2019, the German industrial fan manufacturer Pollrich took over the fan program and trademark rights of the former Rußwurm Ventilatoren GmbH. With the takeover, Pollrich cements its position as a leading supplier of heavy duty industrial fans and combines further expert knowledge under one roof.

Moreover, customers of the former Rußwurm Ventilatoren GmbH will still be able to purchase identical fans and spare parts for ruwu® and Meissner+Wurst fans in the future. The former company director Hans Jörg Rußwurm remains the competent contact person for all questions regarding the takeover and the product range in the newly established sales office south at Meitingen, Bavaria.

For more information, please visit www.pollrich.com.

Fig.: The fan range and expertise of Rußwurm found a new home at Pollrich.





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Agreement between LB and PSP for the development of Migratech 4.0

In February this year, LB signed a strategic partnership agreement with PSP Engineering for the development of Migratech 4.0 technology.

The Czech Republic-based company PSP Engineering is a world leader in the field of grinding, crushing, screening and intensive classification with more than 80 years of experience in the industry.

Thanks to the new agreement, PSP technologies can be introduced into the various plant configurations of the Migratech 4.0 microgranulation system.



Sacmi acquires 20% stake in BMR

Finalised on 4 July, the partnership boosts Sacmi's ability to act as a one-stop shop for all stages of the ceramic production process, including a strategic role in the end-of-line stage.

Sacmi's acquisition of a 20% share in BMR, finalised on 4 July, seals a long-standing industrial and technological partnership in the end-of-line ceramic processing stage. BMR's chairman Paolo Sassi notes that the two partners have common commercial and industrial development goals and that the operation will strengthen their ability to offer the market comprehensive customised solutions.

BMR is the acknowledged leader in the ceramic finishing segment with a wide range of squaring, cutting, lapping and surface treatment systems.

“Sacmi's acquisition of a stake in BMR strengthens its role as a one-stop shop for all stages of the ceramic production process, from raw materials through to the finished product,” explained Sacmi Imola chairman Paolo Mongardi.

The operation is part of the Imola-based group's long-term strategy aimed at integrating the various processing stages downstream of the kiln to meet growing demand for customised products, resulting in a shorter time-to-market and more efficient management of small production batches.

Finally, it will generate technological and commercial synergies and further expand the Customer Service proposition by combining the coverage of the Sacmi Global Network with the consolidated experience of BMR, already a major partner of leading ceramic companies the world over.

M/s. Allan Smith Engineering Pvt. Ltd. is a reputed name in Rotary Kiln Industry. We offer specialized maintenance services includes: Hot Kiln Alignment, Diagnostic maintenance, Assistance in Kiln and components erections, etc. We are a professionally manage company with an aim to emerge as principal in the field.

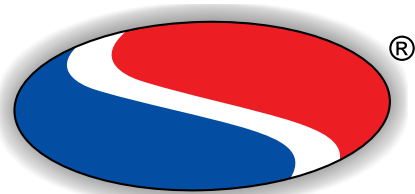
Our engineering services are designed and implemented at par with international standards with the consistent upgradation. Our ethical business practice and professional attitude has earned trust of client, with repeated business.

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- Repair & Maintenance
- Kiln and components Erection
- Kiln Diagnostic Maintenance
- Kiln and Component Design

Supply:

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- Tyre and Support Rollers
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Dellas merges with Peak

The merger brings together the know-how of Dellas, a leading producer of diamond tools for the stone industry, with that of Peak, a young company in the ceramic machining tools sector.



Dellas, a Verona, Italy-based company that manufactures and sells diamond tools for machining marble, granite and agglomerate stone, is continuing its growth strategy through the recent merger with Peak. Founded just 4 years ago, Peak has rapidly carved out a strong position in the sector of diamond tools for the ceramic industry thanks to its distinctive combination of technology, expertise and Italian craftsmanship. The two companies have previously partnered on commercial projects and now aim to strengthen and consolidate their positions in terms of both quality and distribution while optimising their manufacturing and sales operations.

Peak already sells its products in Italy, Spain, Turkey, Russia, Southeast Asia and the USA and will now be able to expand elsewhere in the world thanks to the greater market penetration provided by Dellas, which over the years has established itself as a leading international player.

As for Dellas, the merger will enable the company to reshore the manufacturing operations carried out in Suzhou (China) and headed by GianGaetano Dal Santo, who will return to Italy to oversee the process of integration. As Chairman and CEO Daniele Ferrari explains, Dellas has made major investments in innovative machinery at the Lugo di Grezzana (VR) site to allow for the production of new and highly competitive tools for the ceramic industry.



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HEXADUR® in Cement Industry - 25 years of operation with HEXADUR® protected HPGR rollers

**By: Dr.-Ing. Jörg Oligmüller, Dr.-Ing. Andreas Packeisen, Kaushik Ghosh, and ,
Maschinenfabrik Köppern GmbH & Co. KG, Germany**

Introduction

Since 1986 high-pressure grinding rolls (HPGRs) have been used in the cement industry for grinding of clinker, limestone and blast furnace slag.

Feed material is fed to the gravity feeding system from a filled hopper and then into the gap between two rollers rotating against each other. The movable (floating) roller is hydraulically pressed against the material bed and the fixed roller. Within the particle bed compressive and shear forces cause mechanical interactions of the individual drawn in particles responding with fracture or crack initiation [1,2]. Due to the high pressure, acting in the gap, the feed material is densified to an agglomerate (flake). Disagglomeration of this flake requires minimal energy because of the numerous pre-cracked particles. Using this indirect crushing operation in HPGRs results in a remarkably lower energy consumption compared to other conventional methods for comminution such as ball mills or vertical mills [3,4].

Although comminution with HPGR's keeps the contacts between feed material and roller surface to a minimum, the crushing tools wear out because of abrasion and indentation. This reduces availability, generates

significant costs for regeneration or replacement of the roller, causes production losses and increases energy costs. Thus, wear surface developments target the combination of high service lifetime and low operating costs [5]. Improvements in the intake behavior as well as the surface wear protection contribute to an overall cost reduction.

Operational experiences with HPGRs show that only hard phase rich materials are able to resist tribological loads in the roller gap properly. Morphological parameters such as type, shape, size, volume fraction and distribution of the hard phases are of particular importance [6].

In this article, we will focus on the commonly available wear protection surfaces and their performance related to output and maintenance.

Welded roller surfaces (hard facing)

In many applications, solid welded rollers are in use, which have been hard-faced by welding on an iron based high wear resistant material. Welded rollers are manufactured with hard faced patterns such as chevron, diamond, zigzag, etc. The patterns help in building up a layer of the feed material on the roller surface (Autogenous Protective Layer-APL) which helps in improving the friction factor

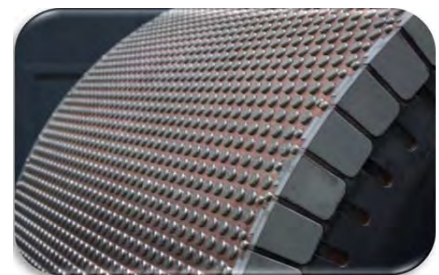
and thereby improving the output and additionally protecting the underlying hard faced layer from further wear. However, the patterns need to be regularly maintained so that feed material sticks onto the surface.

In the majority of cases, a crack-free hard facing is not possible. Initiated cracks can propagate and combine in or beneath the welded hard layer leading to large-scale spalling of the roll surface. Refurbishment of such failures requires complete removal of the hard facing, gouging off of detected cracks in the roller base material as well as rebuilding of the whole wear protection layer. This procedure generates high costs and technical risks. According to experience, any further refurbishment can cause an increase of crack depth in the base body, so that irreparable spalling cannot be excluded [7]. Nevertheless, hard faced rollers can be repaired by welding several times before they have to be scrapped.

The welded roller surfaces take advantage of relatively low entry costs and could be operated at higher specific pressing force of up to 6500 kN/m², but being maintenance intensive and therefore not the optimum solution for the long run. The throughput of the machine directly depends on the patterns and fluctuates with pattern wear.



New hard faced rollers



New stud Roller



Studded roller surfaces

Studded roller surfaces

Studs or cemented carbide pins fitted into the roller surface are also being used since many years for wear protection. Due to its material composition, it has high hardness and therefore is highly

wear resistant. The geometry of the location of the studs also supports feed material sticking onto the roller surface (APL) and therefore constant throughput.

Stud rollers are delivered in sleeve form so the customer has the possibility to keep on using the



Used stud Roller

The Hexadur® System – Zero Maintenance Wear Protection Technology

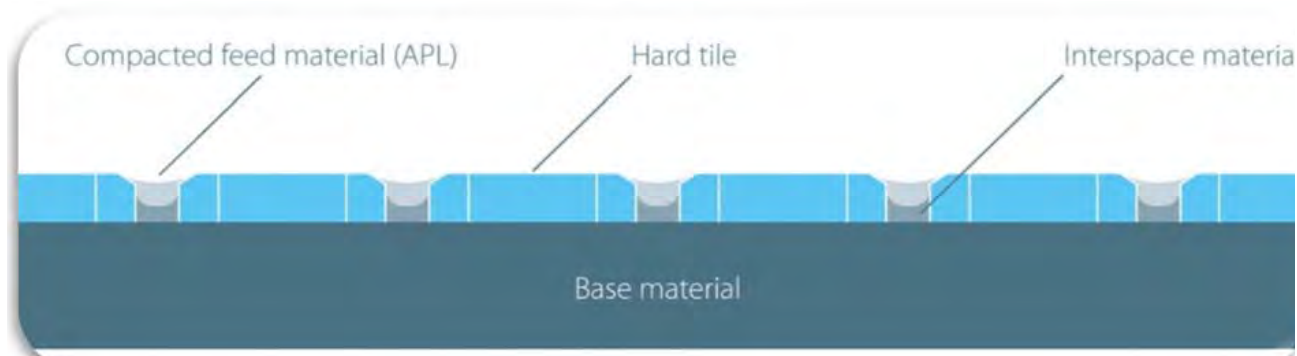
The Hexadur® system has been developed especially for HPGR applications with sleeve-shaft technology to adhere to the requirements in the areas of process technology (rough tool surface in order to produce high friction

MAINTENANCE

between the roller and feed material), wear resistance (high volume fraction of hard phases in the wear protection layer) and structural integrity (high strength, ductility and fracture toughness of the roll material).

The Hexadur® wear protection concept comprises an applied combination of materials with different, but well-defined required properties. Hexadur® involves coating a forged steel sleeve with a thick wear resistant layer using powder metallurgy and HIP-cladding-technique [6]. During hot isostatic pressing (HIP) (i.e. under extreme high pressure and temperature), a special structured wear resistant layer is diffusion-welded on a ductile base body of sufficient strength. The hexagonal tiles have an extremely high and application-oriented wear resistance, the interspacing between the hexagons exhibits a systematically lowered resistance to abrasive wear. These interspacings wash out after a short time in service. The arising grooves are filled up with crushed feed material acting as an autogenous protection layer (APL). This comb-like profile increases the friction between the tool surface and feed material and subsequently improves intake behavior as well as throughput of the machine. Furthermore, these effects can be enforced by generating a macroscopical surface profile with hexagons having different heights.

The thickness of a Hexadur® layer depends on the feed material as well as the required service lifetime and is selectable from 10 to 50 mm.



The hexagonal areas are made of wear resistant powder metallurgical hard alloys or metal matrix composite (MMC) consisting of an iron-, nickel or cobalt-based metal matrix and ceramic hard phases (e.g. tungsten carbides, titanium carbides, niobium carbides, vanadium carbides, chromium carbides, chromium borides, titanium borides or mixtures thereof). Composition and morphology of the material within these hexagons determine the wear resistance of the surface, so that high volume fractions of fine dispersed hard phases, as well as coarse hard phases of adjusted size and shape can be used. A homogenous microstructure causes the

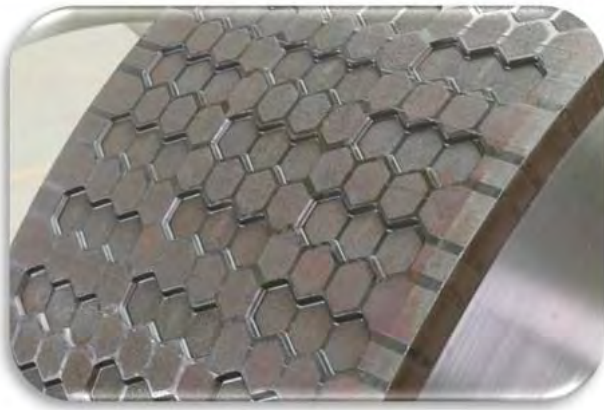
relatively high toughness of the powder metallurgically produced materials in contrast to materials produced by casting or welding. Due to the considerably decreased hard phase content, the interspacing material between the hexagons possesses a particularly high resistance against crack propagation, avoiding transmission of local damages to other hexagons and thus spillings of large-scaled surface areas. The abstracted principle of the HEXADUR® surface is given above. It is specially designed according to the demands on high wear resistance and structural integrity. Many different combinations of metal matrices and hard phases can be realized by HIP-cladding, even those configurations which cannot be produced by melt metallurgical techniques such as welding.

Experiences with HEXADUR®

In 1996, first HEXADUR® roller was installed at a Norwegian cement plant onto a Köppern HPGR for testing under real service conditions as well as comparison with a conventional welded (hardfaced) roller [6]. The thickness of the Hexadur® layer was 10 mm. The wear protection of the counter roller consisted of a usual multilayer hard facing of type OA600 with hardness of 58 HRC and thickness of 15 mm. Whereas the hard faced roller wore out completely after 2500 service hours, only about one sixth of the Hexadur® thickness was lost. Finally, Hexadur® rollers in this application reached a lifetime of 76000 hours of

operation.

In the last years Hexadur® has been used in many plants around the world and also for HPGR's from other suppliers. Till now, in all the applications, Hexadur® has shown a very low wear rate ranging from 1.5 mm to 3 mm for every 10000 hours of operation inspite of operating at higher specific force of 6500 kN/m². The profile remains unaltered throughout its lifetime and hence no loss of production was experienced.



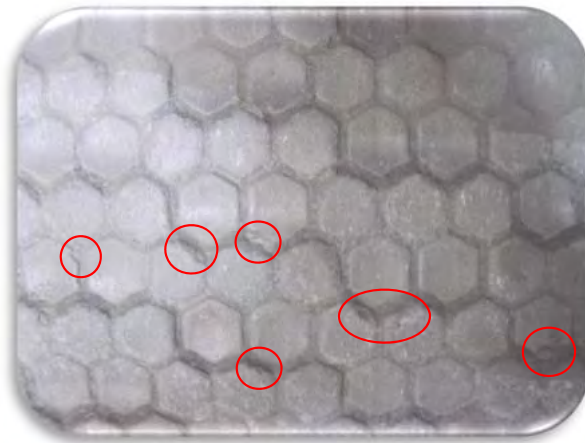
New Hexadur® Surface



Hexadur® surface after 38600 hours of operation. Expected Lifetime of wear surface .more than 100000 hours of operation



Hexadur® surface after 76000 hours of operation



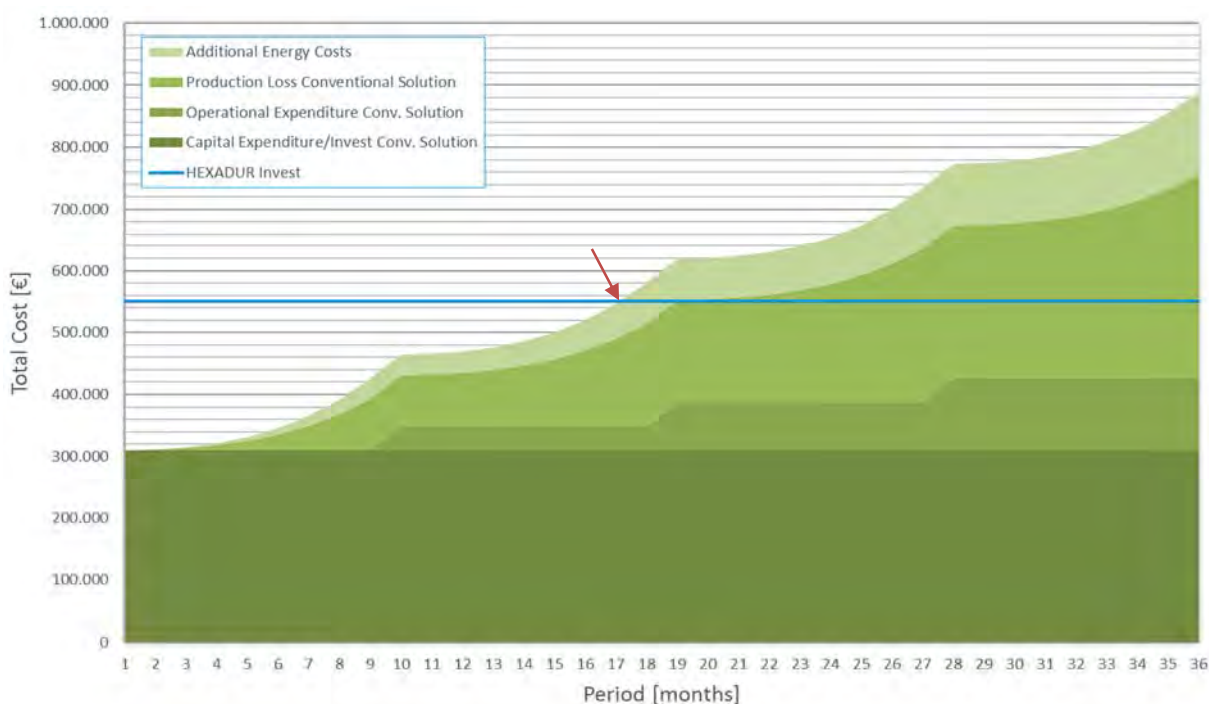
Such damages due to passage of foreign metal do not require any kind of maintenance repair as the cracks do no propagate due to multi metal .compound material

Financial aspects of Hexadur®

Operational costs of an HPGR mainly consist of energy and wear protection costs [5]. Repairing charges for maintenance and inspection of wear parts have to be considered, which may act as a counterbalance to the energy savings. If an HPGR has to be operated under reduced pressing force and throughput for reasons of prolonging the tool life time, the advantages of that comminution technology could be lost with respect to the energy costs [7,13].

