



CEMENT & BUILDING MATERIALS REVIEW

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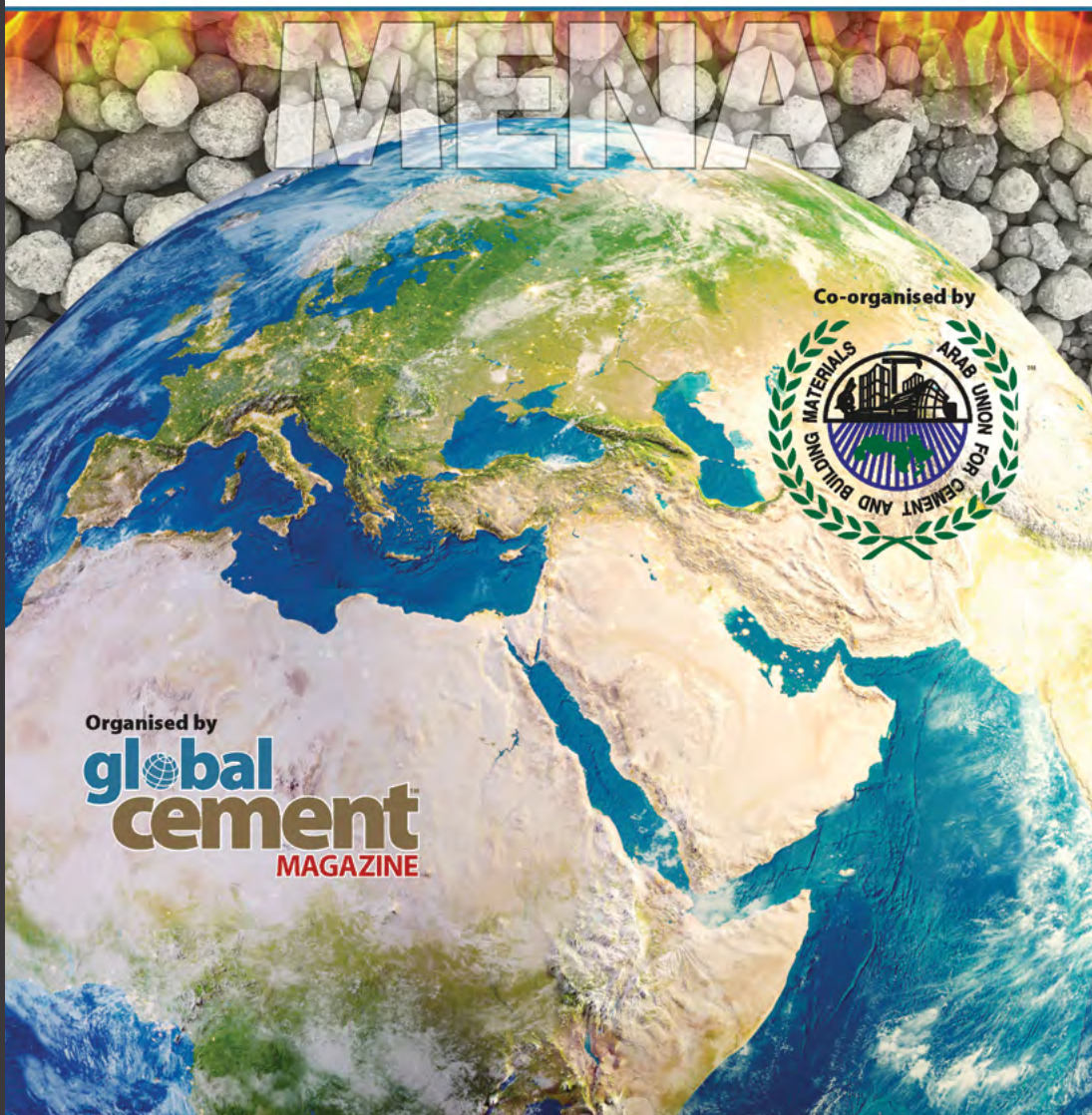
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A quarterly bilingual publication that is widely spread in the Arab region.

For more information, please contact

Eng. Ahmad Al-Rousan, AUCBM Secretary General

Arab Union for Cement and Building Materials (AUCBM)

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

Please visit our website <http://www.aucbm.net>





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Editor-in-Chief

Eng. Ahmad Al-Rousan

Managing Editor

Suha M. Canaan

CONTRIBUTIONS

- *The Magazine editorial staff welcome the contribution of experts to enrich the contents of the magazine .*
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Email: aucbm@scs-net.org / aucbm1977@gmail.com

Website : www.aucbm.net

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CORRESPONDENCE

Correspondence are to be addressed to the Editor-in-chief at the following address:

Syria, Damascus – P. O. Box 9015

Tel : (+963 11) 611 5412 – 6118598

Fax : (+963 11) 612 1731

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

Website : www.aucbm.net



AUCBM's Quarterly Cement and Building Materials Review (CBMR)

EDITORIAL SCHEDULE FOR 2021

EVENTS	THEMES	ISSUE
September 2021	<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 - Case Studies 	
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Deadlines for receiving articles, press releases, or advert materials for 2021 issues are as follows:

September issue: **31st August 2021**

December issue: **3rd December 2021**

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Half Page (Colored)	450	550	650	750
Quarter Page (Colored)	300	350	400	450
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ALGERIA

LafargeHolcim Algeria exports 9,000 tons of clinker to Europe

The shipment marks the opening of a new export route from the port of Skikda.

CW Group

EGYPT

Cement industry sees highest sales in recent years during March

Egypt's cement industry witnessed strong sales in March, with industry dispatch indicators registering one of the highest monthly run rates in recent years.

Total sales recorded 4.99 million tonnes (including exports) during March, up 22% month-on-month (m-o-m) and 15% year-on-year (y-o-y), the highest in years.

Total industry utilisation rate jumped to 74% compared to 60% in February, up significantly versus the average of 59% recorded in 2020.

Excess capacity amounts to 26%, the lowest since 2018. Watania Cement (Beni Suef) recorded the highest sales of 990,000 tonnes with a market share of 20%, according to calculations. This meant that volumes were up 40% m-o-m, and 141% y-o-y.

Sinai Cement recorded the strongest growth with sales growing 51% m-o-m and 72% y-o-y. Most other listed peers recorded a drop in sales on a y-o-y basis.

Although one of its lines was not operating for most of March, Arabian Cement's volumes saw an improvement of 39% m-o-m, but recording a 41% y-o-y decline.

Misr Beni Suef Cement registered volumes of 115,000 tonnes, down 8% m-o-m and 47% y-o-y, whilst Misr Cement Qena registered volumes of 343,000 tonnes, down 5% m-o-m and 14% y-o-y.

Daily News Egypt

Egypt ships 4,700 tons of white cement to Russia

The export operation was made through the El-Arish port.

CW Group

Lafarge Egypt invests EGP 100 million to produce green cement

Lafarge Egypt revealed that it has invested about EGP 100 million to rehabilitate production lines to produce green cement, with a view to reducing its environmental footprint, which prompted it to launch the new EcoLabel products. The company aims to reach 5% of the total sales of its products in the Egyptian market during the first year.

Lafarge invested in waste and solar energy power generation, which could lead to a reduction in environmental emissions by about 30% by 2030.

The full production capacity of the company is close to 10 million tons per year, and it is currently operating at 70% of its capacity.

"The Corona crisis and the suspension of licenses are among the factors that led to the reduction of the annual demand of cement in Egypt to 45 million tons in 2020, with an annual decrease of 8%, while it is expected during the current year, with the start of the return of licenses, that the quantity will rise to 48 million tons", The company chairman projected.

He explained that the projects of new urban cities respond for 30% of the company's cement production, while the remaining share is sold to construction works inside the governorates and neighborhoods, which in turn witnessed a sharp drop following the 2020's decision to stop building licenses.

He also noted that the Lafarge plant consumes 5 to 7% natural gas and 15% alternative fuel, and that it is targeted to reach 35% by 2027.

CW Group

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



Egyptian government proposes production cut to cement companies

According to executives, the government proposed that companies reduce their output by at least 10%.

[CW Group](#)

IRAQ

Lucky Cement's Samawah cement plant enters commercial production

Lucky Cement has started commercial cement production at its 1.2Mt/yr integrated Samawah cement plant. The plant brings the company's overseas installed cement production capacity to 4.1Mt/yr. It operates the 1.7Mt/yr Basra grinding plant in Iraq and a 1.2Mt/yr integrated cement plant in the Democratic Republic of Congo.

The company said, "Despite the impacts of Covid-19 pandemic, the project has successfully achieved its milestones on time."

[Global Cement](#)

LEBANON

Cimenterie Nationale to stop cement deliveries in Lebanon from March 6

Since the end of October, the cement manufacturers no longer have access to their quarries.

[CW Group](#)

MOROCCO

LafargeHolcim Maroc's 1.6 Mtpa Souss-Massa Plant to be operational soon

LafargeHolcim Maroc announced that its new 1.6 MTPA cement plant will be operational in July 2021. The new cement plant with an investment of US\$333.8 million is located in the Souss-Massa region, 45 km southwest of the city of Agadir.