For comminution of high abrasive feed material, the Hexadur® wear protection concept promises clearly increased tool lifetime and financial savings compared to the other available wear protection layers and wear resistant castings. If tramp material causes local

damages, repair work becomes redundant owing to the self-regenerating potential of the surface [14]. In addition to this, intake behavior and material throughput will also be enhanced. Higher entry costs are compensated as a result of significant cost savings due to a maintenance- and trouble-free operation. The typical return of Investment (ROI) for existing customers was between 12 to 24 months of operation. Hexadur® warranty and operational life are much higher than the ROI, therefore customers have profited from the savings rather than spending on energy and maintenance cost. It has been shown in a number of further applications in Europe, North and South America, Middle East and Asia that the lifetime of HEXADUR® rollers exceeds the lifetime of welded (hardfaced) rollers up to a factor of ten [14].



Köppern supports customer by calculating the payback period based on the actual operational and maintenance costs. Above is a typical example in which the customer paid €300000 for a set of welded rollers but went on spending on those rollers for repair and refurbishment, production losses thereby energy losses. The blue line is the cost of Hexadur® rollers. The payback achieved for this customer between 17 and 18 months of operation.

Conclusion

The HIP-cladded HEXADUR® wear protection comprises an applied combination of materials with different, but well defined properties with regard to process technology, structural integrity and wear resistance.

The interspacings between the hexagons are filled up with crushed feed material, building up a comb-like autogenous wear protection layer (APL) and improving intake behavior as well as throughput of the machine. A tough interspacing material creates high resistance against propagation of local damages to neighboring hexagons. Moreover, the hexagons are very tolerant to tramp material due to the potential for smoothing partial chippings without any consequences for the tool life.

The completely maintenance-free operation of Hexadur® rollers combined with maximum availability over a prolonged operation period has improved the total cost frame and clearly spoken for the Hexadur® wear protection system.

Additional services provided by Köppern

Since last years Köppern has been provided various support/solutions to its customers in the form of mechanical and process audits of the existing grinding circuits (with or without HPGR's) to find out the bottlenecks and decrease the energy demand. After the site visit, the customer receives a report with recommendations with time limits such as short, mid and long-term goals and with financial indications on each. Köppern has also successfully supplied hydraulic and feeding systems for HPGR's of other makes and due to these modifications, the customers have benefited from production increase and lower energy demand.

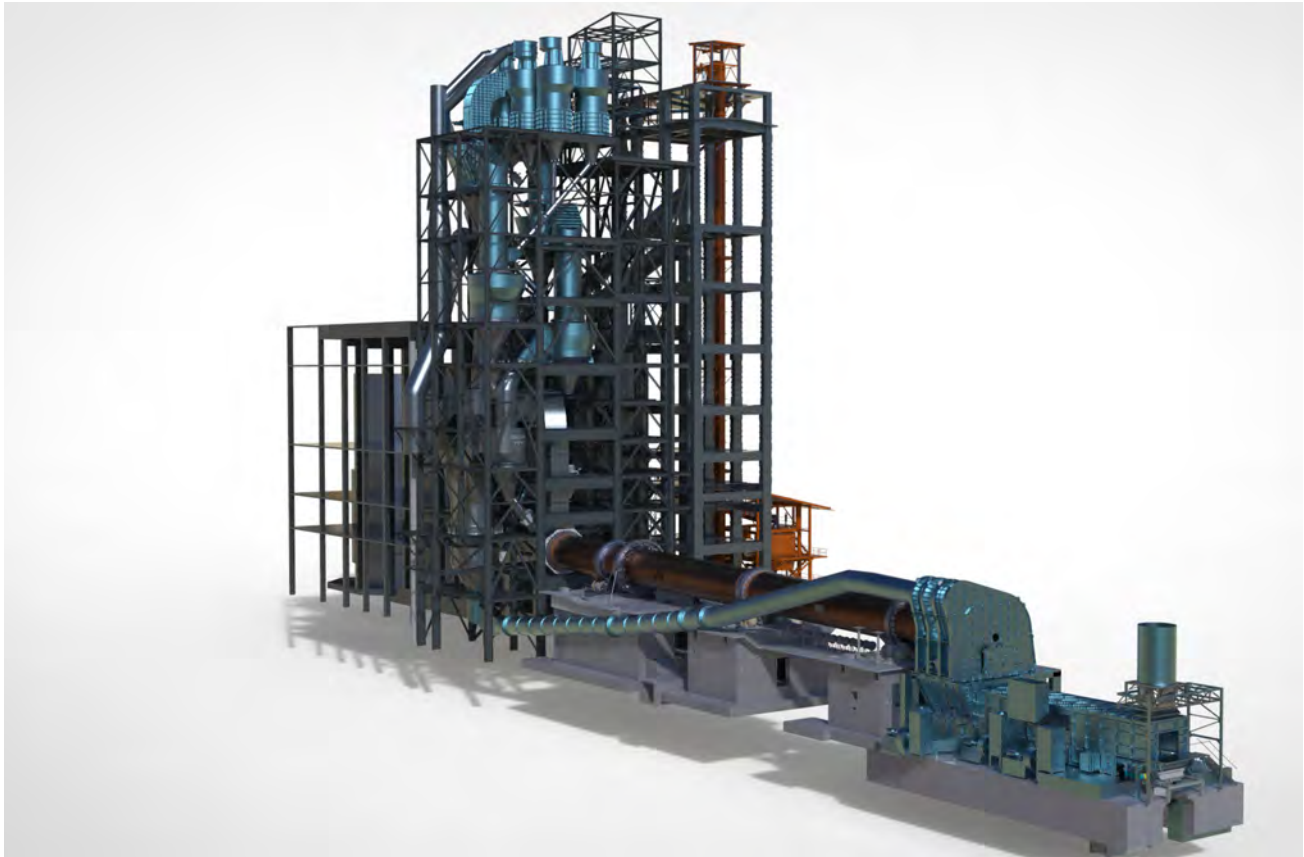
**For more details, please contact us at
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Cooler replacement goes hand in hand with complete pyro upgrade

By: Mogens Fons and Firat Aslan, Fons Technology International, Turkey



For a pyro-line upgrade the clinker cooler is the key main machine, but often a more complete package should be offered.

The pyro line, with the rotary kiln in the center, is actually having a heat exchanger in both ends:

1. The preheater is the heat exchanger in the front end of the pyro line. The function is to lower the gas temperature exiting the preheater while increasing the raw meal material temperature to the kiln and hereby saving energy.
2. The cooler is the heat exchanger in the back end of the pyro line. The primary function is to lower the clinker temperature and get as much energy back to the pyroline, by high temperature of the air amount returning to the kiln and calciner.

Beside the saving in energy clients often have a wish to increase the production capacity.

The Fons Delta Cooler has a modular design. Being the first movers in walking floor cooler principle since 1999, the cooler is having the optimal lane width of 400mm. This means that the cooler can fit into any cooler casing in steps of 400mm width. Any order consists of a close interaction with the client to fix the required production level after the modification and maybe prepare further increase in the years to come. In some cases, the length of the existing cooler casing will be increased if the cooler area is not sufficient for future production wishes. The new modular cooler can be installed, and actually the cooler can also later be increased in width or in length. Even the cooler can be reused, if the line has only few years of operation left, again, because of the modular system, the elements can be reused in wider and/or longer coolers or even split up into two smaller coolers! The modules are the same.

As mentioned above also the preheater is a heat exchanger, having a heat exchanger efficiency at a certain capacity. The heat exchange efficiency is determined by heat transfer efficiency before and in



each stage, the separation efficiency of the individual cyclone and the number of stages of cyclones. Heat transfer efficiency is a matter of the interaction between gas and material and retention time of the interaction while

the separation efficiency is again a consequence of the physical dimension/design of the cyclone but also the load (gas and material to the cyclone) as well as the particle size distribution of the raw material. E.g. a less efficient separation efficiency of a cyclone will let some material pass through and go to the upper located cyclone. This will affect the overall heat exchange efficiency of the preheater and let increase in gas temperature leaving the preheater. The bottom stage cyclones are important considering heat consumption as the recarbonation reaction takes place more with lower separation efficiency of the bottom stage cyclone. Top stage cyclones are very important for amount of dust return of the system, kiln feed stability. Design of high efficient cyclone can create high pressure drop, that's why cyclone design is very critical point of the Pyro-system.

For the following thinking path: let us assume an infinite number of cyclones in an ideal preheater - all having 100% separation efficiency. Hereby the two medias gas and raw-meal can change its temperatures. Consequently, if the raw meal is entering at 70 deg C and the gasses from the kiln is 1100 deg C, then ideally the gas could exit the preheater at 70 deg C and the raw-meal will go to the kiln at 1100 deg C. But this is only possible - even in this ideal world – and if the heat capacities of the two streams are the same! If the energy in the hot gas stream is significantly higher than

the possible energy increase by bringing the raw meal from inlet temperature to gas temperature, the gas exit temperature from the preheater will be above the raw meal entry temperature. This is an energy loss in the pyro process. The efficiency of an ideal preheater will drop from 100% when the total energy in the gasses are more than the energy required to heat the raw meal. The explained improvement of the heat exchanger efficiency in the preheater is clear, when having the following fraction: heat capacity raw meal divided by heat capacity gas = 1. This is now shown in the ideal preheater. But the same improvement with any heat exchange efficiencies will also appear, even if the preheater is not ideal. In other words, a preheater will improve anyhow with less gasses passing as the only “modification”!

An energy saving in the clinker cooler (when changing the cooler) will lower the cooler loss and the cooler is hereby giving a higher temperature of secondary and tertiary air returning back to the pyro process. As the air temperature is higher also the required amount is less, because now we only need to burn less fuel in the burners in the kiln and calciner – since the air was preheated better! As the oxygen level in the kiln inlet is maintained the total flow has to be reduced.

So, by replacing the cooler not only the pyro-process will gain from reduced cooler loss but also from improved heat exchange efficiency in the preheater – even by not modifying the preheater! A rule of thumb is giving a total saving of 35-45% higher than the saving in the cooler alone.

By now understanding the complexity of the pyroline,



it is clear that a thorough plant audit is required and must be carried through and analyzed, so the pyroline upgrade becomes a success and actually meet the client's production wish and the guaranteed improvements regarding savings in kWh, kCal/kg clinker and production increase.

We always insist upon the client's participation in all steps, but especially in the plant audit, both for common understanding of the baseline for later performance tests regarding guaranties and deep knowledge for the upcoming technical discussion towards the required scope for the project.

The following case story is an example of required scope through the analyzes, conclusions, contracts and execution.

In Nuh Cement Plant in Turkey the plant is beautifully located on a mountain side towards the sea. But the congested further complicated the pyro-upgrade.

After a detailed technical audit for line #1, it has been observed that the plant is running with high electrical consumption and high fuel consumption. Investigations showed us that there was a significant improvement possibility. We were awarded with a complete pyro upgrade and the following modifications:

- Three stage cyclones of two strings (8 cyclones in total) have been modified with FONS/DAL's state-of-art design cyclones
- Kiln Inlet Seal
- Clinker cooler with casing and Kiln Hood, cooler fans

- Tertiary Air Duct – Removal of Dust Settling Chamber
- Cooler Vent Fan
- Kiln Feeding System

All these modifications have been installed within 35 days from kiln shut down.

Capacity has been increased from 2750 up to 3400 tpd – guaranteed 3200tpd.

Calorific consumption has been reduced from 850 to 740 kcal/kg clinker – guaranteed 800.

Electrical consumption has been reduced from 31 to 24 kwh / ton clinker (at pyroline).

“The project was carried out successfully, and finished earlier than the scheduled date - even with much better values than guaranteed”, state Mr. Ilker Avci, investment Manager, Nuh Cement Plant.

Similar projects are waiting to be carried out, to benefit the clients and produce the cement in the most environmental friendly way. First step is to request and fill out the required questionnaires, enabling us to get a good indication for the possible saving potential and hereafter decide for further steps.

Mogens Fons, General Manager
Firat Aslan, Head of Process Department

Synergistic effects of curing conditions and magnesium oxide addition on the physico-mechanical properties and firing resistivity of Portland cement mortar.

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INTRODUCTION

Concrete is widely distributed as important structural material in construction due to several advantages including strength, durability, ease of production, and firing resistivity properties. Concrete was found to have higher sensitivity to curing conditions, affecting its physico-mechanical properties. Curing conditions and temperature are delicate parameters affecting the concrete performance. The application of water curing has potential effect on the compressive strength development of cementitious materials compared to water and air curing. Other researchers found that the concretes containing nano sized materials cured in $\text{Ca}(\text{OH})_2$ saturated-media have higher engineering properties compared to those cured in water. Although concrete, in general, has a high resistance to fire, its mechanical properties such as strength and elastic modulus decrease when subjected to high temperatures. The exposure of cement concrete to elevated temperatures leads to a significant variation in its microstructure. Free water starts to evaporate when concrete subjected to temperature of 105 °C. The dehydration of hydrated products (ettringite and gypsum) takes place in the temperature range of 80–170 °C. At 300 °C, the chemically combined water begins to dissociate which in turn leads to compressive strength regression. Further increase in temperature up to 600 °C causes the dehydroxylation of portlandite. Evidently, the compressive strength rapidly decreased when the concrete exposed to temperature beyond 400 °C, illustrating the calcium silicate hydrate (CSH) decomposition. The second CSH phase decomposes at the temperature range of 600–800 °C, yielding b-C2S. A complete degradation of CSH was recorded at 900 °C. This leads to thermo-mechanical damage, weight loss, spalling and cracking. The firing resistivity of concrete can be enhanced by the addition of some additives. Supplementary cementitious materials such as silica fume and slag have a positive impact on the microstructure densification caused by the interaction of silicate with portlandite (CH) (liberated during cement hydration) leading to form additional CSH yielding low permeable concrete. This contributes in the enhancement of concrete performance under elevated temperatures. As stated by Heikal et al., the addition of 1% nano-alumina has a positive effect on the firing resistivity of cement mortar. Other researchers found that the addition of 1% nano-iron oxide enhances the resistivity of cement pastes towards firing up to 450°C. As extension research, no spalling detected after the exposure of $\text{Ca}(\text{OH})_2$ - sludge-silica fume-nano silica-cement paste composites to fire up to 800°C

Results and discussion.

An experimental investigation was performed to evaluate the impact of curing conditions on the physico-mechanical properties and firing resistivity of cement mortar (CM) containing reactive magnesium oxide (MgO). Three different curing media including Tap water (TW), normal carbonation (NC) and accelerated carbonation (AC), have been applied. Two MgOs with different reactivity were used (MgO550 and MgO1250); where, 550 and 1250 are referred to the calcination temperatures applied on hydromagnesite. 10 mass % of MgO550 as well as MgO1250 were individually added to CM. The cured CMs were exposed to different elevated temperatures (250, 500 and 750°C) for 2 h soaking time. The phases composition

and microstructure of CMs were investigated via Fourier transform infrared (FTIR) spectroscopy, X-ray diffraction (XRD), thermo gravimetric analysis (TGA) and scanning electron microscopy (SEM) techniques. The results proved that the physico-mechanical properties and firing resistivity of control CM without MgOs cured in TW were superior to those exposed to NC and AC. The MgOs have detrimental impact on the properties of TW-cured-CM, due to the formation magnesium silicate hydrate with lower binding capacity compared to calcium silicate hydrate. Interestingly, the CM-MgOs cured in AC or NC

showed the highest mechanical properties as well as firing resistivity compared to control sample at the same curing media, respectively. In AC and NC, the MgO1250 has a higher impact on compressive strength development and firing withstanding of CM compared to MgO550. The optimum curing condition and MgO type, which gave the highest engineering properties and the highest resistivity to elevated temperature, were AC and MgO1250.

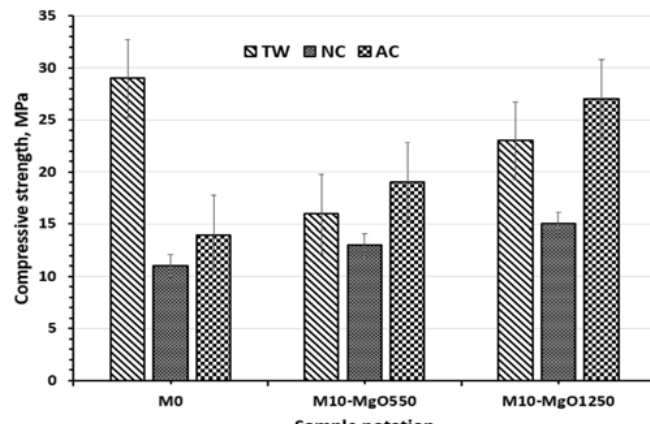


fig (1):-Compressive strengths of CMs with or without MgOs cured under different conditions at 28-days.