The plant will use automation technologies, robotics, artificial intelligence and predictive maintenance to improve its production process. These innovative solutions ensure safer, more efficient and more sustainable cement production, said the company. The plant is also planning to use wind power and alternative fuels.

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OMAN

Oman Cement to modernise plant, expand capacity

Oman Cement has initiated a series of steps to upgrade its flagship plant at Misfah in Muscat Governorate, as well as develop new capacity at Duqm in Al Wusta Government.

It includes a plan to eliminate bottlenecks in the 3.6 mtpa capacity Misfah complex where all of the company's current output of cement and related products originates. The upgrade also envisions the installation of a new power plant based on the latest technology at the Misfah site.

Bids are also being evaluated for a contract to support MSM-listed Oman Cement's use of waste tyres as an alternative fuel source. Oman Environmental Services Holding Company (be'ah) has already pledged to supply around 30,000 tons per annum of Tyre Derived Fuel (TDF) processed from scrap tyres. An agreement to this effect was formalised between the two organisations earlier this year.

Furthermore, Oman Cement is making headway in the development of a new integrated cement plant in Duqm Special Economic Zone (SEZ). The 5,000TPD capacity clinker facility will be set up by Sahawa Cement Company LLC, a subsidiary of Oman Cement. Bids from EPC contractors are being evaluated for the estimated \$228 million project, according to the chairman.

[Oman daily Observer](#)

Raysut Cement Gets CE, NF Certifications for Conforming to European Standards

Raysut Cement Company has received CE and NF certifications validating RCC's adherence to EU standards in cement production.

The certifications come at a time when it is expanding exports to newer global markets, said the company. Currently, 50% of the company's output is exported to East Africa, India, Maldives, South Africa, and Indian Ocean islands.

RCC has also been certified by BIS (Bureau of Indian Standards). RCC exports 240,000 metric tonnes of cement every year to India while it is also looking at acquiring cement plants in the country. In 2020, RCC exports to India were to the tune of 200,000 metric tonnes.

Winning the certifications also coincided with RCC clinching a new export order from the Reunion Islands in the western Indian Ocean, and a contract has already been signed with Enterprise Audemard Group of the French island for a year to ship 8,000 MT cement every month. The first shipment has already been received by the party.

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Bids submitted for \$435 mln Oman cement plant

Bids have been submitted for the planned integrated cement plant in Duqm that is being developed by Oman's Seven Seas Company.

The project is estimated to be worth \$435m and a total of 6 companies have submitted bids. The companies that have submitted bids are:

Bahwan Engineering Company (Oman)
KHD Humboldt Wedag
Sinoma International Engineering Company
FLSmidth
China National Building Materials
Larsen and Toubro

Seven Seas Company tendered the engineering, procurement and construction (EPC) contract in October 2020.

Duqm Cement Projects International (DCPI) will ultimately operate the facility.

The plant will have a capacity of 3.5 million tonnes a year and is expected to meet local demand, as well serving export markets in East Africa, India and Sri Lanka.

Exports are expected to be fed through a clinkerisation unit that Seven Seas Company plans to establish after operations have stabilised.

MEED

PALESTINE

Jericho Cement Company to set up 1.1Mt/yr cement plant in Palestine

Jericho Cement Company plans to establish the first cement plant in Palestine by 2022. The planned 1.1Mt/yr plant will cost US\$85m. Funding will come from a group of companies and the Palestinian Investment Fund.

Global Cement

QATAR

Qatar witnesses 'robust' year-on-year growth in production of cement

Qatar witnessed a robust double-digit year-on-year growth in the production of cement, rubber and plastic products amidst a slowdown in the overall manufacturing sector in February 2021.

The manufacturing index, with a relative weight of 15.2%, saw a 4% contraction year-on-year in February 2021 despite 16.6% increase in the production of cement and other non-metallic mineral products, 10.7% in rubber and plastics products and 5.3% in refined petroleum products.

[Gulf Times](#)

Sika expands capacity at Doha concrete admixture plant

Switzerland-based Sika has expanded concrete admixture production capacity at its Doha admixture plant. The company has also announced the start of epoxy resin production in the country.

[Global Cement](#)

SAUDI ARABIA

Saudi Arabia cement sales forecast to grow by 4% to 52.8Mt in 2021

NCB Capital has predicted a growth in Saudi cement sales of 4% year-on-year to 52.8Mt in 2021. The investment and analyst division of National Commercial Bank described the sector's outlook as 'positive,' due to on-going housing programmes and the Public Investment Fund's 2021 – 2025 strategy, as well as a pick-up in infrastructure projects.

[Global Cement](#)

Saudi Arabia issues 6 cement export licenses amid construction surge

The Saudi Arabian Ministry of Commerce has granted six steel export licenses and six cement export licenses so far this year.

In 2020, the ministry issued a total of 21 cement export licenses and 19 steel licenses, and is currently reviewing two other export requests. The new licenses come as construction activity begins to recover following the postponement of many projects during the coronavirus (COVID-19) pandemic.

Badr Jawhar, chairman of the National Committee for Cement Companies in the Council for Saudi Chambers of Commerce and Industry, said that since exports were allowed and companies were exempt from export duties, Saudi exports of clinker and cement have increased, as the Saudi product has become a strong competitor in foreign markets.

[Arab News](#)

Arabian Cement's Rabigh plant faces delay as CNBM caught up in travel restrictions

Arabian Cement Co. said a project to build new cement mills in Rabigh has been delayed by 150 days and will now be completed in the fourth quarter of 2021.

The delay was due to contractor China National Building Materials Corp. being unable to travel to Saudi Arabia to complete the installation and commissioning work because of coronavirus travel restrictions, Arabian Cement said.

The suspension of international flights in Saudi Arabia and elsewhere in the region has affected a number of infrastructure projects with key site personnel having to wait until restrictions are lifted to re-enter the country.

There will be no financial impact from the delay and no effect on financial results, Arabian Cement said.

[ArabNews](#)

Arabian Cement To Upgrade Its Rabigh Site

Arabian Cement Company has sealed an agreement with FLSmidth for the supply of a large efficiency upgrade at its Rabigh site, in Saudi Arabia. The order includes new DDX top cyclones, a quenching chamber and an ABC Cooler Inlet. The installation and commissioning is expected to be during the fourth quarter of 2021.

The efficiency upgrade is expected to improve the operation of the existing line with less fuel and power consumption, reducing production costs.

"The Saudi Arabian cement market is highly competitive with increasing demand, we are therefore constantly looking at ways to improve the efficiency at our Rabigh site," explains Badr Osama Johar, CEO at Arabian Cement Company.

[CW Group](#)

City Cement to incorporate waste and recycling subsidiary

The board of Saudi's City Cement Company has agreed to incorporate a new waste, environmental and recycling subsidiary LLC with registered offices in Riyadh.

The decision comes in line with the company's strategy, and any further developments in this regard will be announced in due course.

[LinkedIn](#)

Southern Province Cement Company to upgrade Jizan cement plant

Southern Province Cement Company plans to upgrade its Jizan cement plant in Abha with a new 10,000t/day clinker production line to replace the plant's existing clinker lines. The producer plans to launch the project in mid-late 2021.

Global Cement

Yamama Cement inks \$230 mln Islamic finance deal with Al Rajhi Bank

Yamama Cement Company has signed financing

agreement with Al Rajhi Bank to secure a loan worth SR863 million (\$230 million) including a SAR 563 million long-term facility and SAR 300 million in short-term financing.

[Mubasher](#)

Yamama Cement relocates seventh production line

Yamama Cement Company decided to relocate and install its seventh production line from the old plant in South of Riyadh to Northern Halal in Al Kharj.

The current production capacity of the line is 10,000 tonnes of clinker per day, while the new site will boost the output to 30,000 tonnes by the end of 2024.

The cost of transferring the line will be funded from the company's resources.

[Mubasher](#)

Yanbu Cement reports delay to upgrade project on production line

Yanbu Cement says that a two months modernization project on Line 4 at its integrated Yanbu plant that was first reported in mid-February 2021 has been delayed. This has been caused by a hold up in receiving certain spare parts. The cement producer said that the financial impact would be limited to the increase in production costs only since the start of the shutdown date. It also stressed that sales would not be affected by the stoppage due to its existing clinker stocks.

[Global](#)

Yanbu Cement postpones capital reduction plan amid private sector push

Yanbu Cement Co said it was postponing a recommendation to decrease its capital to support Saudi government plans requiring the private sector to invest in the local economy.

Yanbu Cement had said in January its board had recommended a capital reduction to 1 billion riyals (\$266.65 million) from 1.575 billion riyals as the capital exceeded the company's needs.

The capital decrease would have happened by cancelling 36.5% of its shares and compensating shareholders. But the firm decided to postpone the plan "in line with the private sector partnership reinforcement program".

Yanbu said it was no longer pursuing a capital reduction "to benefit from the company's solvency to support the objectives of this program and invest in promising local investment opportunities."

[LinkedIn](#)

SYRIA

Tartous Cement Company restarts its fourth furnace operations

Tests will be carried out for two months

[CW Group](#)

UAE

Emirates Steel, Arkan merger set to form country's largest steel, building material company

Abu Dhabi's General Holding Corporation (Senaat), a subsidiary of ADQ, one of Abu Dhabi's three sovereign wealth funds, has proposed to merge Emirates Steel Industries with Arkan, which seeks to create the UAE's largest steel and building material company.