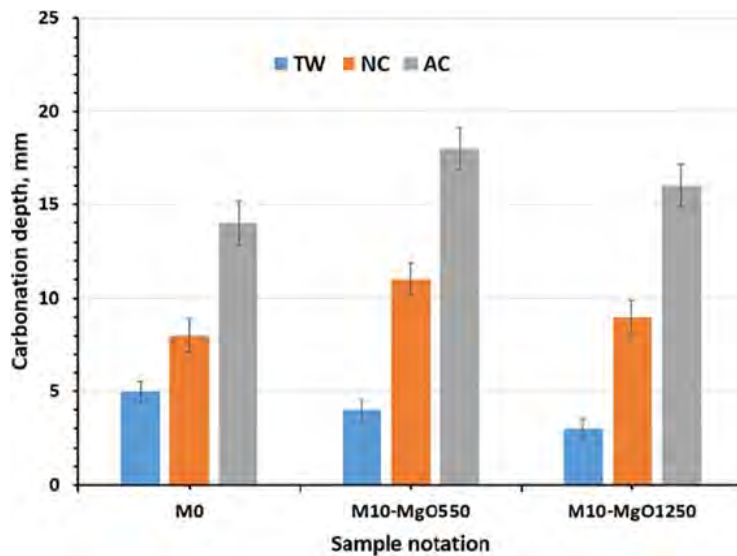


Fig.(2). Carbonation depth CMs with or without MgOs cured under different conditions at 28-days.

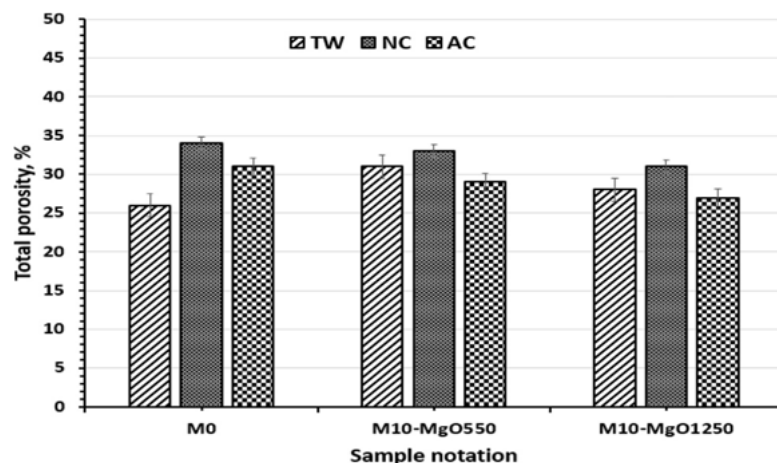


Fig. (3). Total porosity of CMs with or without MgOs cured under different conditions at 28-days.

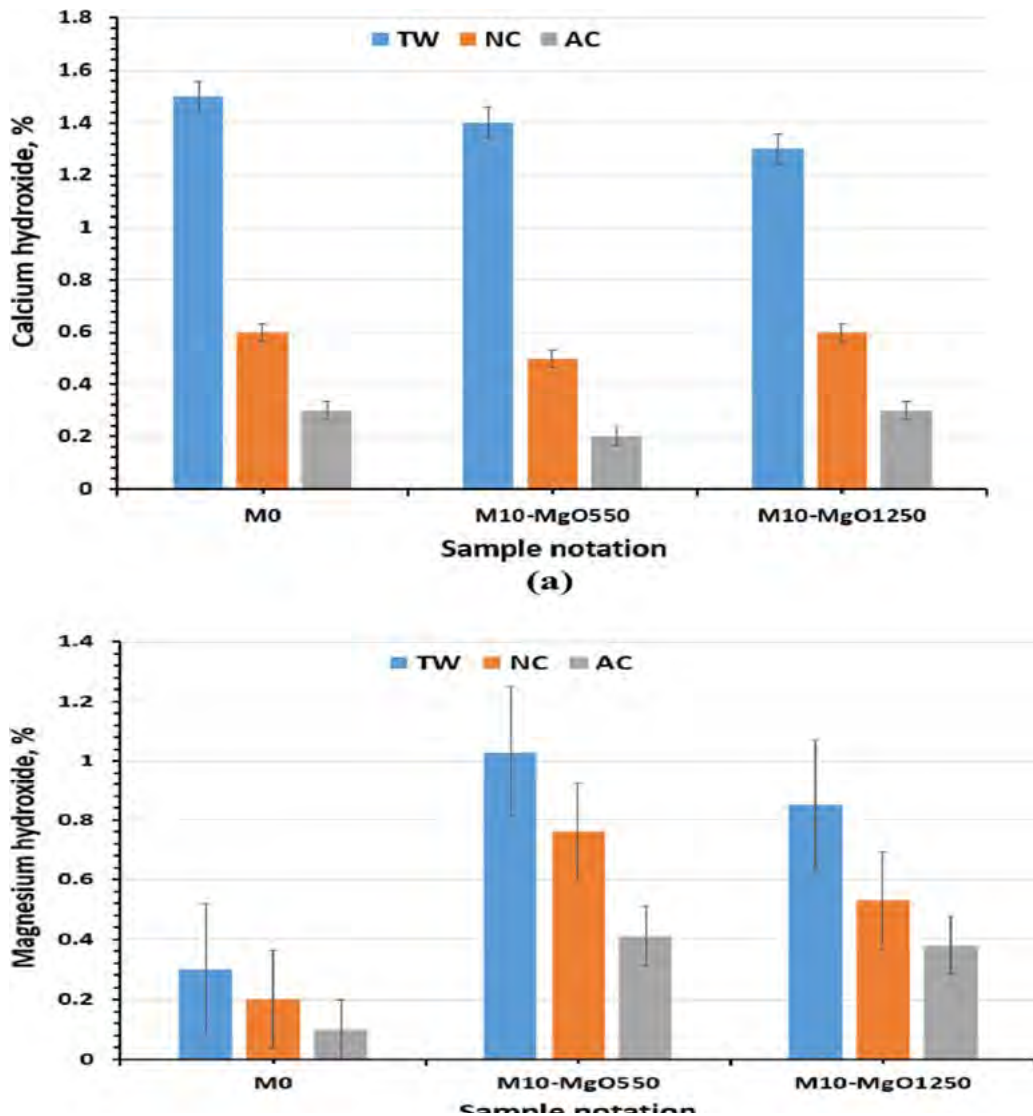


Fig. (5).(a) $\text{Ca}(\text{OH})_2$ and (b) $\text{Mg}(\text{OH})_2$ percentages CMs with or without MgOs cured under different conditions at 28-days.

Conclusions

Coupled impact of curing conditions and magnesium oxide (MgO) addition (with different reactivates) on the physico-mechanical and firing resistivity (up to 750 °C) of Portland cement mortar (CM) have been evaluated. The results proved that the curing under Tap water (TW) had higher impact on the performance enhancement of control CM compared with those curing under normal carbonation (NC) and accelerated carbonation (AC). Accured-CM containing 10 wt% MgOs gave the physico-mechanical properties superior to control CM cured at the same condition, reflecting the positive impact of MgOs on the performance of CM. A detrimental effect of MgOs on the properties of CM was observed under TW-curing. All CMs showed the lowest engineering properties under NC-curing. A synergistic carbonation and hydration products were formed in each curing media, but with different

rates as confirmed by X-ray diffraction (XRD), Fourier transformer infrared (FTIR) spectroscopy and scanning electron microscopy (SEM). The control CM cured in TW showed the higher firing resistivity comparing with those cured in AC and NC. A higher firing withstanding at 500°C was observed in case of AC-cured-CMs-MgO blends. However, the firing resistivity of AC-cured-CMMgO1250 was higher than that of AC-cured-CM-MgO550.



MultiMag: Third-Generation Magnesia-Spinel Brick for Coating Zone with Unstable Coating and/or Coating Area Shiftings ***“The Resistance to Multiple Factors of Fluctuated Coating”***

By: Mr. Pannawit Ngaochai// The Siam Refractory Industry, Thailand

In conventional fuel usage and normal operating conditions, the Coating Zone of the cement kiln the Refractory Bricks should build up the proper amount of “stable” coating in order to protect themselves from these environmental exposures, which consist of:

- High Thermal Load: refractory lining the central burning zone (or Coating Zone) is exposed to the highest temperature from main burner’s flame
- The Chemical Corrosion: chemical corrosion occurs when the coated refractory bricks are directly exposed to the hostile chemical environment within the cement kiln such as Alkali, Sulfur and etc.
- Clinker Infiltration: the occurrence of liquid phase wherein the chemical components within the silicate infiltrate the inner layers of the bricks. The infiltration disrupts the bonding structure of the bricks.
- The Abrasive from Clinker Ball
- Reducing Atmosphere
- Thermal Shock

As a result, the First-Generation Coating Zone Bricks, such as Hercynite-based bricks, Magnesia-Chrome Bricks, and so on, are developed with the ultimate goal of having as high coating adhesion strength as possible in order for the bricks to build up as thick and strong coating as possible through the highest strength of bonding between the coating and the bricks. This is to ensure that the thick and stable will protect the brick lining from all the damage factors in the coating zone.

Later on, along came the widely application of Alternative Fuels in cement manufacturing process. The Second-Generation Coating Zone Bricks, Magnesia-Spinel Bricks for Coating Area, are developed with the ultimate goal of not only to build up strong and stable coating, but also to have sufficient resistance to high intensity of chemical attacks in order for the bricks to withstand various types of chemicals as a result of the alternative fuel use.



However, today's cement manufacturing process has increased the intensity of alternative fuel application to both more amount use and more various types of alternative fuels. Moreover, there are certain production pressures, such as increased production capacity through modification of production line, increased kiln load and heat input to the system, the difficulties in operating the Kiln under the said conditions leading to improper operating conditions that are unfriendly to the refractory lining, and many more. These factors have generated more severity to the refractory lining, especially in the Coating Zone. The current situation of cement manufacturing process ultimately causes the instabilities in coating build up or "Unstable Coating", and in the even worse situation, it causes the shifting or moving back and forth of the coating area, as we refer to it as "Coating Area Shiftings". When "Unstable Coating" and "Coating Area Shiftings" occur in the Coating Zone, the Refractory Lining at this area is prone to:

- Thermal Load
- The Chemical Corrosion
- Clinker Infiltration
- The Abrasive from Kiln Feed's Clinker
- Reducing Atmosphere
- Thermal Shock caused by the coating instability

Plus

- Loss of thickness due to frequent coating drops and zone shifting since the coating adhesion strength of First-Generation and Second-Generation Coating Zone Bricks is designed to be so high that when coating drops, it pulls the bricks with it.

To enhance and protect the refractory linings in various coating environments from the mentioned problems factors and increase the kiln productivity, Siam Refractory is proud to introduce our Third-Generation Coating Zone Brick "MultiMag": Special Magnesia-Spinel Brick for Coating Zone with Unstable Coating and/or Coating Area Shiftings

The primary features of MultiMag are;

- Good coatability: with the thorough adjustment of the chemical composition, MultiMag is able to build up the coating with high stability
- Ability to Develop "Slightly Lower" Coating Adhesion Strength than Conventional Coating Zone Bricks in order to minimize brick thickness loss due to frequent coating drops and zone shiftings
- Good Thermo-Chemical reaction, Thermal Shock Resistance and Mechanical Strength at Elevated Temperature. MultiMag is well designed and made from the high purity raw materials together with Siam Refractory's latest Spinel Technology.

The Coatability of MultiMag is referred to as coating adhesion strength, which can be calculated from the maximum load needed to break the bond between the brick and the coating (referred to in the test as Clinker).

First, samples of MultiMag with approximate dimension of 40 x 40 x 160 mm are cut into 2 halves. Ordinary Portland Clinker is, then, applied on to the cut surface in order to join the two parts together. The rejoined samples are loaded vertically into the gas firing furnace where they are fired at 1,400 degrees Celsius, a temperature close to the condition of the Coating Zone in cement kiln, for 6 hours before being soaked for another 30 minutes under the temperature of 1,000 degrees Celsius, the condition similar to the contacted area of coating and refractory lining in the Coating Zone of cement kiln.

Next, a certain level load is applied to break the bonded joint of the clinker and the brick. The maximum load needed to break this joint is calculated as coating adhesion strength. This indicates how strong the coating adheres to the lining. The higher the load, the stronger the coating can adhere to the lining.

The result of the test shows that MultiMag develops "Slightly Lower" Coating Adhesion Strength than the older generation Coating Zone bricks. However, its Coating Adhesion Strength is still higher than that of the Magnesia-Spinel Bricks for Transition Zones.

In comparison with other Magnesia-Spinel Bricks that are designed for Coating zone, MultiMag tests are carried out to confirm its features.

The test involves the chemical corrosion with Alkali Salt by using cup test method.

The result showed that MultiMag has superior resistance against the chemical abrasion without the occurrence of cracks.

Also, with the test of chemical corrosion from cement clinker with chemicals in a high temperature of rotary drum comparison between MultiMag and Normal Spinel Bricks, the result shows that MultiMag has excellent performance of withstanding the clinker corrosion and chemical infiltration.

Furthermore, MultiMag is tested for amount of gas infiltration by the test called "Gas Permeability", in which the test specimens are tested how much gas can pass through it. The lower the gas permeability value, the better the brick in terms of chemical infiltration resistance. The test indicates that MultiMag has lower gas infiltration when compare to other Magnesia-Spinel Bricks.

In the comparative test to measure the thermal shock resistance, specimen of MultiMag, along with specimens of other Magnesia-Spinel Bricks, is heated to 1,200 Degree Celsius in the furnace for 2 minutes, immediately cooled down by air for 5 minutes, and continuously repeating the cycles until breakage. The result also shows that MultiMag has given similar level of thermal shock resistance than that of the Transition Zone Bricks, which is sufficient to give MultiMag enough resistance to thermal shock due to fluctuation of coating and coating area shiftings.

In addition, the result of Hot Modulus of Rupture, also known as "Hot-MOR" testing, which is the ISO-Standard Testing Approach to measure the brick strength and flexibility at high temperature of 1,400 Degree Celsius, shows that MultiMag has relatively higher strength and better flexibility at high temperature than other Magnesia-Spinel Bricks for Coating Zone, thus, able to flexibly withstand high mechanical load.

All these tests prove that Siam Refractory's MultiMag has exceptional features and extremely well suited for the Coating Zone with Unstable Coating and/or Coating Area Shiftings.

In the following pictures, MultiMag was installed at different areas in 2 Kilns of Cement Plant in Thailand.

In the first Kiln (Kiln Diameter 5.0 m. x 80 m. long, 5,500 Ton per Day), MultiMag was installed at Meter No. 4 to Meter No. 12 (Lower Transition Zone and Coating Zone) in September 2008. The brick lining at Lower Transition Zone has finally lasted for 420 days with the remaining thickness of 14 cm (from original thickness of 23 cm). As for the brick lining at Coating Zone, it has finally lasted for 536 days with the remaining thickness of 15-17 cm (from original thickness of 23 cm).

In the second Kiln (Kiln Diameter 4.2 m. x 67 m. long, 3,000 Ton per Day), MultiMag was installed at Meter No. 10 to Meter No. 23 (Coating Zone) in July 2009. The brick lining has finally lasted for 382 days with the remaining thickness of 16-18 cm (from original thickness of 20 cm).

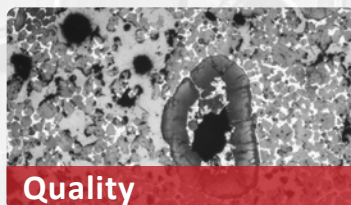
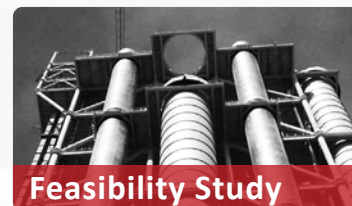
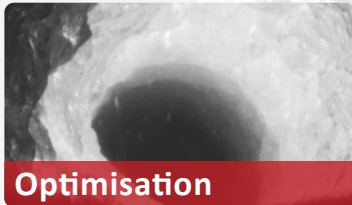
All of these tests and actual uses have ensured that MultiMag is essentially the key to the long and satisfactory lining at the Coating Zone with Unstable Coating and/or Coating Area Shiftings. And this is the very reason why MultiMag has gained the confidence and preference from our international customers, and keeps on rising as the new generation Magnesia-Spinel Brick for today's Coating Zone.

MultiMag – "Siam Refractory's Third Generation Coating Zone Brick – The finest solution for Coating Zone with Unstable Coating and/or Coating Area Shiftings"

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BEUMER Group delivers belt apron conveyors for reliable and economical transportation of cement clinker:

Blazing the trail in reliability

From a kiln cooling system to silos: the safe and economical transportation of hot materials like clinker is crucial in cement plants. The material can have extremely high temperatures of 500 to 800 degrees Celsius. Reliable plant operation requires a robust conveying system. The BEUMER Group supports cement manufacturers with system solutions tailored for this industry, with apron conveyors for example. A special variant offered is the belt apron conveyor (GSZF): using a belt instead of a chain as the traction element allows higher speeds and a slimmer design while still delivering the same level of performance. The GSZF is therefore particularly suitable for modernisations, as can be seen with the Turkish cement manufacturer Göltas Cemento.

Why are apron conveyors particularly efficient for the transport of clinker? André Tissen doesn't need to think long: "The cement plant operators are still not able to ensure with one hundred percent certainty that the material does not leave the clinker cooler at temperatures of 500 to 800 degrees Celsius." Tissen is a sales manager for Customer Support at BEUMER Group and is familiar with the demands of the customers. In general, the clinker should cool down to the ambient temperature plus 80 degrees, but during the process, a so-called raw meal flash can occur in the shell section of the preheater tower, caused by breaks in the kiln outlet sealing. "It doesn't happen often, but it does happen. It can't be completely avoided," explains the expert. Within a few seconds, several tons of raw meal or clinker run through the cooler. The material cannot cool down and arrives on the conveyor at extremely high temperatures.

BEUMER Group apron conveyors provide robust and reliable solutions that are completely heat resistant. The specific design of the cells allows safe, low-friction transportation of any hot material. Sealed and overlapping side walls and bottom plates in the cells prevent the clinker from exiting and minimise the escape of dust. Operators get the BEUMER apron conveyors SZF and GSZF with cell width gradations

from 500 to 2,000 millimetres, centre distances of more than 250 metres and conveying capacities of over 1,300 cubic metres per hour.

Angles of inclination up to 60 degrees

The angles of inclination on the SZFs and GSZFs depend on the height of the silo and the conveying distance. The systems come in three different designs. "We have an open cell design where the bulk material is transported at an angle of up to 30 degrees without rolling back," explains Tissen. The cells on the second design are equipped with baffle plates. Inclinations of up to 45 degrees are possible. The design as steel box conveyor allows extreme inclinations of up to 60 degrees. "This design is perfect for steep inclinations and small curves, but also for smaller inclinations when transporting clinker with a high content of fine particles," he describes.

And this is becoming more and more important for operators. Instead of using fossil fuels like coal and gas they are opting for alternative fuels in order to reduce greenhouse gas emissions and production costs. Besides liquid materials like waste oil or solvents, the majority of the solid alternative fuels are composed of municipal and industrial waste, such as plastic, paper, composite material and textile mixes. This also changes the chemical process. "Clinker grains are spherical with a diameter of ten to 30 millimetres and the content of fine particles is less than five percent when using fossil fuels. This content increases however to 30 percent when using alternative fuels," explains Tissen. "In order to handle this safely, the boxes need to be completely enclosed."

Belts - the economical alternative

The traction element in the conveyor is usually a single or double strand sprocket chain, designed as steel-bushed roller chain with a pitch of 315 millimetres. Finely regraded versions for breaking forces ranging between 250 and 2,700 kilo newton ensure optimum adaptation to the required parameters. The maximum conveying speed is 0.3 meters per second.

"Instead of a chain we also offer the apron conveyors with our tried and tested BEUMER steel wire belt coming from the bucket elevator technology," reports the expert. Here the cells are attached to the low-wear, long-lasting and steel-wire reinforced belt in a way so that the heat of the clinker in the steel cells is not transferred on to the belt. A special profile between the steel cells and the belt prevents this. Partition plates are attached in the material feeding area below the cooler and can be easily removed for maintenance, protecting the belt against hot clinker in case of a kiln flash.

Perfect for retrofitting

One decisive advantage of the belt apron conveyor: with 0.6 metres per second, it can reach double the conveying speed compared to apron conveyors with a chain. "This makes it perfect for retrofitting and modernisations," says Tissen. If the operator wants to increase the kiln capacity for example, he can replace an existing apron conveyor with an belt version of the same size. It means double the capacity without having to change anything on the steel structure or the conveyor bridge.

The operator also benefits of a new construction application: The thinner, lighter design of the GSZF reduces costs for the steel structure and freight. Furthermore, the decreased net weight lowers the static and dynamic loads which affect the clinker silo and the foundations for example. "A new construction project can be designed for a smaller load and is therefore more cost-effective to build," explains the expert. "The lightweight design also lowers operational costs."

Quiet, low in maintenance, reliable

As the entire belt lies with its surface on the drive and return pulley, the unwanted polygon effect on the chain is avoided. The particularly smooth running of the machine also reduces noise emission considerably. The noise is less than half as loud as conventional SZFs with chains. This is good for the employees, the environment and the surrounding area.

The use of the durable BEUMER steel wire belt instead of a chain lowers the maintenance costs, and extends maintenance intervals. Chains can also break, if preventive maintenance is not performed properly, which will lead to the conveyor collapsing. "The belt with the steel wires only ages and the rubber becomes brittle, but it would never completely break," describes Tissen. Lubrication is also not required for the belt, whereas used frequently on a chain, if for no other reason than to reduce noise levels. Grease and oil are not only a cost factor, but also detrimental to the environment and the conveyor. The clinker dust gets stuck on it and settles in the chain links, which accelerates the wear and tear.

Göltas Cemento opts for GSZFs

BEUMER belt apron conveyors are in operation for nearly 150 companies. One of them is the Turkish cement manufacturer Göltas Cemento, located close to Isparta, approximately 130 kilometres north of Antalya. In the wake of a building boom in Turkey and the growing demand for cement, the cement manufacturer opted for modernising its kiln and increasing the performance. An increase from 250 to 400 tons per hour of the conveying technology capacity was required, for a chain apron conveyor that transports the clinker from the kiln cooling system to the silo. And for an economical production, Göltas Cemento has been increasingly opting for alternative fuels over the last several years, which meant that the content of fine particles also increased continuously. The existing conveyor already transported high quantities of material, and the process had become extremely dirty. Personnel was constantly needed to perform cleaning work.

To find an efficient solution and a suitable partner on their side, Göltas Cement turned to the BEUMER Group. The two companies have been working together since 1996. The system provider has supplied two clinker transport systems and four belt bucket elevators over the course of their partnership. So, the cement manufacturer was already familiar with the advantages of the BEUMER steel belt technology. The project phase began mid-2015, the contract was awarded in the beginning of 2016, followed by the installation and commissioning in the fall.

Modernisations without extensive reconstruction work

"For a more powerful chain apron conveyor, we would have needed to take down the entire system including the building structures and the concrete tunnel," says Tissen, who was responsible for this project with his team. "This wasn't necessary when opting for the belt version. It reaches double the conveying speed, so that the BEUMER Group engineers could design the system for an increased capacity while keeping the same width. The conveyor bridge and the self-supporting steel structure, as well as the concrete foundations remained. Göltas Cement was able to considerably reduce costs, and put the system quickly into operation. "The silo is 50 metres high. In order to overcome an inclination of 40 degrees, we installed a steel box conveyor," explains the expert. It releases almost no material to the environment, despite the higher content in fine particles, creating a cleaner work environment.

For the installation work, BEUMER Group provided the supervisor, the assembly was carried out by the client personnel. "Our collaboration went great," sums up Tissen. "The assembly only was a little trickier in

New Products and Media

the very narrow concrete tunnel, where the conveyor is located. But the installation was well-prepared. So we were still able to stick to the set schedule." Göltaş Cemento and BEUMER Group are already discussing future modernisation projects.



Photo 1: BEUMER Group supplies belt apron conveyor to the Turkish cement manufacturer Göltaş Cemento.



Photo 2: The narrow and weight-reduced design of the GSZF reduces the costs for steel structure and freight. The operator was able to save considerably on costs.



Photo 3: Employees of the cement manufacturer in charge of the installation work, with the support of BEUMER Group.



Photo 4: In the background: The belt apron conveyor reaches an inclination of 40 degrees.



Photo 5: The specific design of the system's cell strand facilitates the clean transportation of the clinker. No clinker can run out.

Photo credits: BEUMER Group GmbH & Co. KG

Schenck Process introduces ProFlex® C100

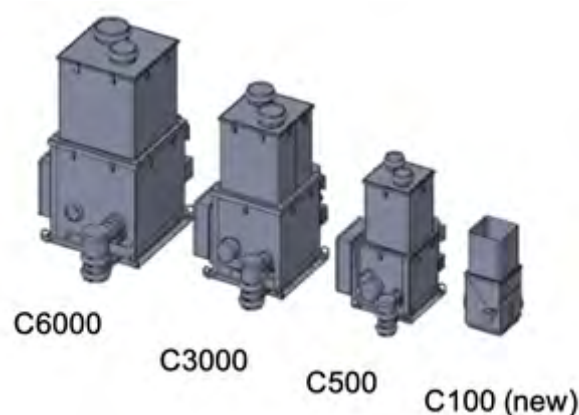
Round up of ProFlex® C family to smaller feed rates for masterbatch applications

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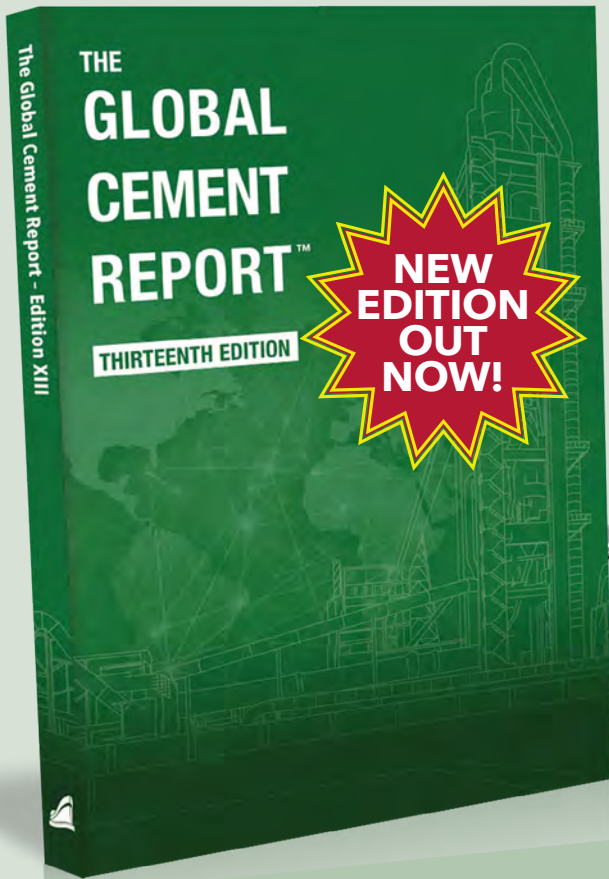
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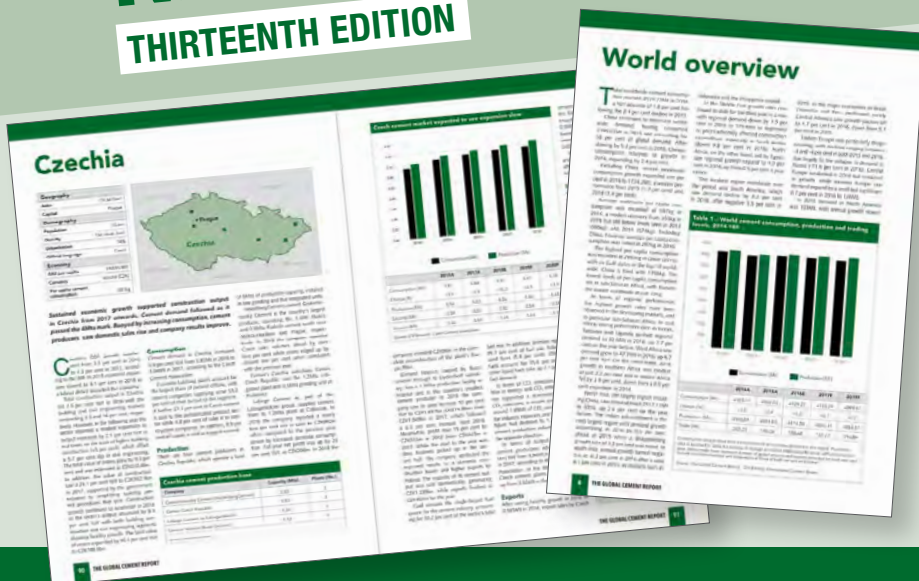


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New generation of machine-level block I/O devices with IP65/67 protection

- **Next generation of Simatic ET 200eco PN: New functions for modern machine concepts and requirements**
- **For use in redundant, high-availability systems thanks to S2 redundancy**
- **High current-carrying capacity with power supply via L-coded plug**
- **High-quality industrial enclosure with IP65/67 protection for outdoor use**

Siemens has launched a new generation of machine-level block I/O devices in the form of the Simatic ET 200eco PN. The new I/O family with IP65/67 degree of protection includes five digital I/O devices as well as an IO-Link master device and offers users a whole range of new functions for modern machine concepts and requirements. In their new industrial metal enclosure, the devices are reliably protected from UV radiation and harmful substances even under adverse environmental conditions, making it possible to use the devices outside of factory buildings. The devices are supplied with power via an L-coded plug, resulting in a considerably higher current-carrying capacity. In turn, this enables longer cable routes in the field, and the supply and connection of more energy-intensive components (such as valve terminals) without the need for more supply cables.

The new I/O devices feature individually configurable M12 sockets and support S2 redundancy, making them suitable for use

in redundant systems such as the highavailability Simatic S7-1500R/H systems, for example in tunnel applications.

Thanks to the internal Modular Shared Input (MSI) and Modular Shared Output (MSO), the user has simultaneous and independent read access to the current switching state of module inputs and outputs from multiple controllers, without the need for additional programming overhead. This enhances machine and plant transparency.

The shared device function means that the I/O device channels can be split between two IO controllers. This allows the creation of flexible automation concepts.

Background information:

Concepts for new machinery and plants are becoming increasingly distributed. Control cabinets are getting smaller, or even disappearing completely, and I/O systems which used to be deployed in the control cabinet are being replaced with smaller, rugged versions in IP65/67 with complete protection from dust and water. It is now possible to design smaller machines, as the devices can be mounted almost anywhere on the machine, saving space and costs. This also helps to significantly reduce cabling distances between I/O devices and sensors/actuators, not only cutting material costs, but also making machine transport, installation, and disassembly easier and reducing the likelihood of cabling errors.



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- **Data services:** statistical and data research tools offering industry practitioners a wealth of cement supply and demand data



Siplus HCS4300 and HCS4200: spacesaving, high-performance heating solution

- New power output module boosts HCS4300 heating control system performance
- HCS4200: space-saving solution for use in flat control cabinets with new CIM4210C central interface module
- Simple, convenient engineering and commissioning of industrial heating processes with TIA Portal

Siemens has equipped the modular Siplus HCS heating control systems for switching and controlling heating panels and elements with a new power output module (POM) and a central interface module (CIM). With more power per output and a space-saving solution for mounting in flat control cabinets, the flexible heating control system is now even more versatile, and can be used for example in applications with heat registers.

With the new POM4320 Highend power output module for 230/277 and 400/480 V power supply networks, the Siplus HCS4300 heating control system can now control electrical heating elements up to 60 A. Three outputs can be used per module at 60 A, and six at 30 A. Integrated current measurement for each output enables heating elements connected in parallel to be monitored so that faults can be diagnosed.

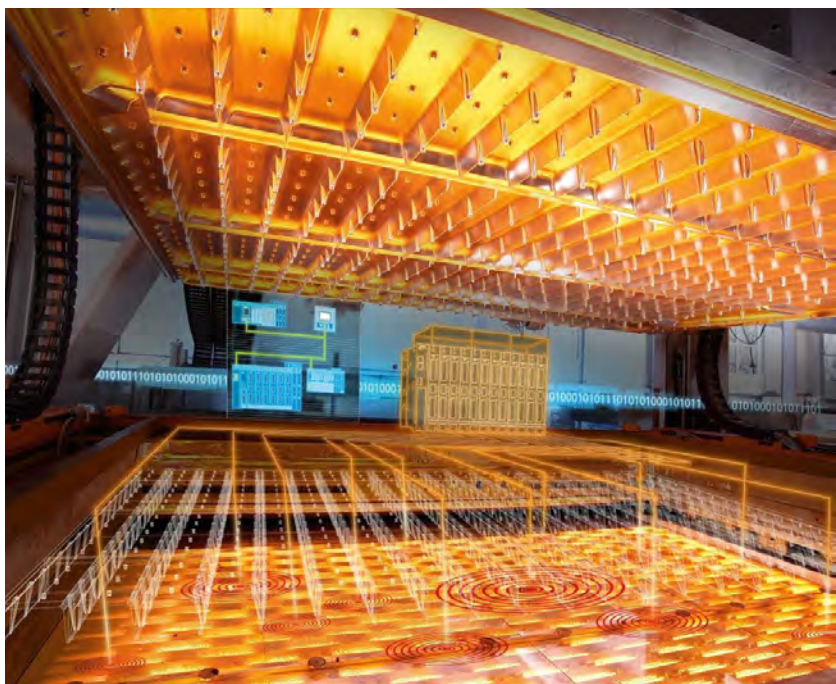
Three-phase heating elements in a closed triangle, as are typically used in applications with higher power ratings such as heat registers, can now also be controlled.

For small heating applications with up to 32 heating elements, the HCS4200 heating control system offers a particularly space-saving solution with the compact CIM4210C central interface module, which is just 104 mm wide. As a result, this HCS solution is also particularly well-suited for use in flat control cabinets. All POMs of the HCS4200 can be used in the two slots of the compact CIM.

The Siplus heating control system can be integrated particularly easily into the automation environment

via the engineering framework Totally Integrated Automation Portal (TIA) – with minimal cabling effort and fast commissioning. An HCS program library and user examples simplify engineering even further. Smart control routines ensure that the load is distributed evenly across the network, while integrated diagnostic functions enable faults to be detected and localized rapidly.