The merged entity will have total assets worth \$3.54bn (Dh13 billion). At present, Senaat fully owns Emirates Steel and 51% of Abu Dhabi-listed Arkan.

Senaat will own approximately 87.5% of the entire issued share capital of the combined group after the completion of the merger. Arkan Building Materials PJSC said its board would consider the transaction before making any recommendation to shareholders.

The deal is also subject to approval from the Securities and Commodities Authority (SCA), and other relevant authorities.

[LinkedIn](#)

ADNOC signs 10-year gas supply agreements with ARKAN

The Abu Dhabi National Oil Company (ADNOC) has signed long-term gas sales agreements with Arkan Building Materials PJSC and Emirates Steel (ES), underscoring the company's strategy to deliver sustainable gas supply and enable gas self-sufficiency for the Emirates.

ADNOC will supply natural gas to Emirates Steel and Arkan for the next 10 years to support their growing energy demand.

Arkan has one of the largest cement plants in the UAE. It is the only fully gas-powered plant in the UAE with the lowest cost of production.

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FLSmidth, a global technology leader in the mining and cement industries, received validation from the Science Based Targets initiative for its carbon emission reduction targets. By implementing its MissionZero programme to achieve these targets, the company will help keep global warming below 1.5°C at the same time as delivering solutions to help reduce global CO₂ emissions by more than 10% – and becoming carbon neutral in its own operations by 2030.

Commenting on the targets, CEO Thomas Schulz says:

“I truly believe that the global climate challenge more than anything will find its solution in technology, and as a technology leader FLSmidth is uniquely placed to address this. By setting these targets, we commit to deliver solutions to our customers to reduce emissions. We’ve already communicated strong sustainability ambitions through the MissionZero programme and, with our Science Based Targets commitment, we will further accelerate these and get a clear picture on how we’re progressing with our MissionZero goals, by having specific numbers on reductions to commit to and meet year on year.”

MissionZero programme

In November 2019, FLSmidth announced its new sustainability ambition, as defined in the MissionZero programme. In short, the programme aims to provide zero-emission technology to the mining and cement industry by 2030, enabling a potential 10% reduction in the world’s CO₂ emissions.

The Science Based Targets cover the company’s emissions throughout the value chain – from its own operations, from its supply chain and, most prominently, from its customers. The latter account for > 95% of its emissions.

According to the Science Based Targets pledge, by 2030 FLSmidth will:

- Be carbon-neutral in its own operations

- Have 30% of its spend with suppliers with similar decarbonisation targets
- Cut customer-associated emissions per revenue by 56%, or 7% year on year

These goals are on top of the MissionZero ambition to provide zero-emission technology to the mining and cement industries by 2030.

“We need to operate with multiple goals to reach our CO₂ reduction ambition. The MissionZero goals aim at providing the sustainable solutions on the shelves of the FLSmidth shop by 2030 at the latest, whereas the 56% reduction ensures that these solutions actually get to the market and drive a green transition there. Many of our customers have set carbon neutrality targets for 2050. In order to achieve these, the solutions need to be available already by 2030. Finally, our carbon neutrality ambition for our own operations by 2030 will ensure that we ‘walk the talk’ internally as well,” adds Thomas Schulz.

To achieve these ambitious Science Based Targets, FLSmidth will:

- Work in partnership with its customers to improve their sustainability performance with FLSmidth’s flagship solutions
- Accelerate investment in sustainability-related R&D and engage in strategic industry and university partnerships around the world to develop new solutions
- Invest in renewable energy for its own operations

“We congratulate FLSmidth A/S on setting science-based targets consistent with limiting warming to 1.5°C – the most ambitious goal of the Paris Agreement,” says Alberto Carrillo Pineda, Director, Science Based Targets at CDP, one of the Science Based Targets initiative partners. “By aligning its goals with a 1.5°C future, FLSmidth A/S is ensuring it builds resilience firmly into its business model and strengthening its MissionZero programme that will help reduce emissions in hard-to-abate sectors.”

FLSmidth provides sustainable productivity to the global mining and cement industries. We deliver market-leading engineering, equipment and service solutions that enable our customers to improve performance, drive down costs and reduce environmental impact. Our operations span the globe, and we have close to 10,700 employees in more than 60 countries. In 2020, FLSmidth generated revenue of DKK 16.4 billion. MissionZero is our sustainability ambition towards zero emissions in mining and cement by 2030. flsmidth.com/MissionZero SBTi is a joint initiative by

CDP, UN Global Compact (UNGC), World Resources Institute (WRI) and WWF whose mission is to increase corporate ambition on climate action by mobilising companies to set greenhouse gas emission reduction targets consistent with science-based requirements to limit global warming to less than 1.5°C/2°C compared to pre-industrial temperatures. For more information, visit sciencebasedtargets.org



The well-known carbon capture and storage (CCS) project at Norcem Brevik in Norway – the first of its kind is taking shape. In February 2021, Heidelberg and FLSmidth signed an agreement for FLSmidth to deliver the necessary plant modifications allowing for downstream CO₂ removal. Final commissioning is scheduled for the first half of 2024.

Carbon capture is considered to be one of the key technologies in solving the CO₂ emission challenges in hard-to-abate sectors, like cement. Emitting approximately 7% of the world's carbon emissions, the cement industry is attacking the challenge from all possible angles. Heidelberg Cement's Norcem Brevik plant is now prepared to become the first cement producer in the world to move from test into full-scale production after years of preparation together with FLSmidth and other technology providers.

The capturing process at the Norcem Brevik plant will use a mixture of water and organic solvents to remove the CO₂. But before CO₂ can be removed, the production process must be adjusted, and particles in the flue gas removed. FLSmidth have the plant knowledge and the necessary expertise in air pollution control for this rebuild of the plant.

“We are very excited to have FLSmidth on board

and to finally begin the construction of the full-size installation,” says Tor Gautestad, Project Manager at Norcem. “FLSmidth's extensive process knowledge, and air pollution control in particular, will be critical to the success of the project,” Mr Gautestad adds.

“Having installed more than 4,000 filters around the world, I can say that “Brevik CCS” is no ordinary project. We are looking forward to working with Norcem on unleashing the potential of the project,” says Carsten Riisberg Lund, Cement Industry President, FLSmidth.

The agreement between Heidelberg and FLSmidth is effective and work on site will start during the winter shutdown in 2022 and is scheduled to end early 2024.

FLSmidth provides sustainable productivity to the global mining and cement industries. We deliver market-leading engineering, equipment and service solutions that enable our customers to improve performance, drive down costs and reduce environmental impact. Our operations span the globe and we are close to 10,700 employees, present in more than 60 countries. In 2020, FLSmidth generated revenue of DKK 16.4 billion. MissionZero is our sustainability ambition towards zero emissions in mining and cement by 2030.

www.flsmidth.com/MissionZero

Installation and Commissioning: AUMUND Group Field Service uniform global standard

AUMUND Group Field Service unites the AUMUND Group's activities in the installation and commissioning of equipment supplied by AUMUND Fördertechnik, Besta&Meyer, LOUISE, WTW Engineering, SCHADE Lagertechnik and SAMSON Materials Handling, which had previously been organised and carried out separately by those individual companies. By bringing together approximately 60 supervisors working all over the world into one organisation, a global network has been created which allows immediate deployment of local technical personnel to any customer. The assignments are supported by supply of spare parts from five Service Centres, located in Germany, Hong Kong, USA, Brazil and Saudi Arabia. As a result of their international expertise and experience, the Field Service supervisors are often booked for installation and commissioning assignments on bulk materials conveying equipment from other manufacturers.



Two AUMUND Group Field Service team members during commissioning of SCHADE Wagon Tippler Unloading Units at Taman Seaport (© AUMUND)

An example: Taman Seaport, where Field Service accompanied the commissioning of the first SCHADE coal handling lines

At Taman Seaport, built by OTEKO Portservice in the Russian region of Krasnodar on the Black Sea, two new coal handling lines have been commissioned, with AUMUND Group Field Service GmbH playing a major role. The company received an order for supervision of both the mechanical and electrical installation of the Wagon Unloading System supplied by SCHADE Lagertechnik GmbH. The SCHADE system unloads coal in one single tipping operation from two sets of three wagons which are coupled together, with two Triple-C-Frame Wagon Tippers working in parallel. Over the next few months more work is to be done at Taman Seaport, which will require the attendance and support of the Field Service supervisors, this

time for the installation of two SCHADE Semi-Portal Reclaimers for sulphur storage, and for the commissioning of a SCHADE Pivot-Frame Wagon Tippler for handling sulphur.

The order from OTEKO Portservice to SCHADE also comprises two more Triple-C-Frame Wagon Tippers and two Semi-Portal Reclaimers. The expertise and experience of the Field Service supervisors will also be required for the installation and commissioning of these machines.

Taman Seaport has been expanded in recent years and is now the second largest freight handling port in southern Russia. In October 2019 President Vladimir Putin inaugurated the new coal unloading lines with the two SCHADE Triple-C-Frame Wagon Tippers. Commissioning of the Wagon Tippler Unloading Units took place between December 2019 and November 2020. In this phase around 4,000,000 t of coal was unloaded.