Heating control systems from Siemens can be found in a range of sectors and applications all over the world: for example, in the drying of paint and coatings, in the molding of plastics and lightweight construction materials, in plastic welding, and in infrared oven baking.





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Updates for Siemens frequency converter portfolio

- **Voltage variant of Sinamics G120X for USA and Latin America**
- **Save space with new size for the Sinamics V20**
- **Adapter kit to physically and thermally separate power module and control unit for Sinamics G120**

With numerous innovations, Siemens is extending its drive portfolio, improving userfriendliness and offering space-saving installation options. The Sinamics G120X converter, designed specifically for use in water/wastewater applications and in HVAC systems, is now also available in a three-phase 3AC 200V voltage variant in the power range up to 55 kW. This means that the converters can now be integrated seamlessly into applications in the USA and in Latin America. Due to its robust construction and the coating of the PCBs according to 3C3 standard the converter is suitable for harsh environments. The new module for extending the digital and analog inputs and outputs increases the flexibility and the optimal control of converter-guided applications. The Sinamics G120X now also supports the communication protocols Profibus, Modbus RTU, USS and BACnet MS/TP. It is equipped with extensive interfaces and can be easily integrated into existing or new systems.

The Sinamics G120 modular frequency converter combines with the Sinamics control unit adapter kit CUA20 to provide an option for simple and flexible cabinet design. The adapter kit supports DNV GL-certified cabinet designs. Power modules and the control unit can be separated physically and thermally, making the converter even more flexible and customizable.

A new Sinamics V20 converter size has been added in the 2.2 kW to 3 kW power range. The 32 percent smaller size FSAD with cabinet dimensions of 176.5 x 136.6 x 158 mm makes the Sinamics V20 an even more flexible and space-saving solution.

The Sinamics G120C frequency converter also features excellent flexibility. Thanks to the new arrangement of the plug connections, in future there will be more space in the control cabinet.



With new sizes, a new arrangement of connections and a control unit adapter kit, the converters from Siemens save space.

For further information regarding Sinamics, please see www.siemens.com/sinamics

For further information regarding Sinamics G120X, please see <https://sie.ag/2PtTOS5>

Siemens Digital Industries (DI) is an innovation leader in automation and digitalization. Closely collaborating with partners and customers, DI drives the digital transformation in the process and discrete industries. With its Digital Enterprise portfolio, DI provides companies of all sizes with an end-to-end set of products, solutions and services to integrate and digitalize the entire value chain. Optimized for the specific needs of each industry, DI's unique portfolio supports customers to achieve greater

productivity and flexibility. DI is constantly adding innovations to its portfolio to integrate cutting-edge future technologies. Siemens Digital Industries has its global headquarters in Nuremberg, Germany, and has around 76,000 employees internationally.

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. The company is active around the globe, focusing on the areas of power generation and distribution, intelligent infrastructure for buildings and distributed energy systems, and automation and digitalization in the process and manufacturing industries. Through the separately managed company Siemens Mobility, a leading supplier of smart mobility solutions for rail and road transport, Siemens is shaping the world market for passenger and freight services. Due to its majority stakes in the publicly listed companies Siemens Healthineers AG and Siemens Gamesa Renewable Energy, Siemens is also a world-leading supplier of medical technology and digital healthcare services as well as environmentally friendly solutions for onshore and offshore wind power generation. In fiscal 2019, which ended on September 30, 2019, Siemens generated revenue of €86.8 billion and net income of €5.6 billion. At the end of September 2019, the company had around 385,000 employees worldwide. Further information is available on the Internet at www.siemens.com.



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Both reports on practical experience and up-to-date information from the areas of research and development are presented. Concomitant reports and short news items and announcements indicate to readers forthcoming trends in scientific-, product- and market developments.

INTERNATIONAL

CEMENT INTERNATIONAL with international orientation is bilingual (German/English). As the official organ of the German Cement Works Association (VDZ) and the Hungarian Cement Association, the journal can lay claim to the highest standards and superlative quality.

TARGET GROUP ORIENTED

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EDIMAX ASTOR CERAMICHE: THE THIRD DIMENSION OF THE TILES

Ceramic production becomes more innovative and performing with new 3D Shape Technology that

Edimax Astor Ceramiche introduced as part of its industrial manufacturing process.

Aesthetics and technology are operating hand in hand in the productive evolution of Edimax Astor Ceramiche. The constant commitment towards aesthetic research and technological innovation has seen the company achieve collections suitable for the most demanding markets.

Even on this occasion, the company has introduced a new and unprecedented production innovation that completely changes the perception of ceramic in its surface and touch.

It's called 3D Shaped Technology, tech innovation that is in the middle of the production process to obtain the best realism on porcelain products. Now graphics and structures match perfectly.

This new process combines the graphic of the surface with its volume and real shape.

Edimax Astor Ceramiche is the promoter of this technology and has presented the new collections as an absolute preview at Coverings 2019 in Orlando, Florida (USA).

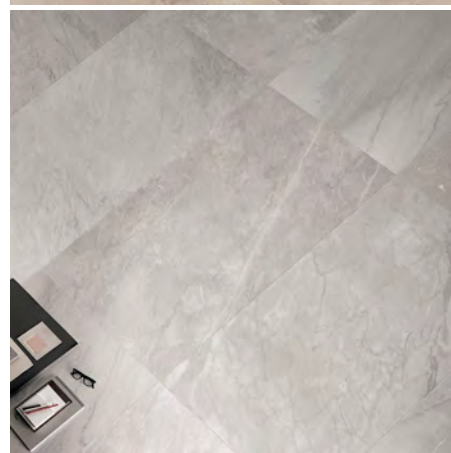
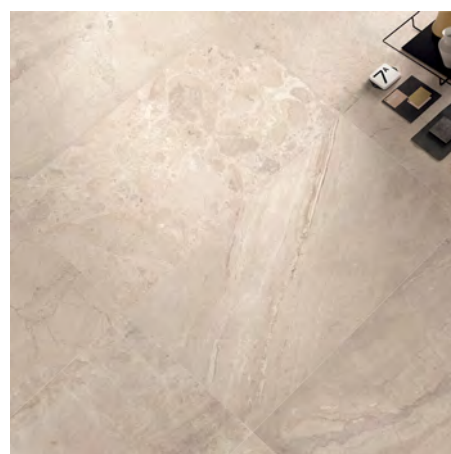
The first two collections have been well received from our longstanding customer base and the names are Velvet and Stream. Design and Graphics correspond totally, giving the lines a new and stunning realistic effect.

Velvet finds its inspiration from precious natural marbles worn out by the time. Veins and depressions, recreated with the technology together with this smooth surface, give this collection a sense of truthfulness. Elegant beauty developed in a harmonious balance of nuances and tone on tone shade variations. Velvet is available in White, Grey and Almond colors.

Stream has been created following the beauty of real classic travertine stone, with both types of veining, vein-cut and crossed cut. The peculiar signs and graphics of the real stone travertine are reproduced with 3D Technology. Stream is available in sophisticated colors Silver and Bone.

For more information:

INtono Comunicazione - Edimax Astor Ceramiche Press Office
silvia.bertolani@intono.it





**PRODUCT SPECIFICATION
VELVET**

AZIENDA	Edimax Astor Ceramiche - Gruppo Beta Spa
INDIRIZZO	Strada Statale 569, 234 - 41014 Solignano (Modena) – Italy
TELEFONO	+39 059 748 911
FAX	+39 059 748 990
SITO WEB	www.edimaxastor.it

COLLECTION	VELVET
PRODUCT	Coloured body glazed porcelain tiles
PRODUCT FINISHES	Rectified
SURFACE FINISHES	Natural
SIZES (cm)	60x120 60x60 30x60 10x60 10x30
THICKNESS (mm)	10
COLOURS	White Grey Almond
DECORS / MOSAICS (cm)	Sticks 30x60 Mosaico Basket Mosaico 5x5 – comp. 30x30 Chevron
TRIM PIECES (cm)	Battiscopa Gradino Ang. Gradino
DESTINATION OF USE	Residential and light commercial
DESCRIPTION	Developed to give structural depth and interpretative intensity to natural stone, Velvet range is the result of a selection of precious marbles where the "passage of time" leaves veins and depressions in the raw material that get translated into gentle shades of neutral and contemporary tones of white (white), grey (grey) and beige (almond).

SYMBOLOLOGY

RET: rectified

AUTHORIZATION	Beta Group Spa authorizes the use of the above information and images related to diffusion and possible publication on portals, newspapers and magazines.	X
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*Production specifications edited by
Intono Comunicazione on behalf of Edimax Astor Ceramiche
ufficiostampa@intono.it - www.intono.it*

DIARY DATES

CEMENT

Slag & AshTrade 2020

Date : 12 - 13 February 2020
Venue: Puerto Vallarta, Mexico
Email: sales@gmiforum.com

Alternative Fuels & Raw Materials Americas 2020

Date : 12 - 13 February 2020
Venue: Puerto Vallarta, Mexico
Email: sales@gmiforum.com

14th Global CemFuels 2020

Date : 19 - 20 February 2020
Venue: Paphos, Cyprus
For more information, please contact:
Mr. Robert McCaffrey, Global Boards Conference
convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
http://cemfuels.com

Argus Russian Coal Market 2020

Date : 20 February 2020
Venue: Ararat Park Hyatt Hotel, Moscow, Russia
Tel: +7 495 933 7571
Email: moscowconferences@argusmedia.com

INTERCEM Dubai 2020

Date : 03 - 04 March 2020
Venue: Dubai, UAE
For more information, please visit:
www.intercem.com

The 5th Australian Drymix Mortar Meeting

Date : 05 March 2020
Venue: Rydges Hotel Parramatta, Rose Hill (Western Sydney), NSW, Australia
Email: info@drymix.info
For more information, please visit:
www.drymix.info

Slag & AshTrade Asia 2020

Date : 11 - 12 March 2020
Venue: Ho Chi Minh, Vietnam
Email: sales@gmiforum.com

Alternative Fuels & Raw Materials Asia 2020

Date : 11 - 12 March 2020
Venue: Ho Chi Minh, Vietnam
Email: sales@gmiforum.com

4th Philippine Drymix Mortar Meeting

Date : 17 March 2020
Venue: Manila, Philippines
Email: info@drymix.info
For more information, please visit:
www.drymix.info

2nd Global GypSupply 2020

Date : 18 - 19 March 2020
Venue: Brussels, Belgium
For more information, please contact:
Mr. Robert McCaffrey, Global Boards Conference
convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
http://gyp-supply.com

2nd Conference of Cement Industry & Technologies with Related Exhibition

Date : 23 - 25 March 2020
Venue: Cham Palace – Damascus, Syria
Tel: 00963114476769
Mobile - WhatsApp: 00963988413989
Email: cementtechco@gmail.com
www.cementtechco.net

Slag and AshTrade Europe

Date : 26 - 27 March 2020
Venue: Cologne, Germany
Email: sales@gmiforum.com

Global Cement Events 2020

For details, please visit each event's web site.

Events organised in cooperation with the AUCBM.

Member companies of the AUCBM gain additional delegate registration discounts on these events. See registration pages for details.



4th global cemboards

21-22 January 2020,
Munich, Germany
cem-boards.com

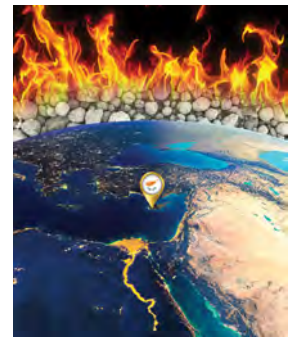
The 4th Global CemBoards Conference will look at global market trends in cement-based boards, at the latest advances in production technology and at how producers can add value to their products worldwide. In addition to equipping delegates with the latest information, news and developments, the networking opportunities will once again be excellent. *If you produce or use cement-based boards or make equipment to make boards, then you should attend!*



14th global cemfuels

19-20 February 2020,
Paphos, Cyprus
cemfuels.com

The Global CemFuels Conference and Exhibition will visit Cyprus for the first time in 2020 and will attract one of its largest-ever audiences from around the world. The event will showcase the state-of-the-art in handling, processing and firing all types of conventional and alternative fuels for cement (and lime) production and includes a field trip to Vassiliko Cement. *If you produce or use fuels and alternative fuels in the cement and lime industry, then you should attend!*



2nd global gypsupply

18-19 March 2020,
Brussels, Belgium
gyp-supply.com

The second Global GypSupply Conference and Exhibition will look at the different supply sources of gypsum worldwide, including natural gypsum, synthetic gypsum and recycled gypsum, will examine transport and shipping options, and will match up miners, syngyp producers and recyclers with buyers and users of gypsum including cement producers, wallboard and plaster manufacturers, and agricultural users. *If you use gypsum in your process, then you should attend!*



15th global slag

6-7 May 2020,
Vienna, Austria
globalslag.com

The 15th Global Slag Conference and Exhibition will take place in Vienna, convenient for all of Europe's iron-, steel- and slag-producing areas. Slag producers and users are expected to attend from throughout Europe and from the rest of the world: Slag products have the potential to be profitable for both the iron and steel industry and also for the cement, concrete and construction products industries. *If your business is in slag or needs slag, then you should attend!*



3rd global cemprocess

26-27 May 2020,
Munich, Germany
cemprocess.com

The third Global CemProcess Conference and Exhibition on Cement Industry 4.0, process optimisation, de-bottlenecking, production maximisation and troubleshooting in the cement industry will take place in Munich, Germany, in May 2020, with top-level technical information and world-class networking - including a field trip to the Burglengenfeld cement plant. *If you would like to maximise cement production while decreasing costs, then you should attend!*



CEMENT

11th International PetroCem Conference

Date : 26 – 28 April 2020
Venue: St. Petersburg, Russia
Tel: +7(812)764-5612
Fax: +7(812)712-3683
E-mail: info@jcement.ru

15th Global Slag 2020

Date : 06 - 07 May 2020
Venue: Vienna, Austria
For more information, please contact:
Mr. Robert McCaffrey, Global Boards Conference
convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
http://globalslag.com

7th American Drymix Mortar Conference idmmc7

Date : 07 May 2020
Venue: Omni King Edward Hotel, Toronto, ON,
Canada
Email: info@drymix.info
For more information, please visit:
www.drymix.info

3rd Global CemProcess 2020

Date : 26 - 27 May 2020
Venue: Munich, Germany
For more information, please contact:
Mr. Robert McCaffrey, Global Boards Conference
convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
http://cemprocess.com

CBI – Cement Business & Industry Brazil and Latin America 2020

Date : 28 - 29 May 2020
Venue: São Paulo, Brazil
Email: sales@gmiforum.com

4th Central American Drymix Mortar Meeting

Date : 16 June 2020
Venue: Holiday Inn Plaza Universidad, Mexico City
Email: info@drymix.info
For more information, please visit:
www.drymix.info

fib ICCS20 - International Conference on Concrete Sustainability, Concrete

Date : 16 - 18 September 2020
Venue: Prague, Czech Republic
For more information, please visit:
www.fibiccs.org

7th South and Central European Drymix Mortar Conference cedmmc7

Date : 17 September 2020
Venue: Çırağan Palace Kempinski Hotel, Istanbul,
Turkey
Email: info@drymix.info
For more information, please visit:
www.drymix.info

XXII INTERNATIONAL CONSTRUCTION FORUM

Cement. Concrete. Dry mixtures
Date : 11 - 13 November 2020
Venue: Expocentre, Moscow, Russia
Email: info@alitinform.ru
Tel.: +7 812 335 09 92
For more information, please visit:
www.infocem.info

15th Annual SEADMA Conference

Date : 19 November 2020
Venue: Hotel Aryaduta, Jakarta, Indonesia
Email: info@drymix.info
For more information, please visit:
www.drymix.info

MEDMA Drymix Mortar Showcase on Sustainable Technology

Date : 22 November 2020
Venue: Sharjah, UAE
Email: info@drymix.info
For more information, please visit:
www.drymix.info

1st Global Ash Conference & Exhibition 2020

Date : 02 - 03 December 2020
Venue: Brussels, Belgium
For more information, please contact:
Mr. Robert McCaffrey, Global Boards Conference
convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838



CEMENTTECH 2020

21st China International Cement Industry Exhibition

March 25-27, 2020




ANHUI, CHINA



Partial List of Previous Exhibition delegations:



Organizer

-  China Building Materials Federation
-  China Cement Association
-  CCPIT Building Materials Sub Council

Contact details:

Joanna Long
 Tel: 8610-88083329
 Fax: 8610-88084171
 Joannalong@ccpitbm.org

www.cementtech.org

GENERAL

Email: rob@propubs.com

http://cemprocess.com

8th International Drymix Mortar Conference

idmmc8

Date : 22 March 2021

Venue: Nürnberg, Germany

Email: info@drymix.info

For more information, please visit:

www.drymix.info

Planning, Monitoring & Contract Management for Successful Project Execution

Date : 05 - 06 February 2020

Venue: Mumbai, India

Tel: 02226795290

Mobile: +91 9930459497

Email: sgm@eventerservice.com

Website: www.eventerservice.com

The European Biopolymer Summit

Date : 12 - 13 February 2020

Venue: Zaragoza, Spain

For more information, please contact:

Mr. Mohammad Ahsan

Email: mahsan@acieu.co.uk

Tel: +44 2031410606

www.wplgroup.com

5th Edition of Future of Surfactants Summit

Date : 12 - 13 February 2020

Venue: Berlin, Germany

Tel: +44 (0) 20 3141 0626

Email: samc@acieu.net

12th ERBIL BUILDING

Date : 25 - 28 February 2020

Venue: Erbil, Iraq

For more information, please contact:

Mr. Tarek Alamer, International Sales Manager

Pyramids Group Fair Inc.

Tel: +90 216 575 28 28 ext. 223

Mob: +90 507 064 78 23

E-mail: tarek.alamer@pyramidsfair.com

Lignofuels 2020

Date : 26 - 27 February 2020

Venue: Helsinki, Finland

For more information, please contact:

Mr. Dimitri Pavlyk

Tel: +44 2031410627

4th Edition of Egypt Projects (Batimat Egypt)

Date : 27 - 29 February 2020

Venue: Egypt International Exhibition Center

For more information please contact:

Mr. Amr Hassan, Event Manager

Tel: 00202 22703584

Fax: 00202 22703585

Mobile: 002 0100 906 960 9

Email: Marketing@batimat-egypt.com

4th International Environmental Conference

Date : 03 - 04 March 2020

Venue: Beni-Suef University, Egypt

Email: eprdc2020@bsu.edu.eg

www.eprdc2020.bsu.edu.eg

4th Hydrogen & Fuel Cells Energy Summit

Date : 04 - 05 March 2020

Venue: Lisbon, Portugal

For more information please contact:

Neha Desadla

Tel: +91 2048523143

Email: ndesadla@acieu.net

Gasification 2020 - 9th Annual Gasification Summit

Date : 18 - 19 March 2020

Venue: Lyon, France

Tel: +44 0203 141 0606

Email: mahsan@acieu.net

2nd Global GypSupply Conference & Exhibition

Date : 18 - 19 March 2020

Venue: Brussels, Belgium

Tel: +44 (0) 1372 743837

Fax: +44 (0) 1372 743838

Email: info@propubs.com

7th World Elastomer Summit 2020

Date : 25 - 26 March 2020

Venue: Lyon, France

For more information, please contact:

Mr. Rafael Krupa

Tel: +48 61 646 7040

Email: rafael@acieu.net

4th Edition of European Fuels Markets & Refining Strategy Conference

Date : 25 - 26 March 2020

Venue: Vienna, Austria

For more information, please contact:

Marcin Janecki

Tel: +48 61 646 7047

PetroCem

ELEVENTH INTERNATIONAL CEMENT CONFERENCE



26-28
APRIL 2020
St. Petersburg
Astoria Hotel

PetroCem 2000 – over 170 participants from 21 countries • 2002 • 2004 • 2006 • 2008 • 2010 • 2012 • 2014 • 2016 • 2018 – about 530 participants from 36 countries

Bringing together. Cement industry professionals, managers and leading technical specialists, leading technical experts of largest Russian and international holdings, manufacturers and suppliers of materials and services, designers, analysts, bankers, researchers and consultants.

■ **Programme, exhibition, networking.** Topical subjects under discussion: ecology, waste utilization in cement production, energy saving, product quality, etc. State of the art developments and achievements. Establishing new contacts, negotiations, promotion of business interests.

■ **Speaking the same language.** Simultaneous (Russian-English and English-Russian) translation for delegates from Russia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Ukraine, Uzbekistan and about 30 more countries.

■ **Getting to know St. Petersburg.** Memorable sightseeing tours for delegates and their companions, grand and spectacular evening receptions.

■ **On record.** The previous PetroCem-2018 Conference was attended by more than 530 participants from 36 countries representing 320 companies and organisations including 85 cement manufacturers.

See you at PetroCem-2020!

Organiser:

journal
ЦЕМЕНТ
и его применение

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info@jcement.ru
www.jcement.ru

www.petrocem.ru

DIARY DATES

Email: mjanecki@acieu.net

3rd Annual Digital Marketing and Customer

Experience

Date : 25 - 26 March 2020

Venue: Bangkok, Thailand

Tel: +603 2775 0067

Email: sama@internationalbusinesscongress.com

ACI's 7th Global Geothermal Energy Summit

Date : 25 - 26 March 2020

Venue: Florence, Italy

Tel : +48 61 646 7022

Email: rbaryah@acieu.net

Solids 2020

Date : 01 - 02 April 2020

Venue: Dortmund, Germany

For more information, please visit:

www.easyfairs.com

4th Weimar Gypsum Conference

Date : 01 - 02 April 2020

Venue: Weimar, Germany

For more information, please visit:

www.uni-weimar.de

4th Biostimulants Europe Conference

Date : 01 - 02 April 2020

Venue: Granada, Spain

Tel: +48 616 467 022

Email: rbaryah@acieu.net

1st Construction Technology Forum

Date : 14 - 15 April 2020

Venue: Intercontinental Riyadh, KSA

For more information, please visit:

www.ctf-ksa.com

10th European Algae Industry Summit

Date : 29 - 30 April 2020

Venue: Reykjavík, Iceland

Tel : +44 0203 141 0627

Email : dpavlyk@acieu.net

US Biostimulants Summit 2020

Date : 29 - 30 April 2020

Venue: Raleigh, North Carolina, USA

For more information, please contact:

Mr. Tim Rowley Evans:

Tel: +44 (0) 203 141 0614

Email: sponsorship@acieu.co.uk

ACI's 5th Biopesticides Europe

Date : 27 - 28 May 2020

Venue: Brussels, Belgium

Tel: +48 616 467 022

Email: rbaryah@acieu.net

ACI's 2nd US Microalgae Industry Summit

Date : 27 - 28 May 2020

Venue: Orlando, Florida, USA

Tel: +44 0203 141 0607

Email: MLampropoulou@acieu.net

Biobased Coatings Europe 2020

Date : 17 - 18 June 2019

Venue: Rotterdam, The Netherland

For more information, please contact:

Mr. Dimitri Pavlyk

Tel : +4402031410627

Email: dpavlyk@acieu.net

Hillhead 2020

Date : 23 - 25 June 2020

Venue: Hillhead Quarry, Buxton, Derbyshire, UK

For more information, please visit:

www.hillhead.com

Oleofuels 2020

Date : 24 - 25 June 2020

Venue: Marseille, France

Tel: +44 0203 141 0623

Email: cwilliams@acieu.net

Premier European Carbon Black Summit

Date : 24 - 25 June 2020

Venue: Frankfurt, Germany

Tel: +48 616 467 022

Email: rbaryah@acieu.net

Data Analytics in Construction Summit

Date : 27-28 July 2020

Venue: Singapore

For more information, please contact:

John Karras

Tel: +603 2775 0067

Email: johnk@trueventus.com

8th European Bulk Liquid Storage Summit

Date : 30 September - 01 October 2020

Venue: Cartagena, Spain

For more information, please contact:

Cheryl Williams

Tel: +440 203 141 0623

Email: cwilliams@acieu.net

Alternative Fuels & Raw Materials Asia 2020

Date : 05 September - 06 November 2020

Venue: Bangkok, Thailand

Email: sales@gmiforum.com



عالم الإسمنت ومواد البناء

تصدر عن : الاتحاد العربي للإسمنت ومواد البناء العدد 78 ديسمبر / كانون الأول 2019

- أخبار عربية
- أخبار عالمية
- مقالات تقنية
- منتجات جديدة
- مؤتمرات ومعارض



عالم الإسمنت ومواد البناء

مؤتمرات ومعارض

منتجات جديدة

موضوعات تقنية

أخبار عالمية

الملف العربي

رئيس التحرير الأمين العام / المهندس أحمد محمود الروسان
مدير التحرير سها منير كنعان

المساهمات

- ترحب هيئة تحرير المجلة بمساهمة السادة المهتمين والمتخصصين بهدف إثراء المادة التحريرية .
- لا تلتزم المجلة برد الموضوعات إلى أصحابها .
- الآراء الموجودة بالمجلة لا تعبر بالضرورة عن رأي الاتحاد أو المجلة وإنما عن الرأي الخاص بكتابها ولا يتحمل الاتحاد أية مسؤولية قانونية تجاه ذلك .

توجه كافة طلبات الإعلان بإسم رئيس التحرير

الإعلان

الإشتراكات السنوية

150 دولار أمريكي

65 دولار أمريكي

الشركات والمؤسسات

الجامعات ومراكز البحوث

Email: aucbm@scs-net.org / aucbm1977@gmail.com

Website : www.aucbm.net

المكتويات

أخبار عربية
أخبار عالمية
منتجات جديدة

الموضوعات:

إعداد: الدكتور إبراهيم القطان، قسم علوم البيئة والتنمية الصناعية، جامعة بني سويف – مصر

- **MultiMag**: طوب المغنيسيا-الإسبنيل من الجيل الثالث لمنطقة التغليف مع التغليف غير المستقر و/أو تحولات منطقة الطلاء غير المستقرة «المقاومة لعوامل متعددة من الطلاء المتقلب»

إعداد: Pannawit Ngaochai , The Siam
Refractory Industry - تايلاند

مؤتمرات ومعارض

- صناعة الإسمنت في عصر الرقمنة (بالعربية)
إعداد: م. أسامة علي أحمد، مطور أعمال واستشاري صناعة الإسمنت – مصر

- نظام **Hexadur®**: في صناعة الإسمنت – 25 عاماً من العمل مع أسطوانات الطحن عالية الضغط المحمية بنتقية **Hexadur®**

إعداد: Dr.-Ing. Jörg Oligmüller , Dr.-Ing. Kaushik Ghosh و Andreas Packeisen
Maschinenfabrik Köppern GmbH & Co.
Germany - ألمانيا, KG

- استبدال المبردات جنباً إلى جنب مع التطوير الحراري الكامل

إعداد: Firat Aslan / Fons و Mogens Fons
Technology International – تركيا

- مجموع آثار ظروف المعالجة وإضافة أكسيد المغنسيوم على الخواص الفيزيائية الميكانيكية ومقاومة ملاط الإسمنت البورتلاندي

المراسلات

توجه كافة المراسلات بإسم رئيس التحرير / الاتحاد العربي للاسمنت ومواد البناء
الجمهورية العربية السورية - دمشق - ص . ب 9015
هاتف : 611 85 98 - 611 54 12 (11 963 +)
فاكس : 612 17 31 (11 963 +)

Email: aucbm@scs-net.org / aucbm1977@gmail.com

Website : www.aucbm.net



مجلة عالم الإسمنت ومواد البناء

جدول موضوعات المجلة لعام 2020

المناسبات	الموضوعات	العدد
	<ul style="list-style-type: none"> * التنمية المستدامة * حماية البيئة * الوقود البديلة * الوقود المستمد من النفايات الصلبة / الوقود المستمد من النفايات * الإنتاج الأنظف في صناعة الإسمنت * المرشحات ، أنظمة الترشيح القماشية ومعدات إزالة الغبار * مراقبة الانبعاثات وأنظمة تحليل الغاز * توفير الطاقة * دراسات حالة * مقابلة صحفية 	مارس/آذار 2020
	<ul style="list-style-type: none"> * التعبئة والتغليف والتسليم * معدات التحميل والتفريغ من السفن * تكنولوجيا التغذية * تخزين ومناولة المواد السائبة * تخزين الوقود * أنظمة النقل والرافعات الدولية * الصحة والسلامة المهنية * إعداد الفحم وإشعاله * مقابلة صحفية 	يونيو/حزيران 2020
المؤتمر والمعرض العربي الدولي الخامس والعشرون لصناعة الإسمنت: نوفمبر / تشرين الثاني 2020	<ul style="list-style-type: none"> * الإسمنت ذو النسبة المنخفضة من الكربون * الخرسانة * التحليل بتألق الأشعة السينية (XRF) وبحيود الأشعة السينية (XRD) * كيمياء الإسمنت * مضافات الإسمنت * انسداد الصوامع وتنظيفها * النقاط التي تؤخذ بعين الاعتبار عند تصميم الصوامع * منظومات التحريك * تكنولوجيا الوزن * تقنيات وأنظمة الاعتيان (أخذ العينات) * مقابلة صحفية 	* سبتمبر/أيلول 2020
	<ul style="list-style-type: none"> * أنظمة التشحيم * الصيانة في مصانع الإسمنت * تقنيات الإصلاح واللحام * إدارة قطع الغيار * الطواحين العمودية * الكسارات * المبردات * تكنولوجيا الحراقات * الحراقات وفحص الحراقات * مقابلة صحفية 	ديسمبر/كانون الأول 2020

- سيتم توزيع عدد سبتمبر / أيلول إلى المشاركين في المؤتمر

آخر موعد لاستلام المقالات أو النصوص الصحفية أو الإعلانات لأعداد عام 2020 هو على النحو التالي :

1. عدد مارس / آذار : 28 فبراير / شباط 2020
2. عدد يونيو / حزيران : 29 مايو / أيار 2020
3. عدد سبتمبر / أيلول (عدد خاص) : 31 أغسطس / آب 2020
4. عدد ديسمبر / كانون الأول : 4 ديسمبر / كانون أول 2020

الإعلانات

(بالدولار الأمريكي)

الإعلان في عدد واحد	الإعلان في عددين	الإعلان في ثلاثة أعداد	الإعلان في أربعة أعداد	
1,250	*	*	*	غلاف خارجي ملون (يمين أو يسار) A4
950	*	*	*	غلاف داخلي ملون (يمين أو يسار) A4
750	950	1,250	1,350	صفحة داخلية ملونة A4
450	550	650	750	نصف صفحة داخلية ملونة A4
300	350	400	450	ربع صفحة داخلية ملونة A4
300	350	400	450	صفحة أسود وأبيض

أبعاد الإعلان : A4 مع مسافة على الأطراف الأربعة
 أبعاد الإعلان على الغلاف الخارجي : ارتفاع 20 سم وعرض 14 سم
 الدقة : 300dpi
 نوع الملف : PSD أو EPS أو PDF

WWW.AUCBM.NET إعلان على موقع الاتحاد

- عرض 200 بيكسل وارتفاع 75 بيكسل ، بقيمة 150 دولاراً أمريكياً في الشهر الواحد
- يرجى إرسال الصور مع اللينك المطلوب ربطه بها بدقة 300 dpi (dot per inch)



المؤتمر والمعرض العربي الدولي الرابع والعشرون لصناعة الإسمنت

انتركونتيننتال سيتي ستارز القاهرة

القاهرة / جمهورية مصر العربية

24 - 26 نوفمبر / تشرين الثاني 2019

نظم الاتحاد العربي للإسمنت ومواد البناء (هيئة عربية دولية منبثقة عن جامعة الدول العربية ومجلس الوحدة الاقتصادية العربية) «المؤتمر والمعرض العربي الدولي الرابع والعشرون لصناعة الإسمنت» في فندق «انتركونتيننتال سيتي ستارز القاهرة»، جمهورية مصر العربية في الفترة ما بين 24 - 26 نوفمبر / تشرين الثاني 2019.

بلغ عدد الجهات العارضة (115) شركة على مساحة 1,010 م² توزعوا على (126) جناحاً لعارضين من (21) جهة عربية و(94) جهة عالمية متخصصة في صناعة الإسمنت ومستلزمات إنتاجه وتكنولوجيا حماية البيئة في صناعة الإسمنت. وبلغ عدد المشاركين والزائرين للمؤتمر والمعرض أكثر من (700) مشارك وذلك من مختلف الدول العربية (110 شركات و259 مشاركاً) هي الإمارات العربية المتحدة والمملكة الأردنية الهاشمية والجمهورية التونسية والجمهورية الجزائرية والمملكة العربية السعودية والجمهورية السودان والجمهورية العربية السورية والجمهورية العراقية وسلطنة عُمان ودولة فلسطين ودولة قطر ودولة الكويت والجمهورية اللبنانية ودولة ليبيا والجمهورية مصر العربية والجمهورية موريتانيا الإسلامية والمملكة المغربية والجمهورية اليمنية). وشارك من الدول الأجنبية (111 شركة و283 مشاركاً) من إسبانيا وأستراليا وألمانيا وإيطاليا والباكستان وبلجيكا وبولونيا وتايلاند وتركيا والدنمارك وروسيا والسويد وسويسرا والصين وفرنسا والمملكة المتحدة وقبرص والنمسا والهند وهولندا والولايات المتحدة الأمريكية واليونان.





أعد برنامج عمل المؤتمر ليشمل (6) جلسات ضمت 47 ورقة عمل ضمن المحاور التالية :

1. المواد الخام البديلة والتكنولوجيا ذات الصلة
2. أنواع الوقود البديل والتكنولوجيا ذات الصلة
3. تكنولوجيا طحن الكلنكر والإسمنت والمواد الإسمنتية التكميلية
4. عمليات الحرق
5. الترشيح وإزالة الغبار
6. حلول لغبار الممرات الجانبية
7. حلول لنفايات الاستخراج من المحاجر وغيرها من أنواع النفايات الناتجة في صناعة مواد البناء
8. الإسمنت الأبيض
9. تقديم للتطبيقات في صناعة الخرسانة والمواد ذات الصلة
10. تقديم للتطبيقات في صناعة الطوب

وتزامن عقد المؤتمر مع اجتماع مجلس إدارة الاتحاد بدور انعقاده السابع والسبعين واجتماع الجمعية العمومية بدور انعقادها الثاني والأربعين .