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 Förder-technik GmbH (Rheinberg, Germany), SCHADE Lagertechnik GmbH (Gelsenkirchen, Germany), SAMSON Materials Handling Ltd. (Ely, England), as well as AUMUND Group Field Service GmbH and 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.

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Dirk Lechtenberg appointed Managing Director for Green Solutions for Environmental Services

The pioneer in his field and Managing Director of the alternative fuels consulting company MVW Lechtenberg & Partner and alternative fuel pellet production company Blue River Recycling will lead the newly founded business among industry experts Chairman Mr. Badr bin Omar Alabdullatif (Chairman of the Board of Directors at City Cement Co.), Mr. Mohammed bin Hikmat Al-Zaiem (Board Member & Chairman of the Audit Committee, City Cement Co.), Mr. Majid bin Abdurrahman Al-Osailan (Chairman Of The Board at Natural Gas Distribution Company and CEO at City Cement Co.), and Mr. Saleh bin Ibrahim

Al-Shabnan (CEO, Haffaz for Consultation & Business Development).

Inspired by the Kingdom's 2030 vision and ambition to effectively contribute to achieving the set global sustainability targets, GSFES was founded by the minds and the hands of competent Saudi cadres.

GSFES seeks to be one of the major Saudi based companies driving the realization of the Kingdom's 2030 global sustainability targets through innovating and transforming the waste management value chain.

The aim is to process non-recyclables through best-in-class environmental consultancies, services and products to private, public sectors and government agencies.

VORTEX SHOWCASES NEW TECHNOLOGIES ON UPDATED WEBSITE

Vortex Global is pleased to showcase their latest advancements in dry bulk solids handling technologies, specifically in the loading solutions and aerated conveying product lines, through an updated version of its website.

“Over the past five years, our product research and development team has delivered several innovations to the dry bulk material handling industry,” said Vortex President & CEO, Travis Young. “This includes dustless grain ship loaders, high temperature gates for fly ash handling, abrasive duty diverters, and aerated cement conveyors. It became evident that we had to do a better job explaining these new product offerings to the market. Vortex's new website does a great job with every technical detail.”

The updated website, developed and designed completely in-house, mirrors Vortex's latest catalog of slide gates, diverter valves, iris valves, loading spouts and aerated conveying systems for the handling of dry bulk solid materials which was published in late 2019.

Vortex customers can obtain information on the products most suitable for their unique application by searching by product or by industry served. Website visitors can access detailed specifications for each of Vortex's products including technical specifications, dimensional drawings, video animations and photos.

“Our digital footprint is something we take very seriously, and that starts with a strong web presence,” explained Vortex Corporate Marketing Director, Eric

Montoy. “This latest website update focuses on ease-of-use, mobile optimization and delivering more relevant content to our Vortex customers. By tapping into some of the latest technologies we can continue to grow our online resources and technical support into the future.”

The refreshed version of the website also includes a variety of resources for Vortex customers and members of the dry bulk solids handling industry. Among these resources are more than 250 case studies featuring Vortex applications, technical articles and white papers, a bulk solids glossary, and news articles from Vortex.

Additional features of the updated site include downloadable instruction manuals, quote requests and return requests, live chat with Vortex representatives and details about Vortex's history, company policies and current job openings within the organization.

Visit vortexglobal.com to view the revamped website on your desktop or mobile device. You can also follow Vortex on Facebook (@vortexdrybulksolutions), LinkedIn (@vortex-valves), Twitter (@vortexvalves), and YouTube.

About Vortex:

For more than 40 years, Vortex has provided quality slide gates, diverters, iris valves and loading spouts designed specifically for handling dry bulk solids in gravity, vacuum, dilute, or dense phase applications. Vortex valves and spouts are engineered for dependability, durability, easy maintenance, and offer proven solutions to material handling and process efficiency problems. With an in-house team of engineers, Vortex products can be completely customized for individual applications or special installions.

ЦЕМЕНТ и его применение

CEMENT AND ITS APPLICATIONS
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The journal for producers and consumers of cement and other binders, as well as for construction companies and equipment producers

The Russian-language periodical professional publication devoted to the production of cement and other binders, concretes, dry mixes and their applications, as well as to research and design.

A conspicuous place in the journal materials is given to the problems of plant development, capital movement, economic problems facing the cement industries of Russia and other countries.

The journal comes out once in two months and includes news, analytical materials and detailed abstracts of all the articles in English.

«Cement and its Applications» is the only initiator and organizer of international cement conferences PetroCem. PetroCem 2018 which was held on April, 2018 in Saint-Petersburg, Russia – gathered more than 520 participants from 36 countries and representing more than 320 companies.