لمزيد من التفاصيل حول المؤتمر والمعرض يمكن زيارة موقع الاتحاد العربي للإسمنت ومواد البناء (www.aucbm.net) على الرابط <http://www.aucbm.net/conference/ConferenceDefault.aspx?Confid=7&con=Home>

روابط هامة:

- قائمة المشاركين: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=DelegateListReport>

- قائمة المعارضين: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=ExhibitorsListReport>

- خريطة المعرض: http://www.aucbm.net/Uploaded%20Files/24th_conference/exhibition/FloorPlan/24th-floorplan.pdf

- عناوين أوراق عمل المؤتمر: <http://www.aucbm.net/conference/ConferenceList.aspx?Confid=7&con=PaperListReport>

- برنامج المؤتمر: http://www.aucbm.net/Uploaded%20Files/24th_conference/Program/24th_Program.pdf

- تفاصيل رعاية المؤتمر والمعرض: <http://www.aucbm.net/conference/ConferenceDefault.aspx?Confid=7&con=Sponsor>



إسمنت ينبع» تفوز بجائزة أفضل مصنع إسمنت للعام 2019

استمراراً للنجاحات التي تحققتها شركة إسمنت ينبع ، فقد حصدت الشركة جائزة «أفضل مصنع للإسمنت لعام 2019 م» في مؤتمر Cemtech Europe الذي أقيم في مدينة برلين بألمانيا في أكتوبر / تشرين الأول 2019 .

وقد اختيرت شركة إسمنت ينبع من بين منافسيها من دول مختلفة لتفوقها على «المستوى التشغيلي ومعايير الأداء الأفضل للمصانع» ضمن المجالات الرئيسية بما في ذلك: الاستدامة وكفاءة الطاقة ورفع الطاقة الانتاجية بنسبة 15 % بدون إنفاق رأسمالي إضافي والحد من انبعاثات ثاني أكسيد الكربون إضافة إلى البيئة والسلامة .

يعد هذا الفوز نتيجة للاستراتيجية الجديدة التي وضعتها الشركة موضع التنفيذ منذ ثلاث سنوات ونتج عنها التطوير المستمر والإنجازات التي لعبت دوراً رئيسياً في دخول الشركة ضمن مصاف الشركات الرائدة إقليمياً مع سعيها الدائم للتميز في إطار تطبيق أفضل الممارسات حسب المعايير العالمية .

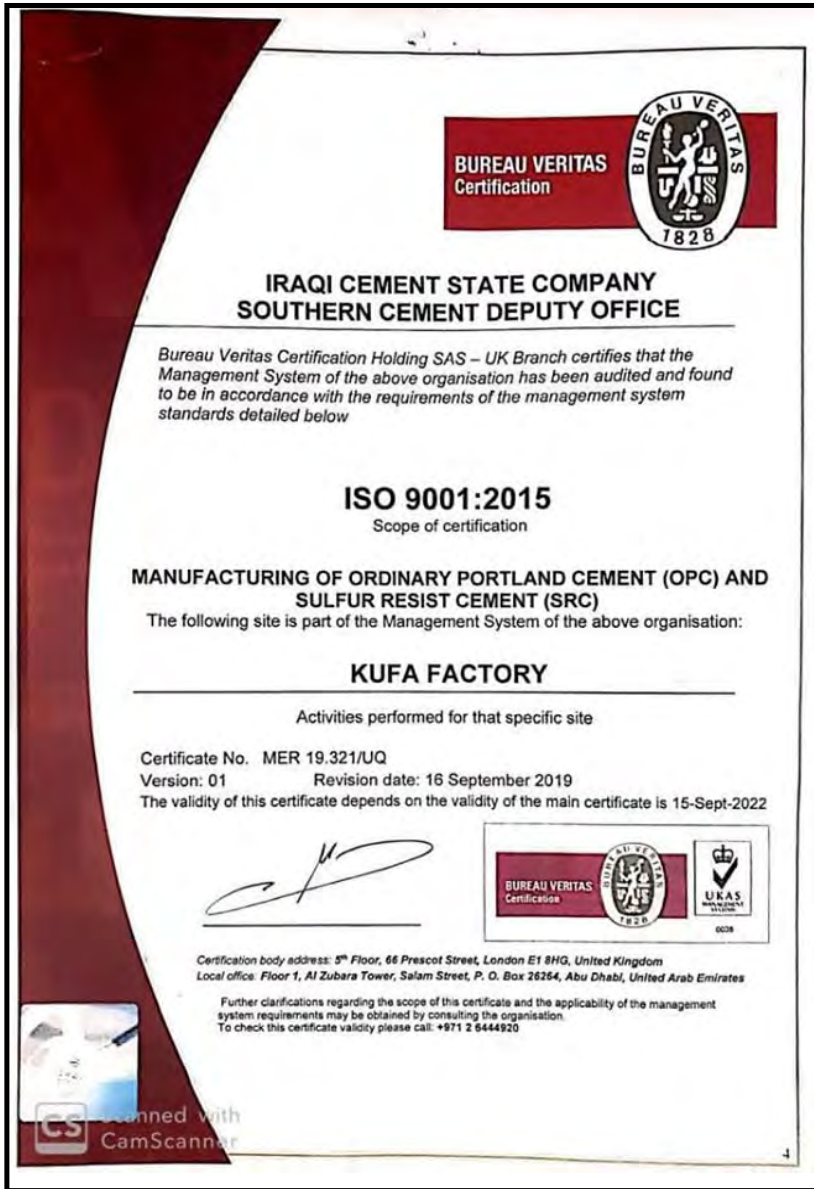
ويعود هذا الفضل بعد الله للدعم الذي تحظى به الصناعة ثم للجهود الكبيرة التي بذلها فريق التشغيل وتطوير الأداء بالشركة وثقة ودعم الإدارة للكفاءات بالإضافة إلى السعي المستمر للتطوير الذي أثبت تميز الشركة في صناعة الإسمنت حيث أن الشركة قد حققت هذه الإنجازات في ظل سياسة تخفيض التكاليف والزيادة المستمرة في نسبة السعودة الفعالة في القطاع الصناعي بالشركة .





الشركة العامة للسمنت العراقية
Iraqi Cement State Co.

شركة BUREAU VERITAS الفرنسية تمنح معمل سمنت الكوفة شهادة الجودة مع تصاعد نسب الإنتاج والمبيعات



حصل معمل سمنت الكوفة أحد معامل الشركة العامة للسمنت العراقية على شهادة الجودة العالمية من قبل شركة BUREAU VERITAS الفرنسية الفاحصة لمعايير الجودة بعد استكمال مراحل التأهيل وعدم تسجيل أية حالة عدم مطابقة للنظام المطبق في المعمل.

وقال مدير عام السمنت العراقية المهندس حسين محسن الخفاجي أن هذه الشهادة جاءت بعد جولات وكشوفات ميدانية لكادر الشركة الفاحصة وفق أسس علمية في كافة المجالات على التطبيق الكامل لمتطلبات إدارة الجودة الذي ينعكس ويضمن أجود إنتاج يطابق المواصفات المعتمدة عالمياً ونيل رضا الزبائن.

مؤكداً إن منتجات السمنت العراقية في كافة معاملها مطابقة للمواصفة ومضمونة النوعية من خلال الفحوصات المخبرية الدورية والتجارب الميدانية إضافة إلى خبرة الكوادر العاملة وجودة المواد الأولية الداخلة في صناعة السمنت المتوفرة محلياً.

لافتاً أن معمل سمنت الكوفة ينتج السمنت المقاوم وي طرح إنتاجه بسعر (75) ألف دينار للطن الواحد والمعمل على استعداد لتجهيز كافة الجهات وبمختلف الكميات وبطريقة القطع والتجهيز المباشر من المعمل بانسيابية وبطريقة ميسرة.

مشيراً أن معمل سمنت الكوفة حاصل على شهادة علامة الجودة من الجهاز المركزي للتقييس والسيطرة النوعية وأن شهادة الأيزو الأخيرة ستقدم الضمان الكافي على امتلاك المعمل نظام إداري متكامل يكفل منهجية واسعة في عملياتها الإنتاجية خصوصاً بعد أن حقق المعمل طفرات إنتاجية وتسويقية خلال العام الحالي مقارنة بالعام الماضي.



أخبار عربية

المملكة الأردنية الهاشمية

شركة لافارج تخفض أعداد موظفيها سعياً لاستدامة أعمالها

قرر مجلس إدارة شركة مصانع الإسمنت الأردنية (لافارج) تخفيض أعداد موظفيها بواقع 200 موظف ممن يعملون في مختلف مواقع الشركة ، سعياً لاستدامة أعمالها والحفاظ على العديد من الوظائف المباشرة وغير المباشرة لديها .

وقالت إدارة الشركة إن قرارها قد تم اتخاذه بعد 6 سنوات من إيقاف العمل في مصنع الفحيص نتيجة لمنع الشركة من استخدام بدائل الطاقة بالرغم من حصولها على الموافقات البيئية اللازمة مما أثر سلبياً على قدرة الشركة التنافسية ، وبعد 9 سنوات من إيقاف العمل بأحد خطي الإنتاج في مصنع الرشادية بالطفيلة ، حيث أن «الشركة قد حاولت جاهدة خلال السنوات الماضية التوصل إلى اتفاق مع النقابة العامة للعاملين في البناء إلا أن هذه الجهود لم تنكّل بالنجاح» .

ويأتي القرار ضمن خطة الشركة لضمان استمراريتها ، حيث أن الالتزامات المستقبلية للشركة بلغت ما يزيد عن 150 مليون دينار ، 50 مليون للبنوك .

وأوضح السيد سمعان سمعان الرئيس التنفيذي أن الشركة كانت تكبدت قضايا التعويضات البيئية المرفوعة عليها من قبل سكان المنطقة المجاورة لمصنع الفحيص منذ عام 2007 بنحو تجاوز 45 مليون دينار صرفت كتعويضات عن القضايا البيئية ، وسط الزيادة المضطردة في كلفة التمويل بالرغم من اتباع الشركة لسياسة ضبط النفقات .

المملكة العربية السعودية

«إسمنت الجوف» توقع عقد الإشراف الفني مع شركة «ريجا» لتحويل خط الإنتاج الثاني لإنتاج الإسمنت الأبيض

وقعت شركة «إسمنت الجوف» عقد الإشراف الفني مع شركة «ريجا» ولمدة ستة أشهر من تاريخ وصول فريق عمل المشروع والخاص بتحويل خط الإنتاج الثاني لإنتاج الإسمنت الأبيض .

وكانت شركة إسمنت الجوف قد وقعت في أبريل / نيسان الماضي مذكرة تفاهم غير ملزمة مع شركة «ريجا» لتحويل خط الإنتاج الثاني لإنتاج الإسمنت الأبيض .

المصدر: www.argaam.com

الشركة السعودية للصادرات الصناعية تمدد عقد بيع مع إسمنت الجوف

قامت الشركة السعودية للصادرات الصناعية «صادرات» بتمديد عقد بيع وتسويق الإسمنت مع شركة «إسمنت الجوف» إلى سنة قادمة تبدأ من 27 نوفمبر / تشرين الثاني عام 2019 .

وقد قامت شركة صادرات في نوفمبر / تشرين الثاني من عام 2017 بتوقيع عقد بيع وتسويق مع شركة «إسمنت الجوف» ، ويتضمن هذا العقد تصدير 72 ألف طن من الإسمنت بشكل سنوي للأردن .

المصدر: <https://trading-secrets.guru/>

إسمنت اليمامة تعلن نيتها بيع 5 خطوط إنتاج قديمة

أعلنت شركة إسمنت اليمامة نيتها بيع خطوط الإنتاج القديمة من 1 إلى 5 والتي تبلغ طاقتها الإنتاجية 5.600 طن كلنكر يومياً .

وكانت إسمنت اليمامة قد أعلنت في 19 يناير / كانون الثاني 2017 عن الإيقاف المؤقت لخطوط الإنتاج من 1 إلى 5 في المصنع الحالي ، تماشياً مع خطة الشركة للانتقال إلى الموقع الجديد .

وذكرت الشركة أنه تم استهلاك هذه الخطوط بالكامل دفترياً ، ولن يكون لهذا القرار أي تأثير على وفاء الشركة بالتزاماتها تجاه الغير .

المصدر: www.alarabiya.net



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www.simankhabar.ir

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سلطنة عُمان

الماضي ، مقابل خسائر بلغت 245.7 مليون جنيه بالفترة المقارنة من 2018 .

وتراجعت إيرادات الشركة خلال الفترة إلى 727.9 مليون جنيه ، مقابل إيرادات بلغت 672.19 مليون جنيه بالفترة المقارنة من العام الماضي .

المصدر: www.mubasher.info

وزارة التجارة: تطبيق «الرقمنة» الصناعية يتصدر الأولويات

أكدت وزارة التجارة والصناعة المصرية تعاون الحكومة مع الجانب الألماني في تطبيق آليات التحول للثورة الصناعية الرابعة ، وذلك من خلال الاتفاق الذي تم توقيعه مع شركة «سيمنز» الألمانية ؛ بهدف تحديد الأولويات القطاعية؛ لتطبيق «الرقمنة» الصناعية في مصر ، ووضع برنامج تنفيذي لها ، طبقاً لخطة الوزارة التي تعتبر على رأس أولويات عملها .

وذلك ضمن الجهود التي تنتهجها الحكومة لدعم التصنيع المحلي من خلال إنشاء المجمعات الصناعية المتخصصة ، ورفع مستوى البنية التحتية من طرق تسهم في النفاذ بالمنتج المصري للأسواق المجاورة .

المصدر: www.dostor.org

إسمنت بورتلاند طرة تبحث عروض شراء الأفران والطواحين القديمة

تلقت شركة إسمنت بورتلاند طرة المصرية عدداً من العروض في مزاد لبيع الأفران والطواحين القديمة . وأوضحت الشركة أنه سيتم تشكيل لجنة مختصة من إدارة الشركة بفتح المظاريف وتقييمها ، وسيتم الإعلان عن المستجندات فور اتخاذ القرار .

وجاء انعقاد المزاد طبقاً للقرار المتخذ من قبل الجمعية العامة غير العادية لشركة إسمنت بورتلاند طرة بتاريخ 16 سبتمبر / أيلول 2018 ، بالإضافة إلى بعض الخردة لصالح شركات المجموعة .

يشار إلى أن الشركة سجلت ارتفاعاً في الخسائر ، خلال التسعة أشهر الأولى من 2019 ، لتصل إلى 516.56 مليون جنيه، مقابل خسائر بلغت 19.6 مليون جنيه بالفترة المقارنة من 2018 . وتراجعت مبيعات الشركة خلال الفترة إلى 488.5 مليون جنيه ، مقابل مبيعات بلغت 835.16 مليون جنيه بالفترة المقارنة من العام السابق .

المصدر: www.alborsaaneews.com

إسمنت عُمان تعلن عن إنشاء مصنع بالدقم

أعلنت شركة إسمنت عُمان عن طرح مناقصة لإنشاء مصنع إسمنت متكامل تحت مسمى «شركة الصحوة» بولاية الدقم ، بطاقة إنتاجية تبلغ 5000 طن كلنكر في اليوم ، حيث من المتوقع الانتهاء من إنشاء وحدة الطحن في سبتمبر 2021 ووحدة إنتاج الكلنكر في مارس / آذار 2022 .

المصدر: www.omandaily.om

جمهورية مصر العربية

الحكومة تخفض أسعار الغاز لمصانع الحديد والإسمنت

أعلنت الحكومة المصرية عن تخفيض أسعار الغاز لبعض الصناعات المعدنية ومواد البناء ، وهي صناعة الإسمنت ، والحديد والصلب ، والألومنيوم ، والنحاس ، والسيراميك والبورسلين ، حيث انخفضت أسعار الغاز لصناعة الإسمنت إلى 6 دولارات لكل مليون وحدة حرارية بريطانية بدلاً من 8 دولارات .

كما خفضت الحكومة سعر الغاز لصناعات الحديد والصلب ، والألومنيوم ، والنحاس ، والسيراميك والبورسلين إلى 5.5 دولار لكل مليون وحدة حرارية بريطانية بدلاً من 7 دولارات .

وأبقت الحكومة على أسعار الغاز لباقي الصناعات الأخرى دون تغيير ، على أن يتم إجراء مراجعة لهذه الأسعار كل 6 أشهر ، في ضوء تغيرات الأسعار العالمية والمتغيرات الاقتصادية والاجتماعية ، وذلك بمعرفة اللجنة الوزارية المختصة .

المصدر: www.masrawy.com

«تيتان» تستحوذ على الإسكندرية للتنمية المساهم الرئيسي بـ«إسمنت بورتلاند»

قالت شركة الإسكندرية لإسمنت بورتلاند ، إن شركة تيتان الدولية للإسمنت استحوذت من خلال شركاتها التابعة على حصة مؤسسة التمويل الدولية في شركة الإسكندرية للتنمية المحدودة البالغة 17.28 % ، وهي المساهم الرئيسي في «إسمنت بورتلاند» .

وأشارت إلى أن شركة تيتان الدولية للإسمنت هي المساهم الرئيسي غير المباشر في الإسكندرية للتنمية المحدودة بنسبة 82.72 % وتمتلك مؤسسة التمويل الدولية النسبة الباقية وقدرها 17.28 % .

وحققت الإسكندرية لإسمنت بورتلاند خسائر مجمعة بلغت 96.58 مليون جنيه خلال الفترة من يناير/ كانون الثاني حتى سبتمبر/ أيلول

نشاطات عربية

مؤتمرات

ورشة عمل: مفاهيم وتطبيقات الإدارة القانونية الذكية
المكان: القاهرة، جمهورية مصر العربية
التاريخ: 22 - 26 مارس / آذار 2020
الجهة المنظمة: كامبردج للتطوير والاستشارات
للحصول على كافة التفاصيل يرجى التواصل مع إدارة
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المؤتمر الثاني لتكنولوجيا صناعة الإسمنت في سورية
2020 والمعرض المرافق
المكان: دمشق، الجمهورية العربية السورية
التاريخ: 23 - 25 مارس / آذار 2020
الجهة المنظمة: شركة سيم تك محدودة المسؤولية
هاتف: 00963114476769
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منتدى: ريادة الأعمال - اقتصاديات المشروعات الصغيرة
ومتناهية الصغر ودورها في تحقيق التنمية المستدامة
المكان: القاهرة، جمهورية مصر العربية
التاريخ: 28 - 31 مارس / آذار 2020
الجهة المنظمة: الدار العربية للتنمية الإدارية بالتعاون مع
الاتحاد الدولي لمؤسسات التنمية البشرية
للحصول على كافة التفاصيل يرجى التواصل مع: نائب مدير
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ورشة عمل حول تطبيق نظام إدارة السلامة والصحة المهنية
في المشروعات الصناعية في العالم العربي وفقاً لمتطلبات
المواصفة القياسية الدولية ISO 2018: 45001
المكان: القاهرة، جمهورية مصر العربية
التاريخ: 17 - 20 فبراير / شباط 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين -
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المؤتمر والمعرض العربي الدولي للصناعات الصغيرة
والمتوسطة
المكان: قصر المعارض، الجزائر
التاريخ: 18 - 20 فبراير / شباط 2020
الجهة المنظمة: الاتحاد العربي لتنمية الصادرات الصناعية
والشركة العامة للمعارض والتصدير الجزائرية
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ورشة عمل: المهارات المتقدمة والأساليب الدولية الحديثة
في المحاسبة والتدقيق والرقابة المالية والمراجعة الداخلية
المكان: القاهرة، جمهورية مصر العربية
التاريخ: 22 - 26 مارس / آذار 2020
الجهة المنظمة: كامبردج للتطوير والاستشارات
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نشاطات عربية

تطبيقات إدارة الجودة الشاملة وتطوير الأداء باستخدام 6 سيجما

المكان: القاهرة، جمهورية مصر العربية
التاريخ: 15 - 19 مارس / آذار 2020
الجهة المنظمة: الدار العربية للتنمية الإدارية بالتعاون مع
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مهارات صنع اتخاذ القرار والقيادة التحويلية وتمكين الموظفين

المكان: القاهرة، جمهورية مصر العربية
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الجهة المنظمة: كامبردج للتطوير والاستشارات
للحصول على كافة التفاصيل يرجى التواصل مع إدارة
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أمن وسرية المعلومات وطرق الاستعانة بالمصادر الخارجية (التعهد)

المكان: القاهرة، جمهورية مصر العربية
التاريخ: 05 - 09 أبريل / نيسان 2020
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**المؤتمر العربي الدولي السادس عشر للثروة المعدنية
والمعرض المصاحب له**

المكان: إمارة الفجيرة، الإمارات العربية المتحدة
التاريخ: 16 - 18 نوفمبر / تشرين الثاني 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين
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دورات تدريبية عربية

الاتجاهات الحديثة لإدارة المشتريات والمخازن

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 01 - 05 مارس / آذار 2020
الجهة المنظمة: المؤسسة العامة للتدريب المهني
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تقييم الأصول الثابتة

المكان: القاهرة، جمهورية مصر العربية
التاريخ: 01 - 05 مارس / آذار 2020
الجهة المنظمة: المؤسسة العامة للتدريب المهني
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نشاطات عربية

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الجوانب القانونية في التحقيقات الإدارية وتوقيع الجزاءات
المكان: اسطنبول، تركيا
التاريخ: 12 - 16 أبريل / نيسان 2020
الجهة المنظمة: الدار العربية للتنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل مع وحدة البرامج وورش العمل
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تنمية مهارات مديري الحسابات
المكان: اسطنبول، تركيا
التاريخ: 12 - 16 أبريل / نيسان 2020
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الإبداع المؤسسي ودور القيادات الإدارية في التنمية داخل المنظمات

المكان: القاهرة، جمهورية مصر العربية
التاريخ: 05 - 09 أبريل / نيسان 2020
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إدارة الجودة والتميز الإداري

المكان: اسطنبول، تركيا
التاريخ: 12 - 16 أبريل / نيسان 2020
الجهة المنظمة: الدار العربية للتنمية الإدارية
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الأساليب الحديثة للإدارة المالية وتطوير الأداء المالي

المكان: اسطنبول، تركيا
التاريخ: 12 - 16 أبريل / نيسان 2020
الجهة المنظمة: الدار العربية للتنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل مع وحدة البرامج وورش العمل

صناعة الإسمنت في عصر الرقمنة

إعداد : م أسامة علي أحمد

مدير تطوير الأعمال / SBS scientific business solution

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المقدمة :

ومعلومات كل طرف للآخر .

المسيطر في هذه الحالة هو الذي يطبق الرقمنة وتكنولوجيا المعلومات وإمكانية تخزين والوصول إلى مخدّمات البيانات العملاقة Big Data في النظم السحابية Mega Clouds .

لكن دعنا نتعرف على عناصر وقيم النظام البيئي التي تحمل هذا القدر الهائل من المعلومات المرسلّة والمستقبلّة بين أطراف سلاسل الإمداد والتوريد والسلاسل المغلقة .

المواد الخام:

Raw Materials

تكبير عملية الإنتاج وفقاً للمعلومات التي يتم إرسالها في الوقت الفعلي حسب المجموعة إلى جميع نقاط سلسلة القيمة Value Chain التي توفر معلومات حول احتياطيّات عناصر المحجر كما تساعد المواد الخام البديلة في تقليل ثاني أكسيد الكربون في الخرسانة .

الموردون:

Suppliers

سيمكن هذا السيناريو موردي الخامات والخدمات وقطع الغيار والمنتجات والوقود ومواد الخام البديلة وخامات التدوير من استخدامها في المصنع وفقاً لأنواع الإسمنت المطلوبة .

إجراء اتصالات في الوقت الحقيقي Real Time لعملائك وستكون شركات تصنيع الإسمنت قادرة على تلبية تلك المتطلبات دون تأخير .

الإنتاج والصيانة:

Production & Maintenance

سوف تعطي الصيانة التفاعلية وسيلة لتحليل الرسم البياني من الموثوقية والتنبؤ بالخطأ، وسوف يقلل أوقات التوقف عن العمل وزيادة كفاءة الأعمال المطلوبة .

الخدمات اللوجيستية :

Logistics

يمكن أن تكون الخدمات اللوجيستية ذاتية التنظيم وأكثر مرونة وستكون مبنية على الوقت الحقيقي لأوامر الشحن . ستتمكن عمليات الشحن من الاستفادة من دقة وسهولة الحصول على المعلومات في الوقت المناسب في تخطيط مسارات الطرق ومعرفة معدلات الشحن والتفريغ بالنسبة لسيارات نقل الإسمنت أو الأعمال اللوجيستية المرتبطة بالتصدير بالإضافة إلى منظومة عمل GPS تحديد المواقع جغرافياً .

لم يكن معظم الناس يسمع بكلمات مثل الرقمنة أو إنترنت الأشياء منذ 5 سنوات مضت، أما الآن فهي كلمات معروفة وتبدو ضرورية - حيث تستخدم بصورة مستمرة في حياتنا اليومية .

عندما يكون هناك جهاز محمول أو شاشة عرض ، يتم تسمية المنتج كمثل على الرقمنة أو إنترنت الأشياء .

في الوقت ذاته ، تزداد المنافسة باستمرار مما يجبر الشركات على أن تصبح أكثر فاعلية وتضغط بشكل متزايد لخفض التكاليف فيما يخص الإدارات ذات الكفاءة المنخفضة .

دعونا نبدأ رحلة الرقمنة لاكتشاف صورة صناعة الإسمنت في المستقبل .

سيساعد المنهج التالي في توجيه رحلتنا العلمية من المفهوم الأولي إلى التنفيذ الناجح للمشروع . تذكر الوقت الذي كنا نشترى فيه الملابس من متجر لبيع الملابس ولم يفكر أحد في طلب ملابس على الإنترنت . الآن أصبحت التجارة الإلكترونية الأكثر أهمية في مجال الأزياء .

وفي ضوء ما سبق يتم تحديد حاضر ومستقبل مجتمعاتنا من خلال الاتجاهات الخمسة الكبرى التالية :

التغيرات السكانية والديموغرافية وزيادة عدد السكان ؛

تغير المناخ ومتطلبات التنمية الحضرية وزيادة عدد سكان المدن والعولمة ؛

استراتيجية التحول الرقمي

Digital Transformation

استراتيجيتنا للتحول الرقمي في صناعة الإسمنت تعتمد على مخطط (5 + 12 5 + + 3) من العناصر المرتبطة ببعضها .

لا تتناول الرقمنة Digitalization عمليات التصنيع والخدمات والمنتجات فقط ، بل تتناول أيضاً نماذج الأعمال وتدريب الأيدي العاملة والتعليم .

نعرف التحول الرقمي بأنه استخدام أفضل التقنيات المتاحة للشركات كي تعتمد إمكانياتها الكاملة لزيادة الكفاءة والمرونة اللازمة للحصول على موقع استراتيجي أفضل في السوق .

العناصر الخمسة الأولى تخص النظام البيئي Ecosystem في صناعة الإسمنت . تصنف صناعة الإسمنت في المستقبل إلى أنها ذاتية التنظيم تحتوي أنظمة بيئية ذكية بدلاً من العمليات الوظيفية المنفصلة .

سيلعب اللاعبون الأساسيون داخل سلاسل الإمداد على بناء نظم معلوماتية مرتبطة تعمل باستمرار على إرسال واستقبال بيانات



العملاء:

Clients

سيتم توصيل جميع الموارد في خط الإنتاج - البشري والآلي - من خلال إنترنت الأشياء ، مما يمثل مستوى جديداً من التفاعل الاجتماعي - التقني .

مع التقدم خطوة واحدة ، ستكون المنتجات ذاتها ذكية في إدارة عملية الإنتاج الخاصة بهم وإعطاء الإرشادات للآلات فيما يتعلق بالخطوات التالية أو مميزات التخصيص المسجلة .

سيتمكن العملاء من الوصول إلى معلومات العرض والطلب في الوقت الفعلي Real Time .

ركائز الرقمنة:

Digital Pillars

الشبكات والتواصل
تعتمد الشبكات والاتصال على أنظمة تكنولوجيا المعلومات والاتصالات اللامركزية التي تغطي كل جانب من جوانب الإنتاج .

تكامل سلاسل القيمة Value Chain Integration

يتم تكامل سلسلة القيمة مع تكامل أنظمة تكنولوجيا المعلومات بما في ذلك أنظمة العملاء والموردين عبر سلسلة القيمة Value Chain

تشير الآلات والمعدات الذكية إلى الأصول الثابتة في عملية التصنيع .

إن التقدم في إنترنت الأشياء سيوفر مدى ضخماً من الإمكانيات لم يكن متوافراً من قبل.

كل الموارد سواء البشرية أو المعدات داخل المعمل أو المصنع ستكون مرتبطة من خلال إنترنت الأشياء وستحقق مستوى جديداً من التفاعل التقني الاجتماعي .

يمكننا الذهاب أيضاً إلى نقطة أبعد حيث سيكون في متناول المنتجات ذاتها أن تدير عمليات التصنيع بنفسها من خلال الذكاء الصناعي وتراقب المعدات الخطوات التالية طبقاً للأوامر المسجلة ومع ما يتناسب مع متطلبات خاصة للعملاء .

التشغيل الآلي للآلات والمعدات الذكية هي حجر الزاوية في صناعة الإسمنت .

المنتجات الذكية

Smart Products

تعمل المنتجات الذكية على المشاركة في العمليات التصنيعية وتمتد المعدات بالبيانات اللازمة للخطوات التالية التي سوف تحدث والمواصفات والمتطلبات اللازمة وهكذا تستطيع المنتجات الذكية أن تتفاعل مع العملاء وتمدهم بخدمات وفوائد إضافية بالإضافة إلى



Digital Enterprises	عناصر الرقمنة الاثني عشر
Solid cement process automation	1 - أتمتة العمليات
systematic energy saving	2 - توفير الطاقة بشكل منهجي
Advanced process control	3 - عملية التحكم
Information security concept	4 - أمن المعلومات
Industry information structure	5 - هيكل المعلومات
Smart sensor and equipment technology	6 - التكنولوجيا الذكية للمعدات
Diagnostics	7 - التشخيص
Intelligent manufacturing operation	8 - التصنيع الذكي
Digital twin and simulation	9 - المحاكاة
plant data analytics mind sphere	10 - تحليلات البيانات
plant life cycle engineering	11 - هندسة دورة حياة المصنع
Autonomous operation	12 - عملية الحكم الذاتي

عملياتها المباشرة . إنه حقاً عالم رقمي عالي الدقة

كانت الموضوعات الرئيسية لهذا المقال هي وسائل التواصل الاجتماعي والانتقال والتحليلات والسحابة وتأثيرها على مجتمع المصانع الذكية المتصل كل منها له تأثير كبير بالفعل على تعريفنا وفهمنا للمصنع الذكي ومعناه في سياق التحول الرقمي . من الواضح أن هذا يتجاوز مجال كفاءة الطاقة وإدارة الطاقة ، على الرغم من أهميتها . إنه يتعلق أيضاً بالكفاءة التشغيلية ورضا الأفراد والإنتاجية . ومع ذلك ، فإن المستثمرين وأصحاب المصلحة يسعون إلى تحسين وسائل المراسلة عند تقديم الكثير من أدوات وممارسات توفير الطاقة بواسطة العديد من الموردين المختلفين .

أخيراً ، ينبغي أن تسعى الصناعة إلى مزيد من التعاون مع الموردين والعلماء وأصحاب المصلحة الآخرين لدفع التنمية نحو الثورة الصناعية الرابعة .

يجب أن تبدأ عملية الرقمنة بإدارة دورة حياة المنتج بهدف زيادة الإنتاجية أولاً وثانياً لفتح مجموعة واسعة من فرص العمل . وهي ليست عملية فورية حيث ستكون هناك صعوبات في التكيف والتنفيذ ولكن ننتظر مستقبل باهر .

يمكن مراجعة تلك المصادر للتعرف على المزيد عن رحلة التحول الرقمي

1-<https://www.youtube.com/watch?v=vGv1qqnz4OQ>

2-<https://www.youtube.com/watch?v=Pa9KP7R71fk>

3-<https://www.youtube.com/watch?v=iIDbJsOW3Ug>

4-<https://www.youtube.com/watch?v=KQbJP3UyCEs>

5-https://www.youtube.com/watch?v=4nkOKO_Z-rs

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إذا تمكنت الشركة من تضمين وتكامل الركائز السابقة في أنشطتها حتماً ستنتج في التعرف على احتياجات العملاء المتوقعة بطريقة أسرع من الطرق التقليدية .

تحليل البيانات

Data Analytics

على سبيل المثال يمكن للمشغلين إدارة الإنتاج واللوجستيات من المصنع إلى الميناء كاملة . سلسلة الأداء مخصصة لمؤشرات الأداء الرئيسية والانتقال إلى شرائح فردية وفقاً لاحتياجات كل مستخدم .

يمكن أن تساعد المشروعات التجريبية في معالجة العديد من المشكلات ، ليس مطلوباً أن ينجح كل مشروع ، لكنهم جميعاً يساعدون في تعلم الطريقة التي تناسب كل شركة .

الصعوبات والتحديات

لتطبيق هذا النظام بنجاح لابد من التأكد من أن جميع البيانات تم تعريفها وهندستها وتخزينها ومراجعتها وتحليلها وأصبحت متاحة لكل مستخدم .

هل الحساسات المطلوبة موجودة في أماكنها المخصصة وتستطيع أن توصل تلك القيم إلى الخوادم والشبكة !

لابد من إجراء دراسة مبدئية ومفصلة داخل المصنع عن البنية الأساسية من معدات الهاردوير والسوفت وير المطلوبة والتي تختلف حسب حجم المصنع .

وهل سيتم تخزين تلك المعلومات على مخدمات الشركة أم سوف يتم تأجير سيرفرات من مقدمي خدمة متخصصين . وهنا نتعرض إلى مشكلة كبيرة خاصة بتأمين البيانات وعدم التعرض إلى هجمات من الهاكرز أو الشركات المنافسة لتعطيل تلك المنظومة أو فيرستها .

الأخبار الجيدة هي أن هذه التكنولوجيات أصبحت متاحة كما أن حلول تأمين المعلومات من القرصنة أصبحت أكثر موثوقية . غير أن صناعة الإسمنت لا تزال في مرحلة مبكرة من التطور للحاق بركب الثورة الصناعية الرابعة .

في النهاية ، يبدو أن أي شركة ناجحة في السوق ستهتم بهذه العناصر:

1 - التسويق الرقمي ووسائل التواصل الاجتماعي

2 - الاستدامة والمسؤولية الاجتماعية

3 - العلامة التجارية

وبذلك يحتوي هذا المقال على جميع العناصر التي تنهض بالمنظومة الصناعية وجميع مقوماتها سيكون نسبة الخطأ البشري محدوداً للغاية وستكون المنظومة قادرة على تصحيح من وضعها باستمرار طبقاً للمتغيرات التي تحدث .

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