Jcement.ru web-based information portal on cement. Production, technologies, science. Always up-to-date news and data on cement producers, technologies, equipment suppliers and key-players. Journal, interviews, statistics, events, Q&A and other relevant materials.

Cement and its Applications, Journal
22 A Zvenigorodskaja Str. No 438
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RAK Ceramics adopts LB technology for reusing production waste

LB is implementing a new body preparation plant at RAK Ceramics' facility in Ras Al Khaimah, UAE.

A new complete body preparation plant covering all stages from raw material reception to press loading is being built at the RAK Ceramics Group's facility at Ras Al Khaimah (UAE).



The project was commissioned to LB, which studied the line in meticulous detail in order to meet the ceramic manufacturer's requirements. In order to optimise costs, Rak Ceramics aims to reuse all production waste through a "closed circuit" recycling process. The most suitable solution was judged to be the proposal from LB, which has always been attentive to issues of savings, reuse and recycling.

<https://www.ceramicworldweb.it/>

Carthago Ceramic starts up new plant



The plant in Jebel Oust began operating last December and is equipped with LB raw material preparation technology

The new Carthago Ceramic (Poulina Group) plant in Djebel Oust, a few kilometres south of Tunis, began operation last December. In this first phase of the project, the plant has a production capacity of 16,000 sqm/day of red-body single-fired tiles in 50x50 cm and 60x60 cm sizes. The plant is fully automated thanks to the adoption of Industry 4.0 technologies and also stands out for its low environmental impact in terms of energy consumption and atmospheric CO₂ emissions.



The Tunisian ceramic company has adopted LB's Migratech technology for the dry preparation of ceramic bodies. The raw materials are milled using an MRV vertical roller mill, after which microgranulation is performed by the GRC continuous cycle granulator followed by the fluid bed dryer.

LB also supplied the raw material preparation and batching plant, the microgranulate storage silo feeding system and the transport system from the silos to the tile forming presses.

CeramicWorldWeb Newsletter

ABK Group acquires Desvres

The historic French brand Desvres has become part of the Finale Emilia-based ceramic group, which in recent months has also purchased Gardenia Orchidea and acquired a 49% stake in the Spanish company Arbe Stolanica.

As part of its ongoing external growth plan, on 10 March the ABK Group announced the acquisition of the French company Desvres, a firm that has been part of the Belgian group Koramic since 1995 and in January 2021 was placed in liquidation by the Court of Lille.

The deal marks the third acquisition by the Finale Emilia-based ceramic group led by chairman Roberto Fabbri in just a few months and the second outside Italy following the two purchases completed in October and November 2020: Gardenia Orchidea (and its Versace Ceramics brand) and a 49% interest in the Spanish company Arbe Stolanica.

While the acquisition of a stake in Arbe Stolanica fits in with the ABK Group's plan to expand into the kitchen furniture segment (with ABKSTONE slabs), the French acquisition is strategically important for other reasons. Desvres is a historic brand that was established in 1863 and is well positioned in the French market. As Alessandro Fabbri, ABK's Managing Director of Sales & Marketing, explains, "Our Group has always chosen to invest in long-established, internationally renowned brands with the aim of relaunching them and restoring them to a market leading position thanks to the driving force and innovation of our corporate vision." One of the medium-term objectives announced by Fabbri is to completely relaunch the Desvres brand and consequently extend the group's export range.

The geographical location of the Desvres plant in Boussois, a municipality in northern France close to the Belgian border, is also strategically important for ABK. It will enable the Italian group to create a production and distribution hub specialising in 20 and 30 mm thick outdoor pavers in a strategic location close to the biggest markets for this type of product (France, Belgium, Germany, the UK and the Netherlands), bringing major benefits in terms of logistics and transport costs.

A major two-year investment plan is already in place to remodel the historic production site with the aim of increasing production capacity and expanding the

product range. Capacity will increase from the current 5 million sqm/year to 7 million sqm/year by 2022, on top of the 8 million sqm currently produced by ABK in Italy. The Desvres range currently consists mainly of 45x45 cm, 30x60 cm and 60x60 cm tiles but will be updated with new and larger sizes such as 80x80 cm, 60x120 cm and the extra-thick 20x120 cm.

Despite the difficulties experienced over the past year, Desvres has continued to operate uninterrupted and posted a turnover of more than 40 million euros in 2020. With this acquisition, ABK Group further cements its position as one of the largest Italian ceramic groups and expects to see its turnover grow from 150 million euros in 2020 to more than 180 million euros at the end of 2021.

CeramicWorldWeb Newsletter



Duravit Egypt installs a fourth GA2000 robot

Duravit's Egyptian branch continues its ambitious plant renewal project with another order for SACMI-Gaiotto robotic glazing solutions.

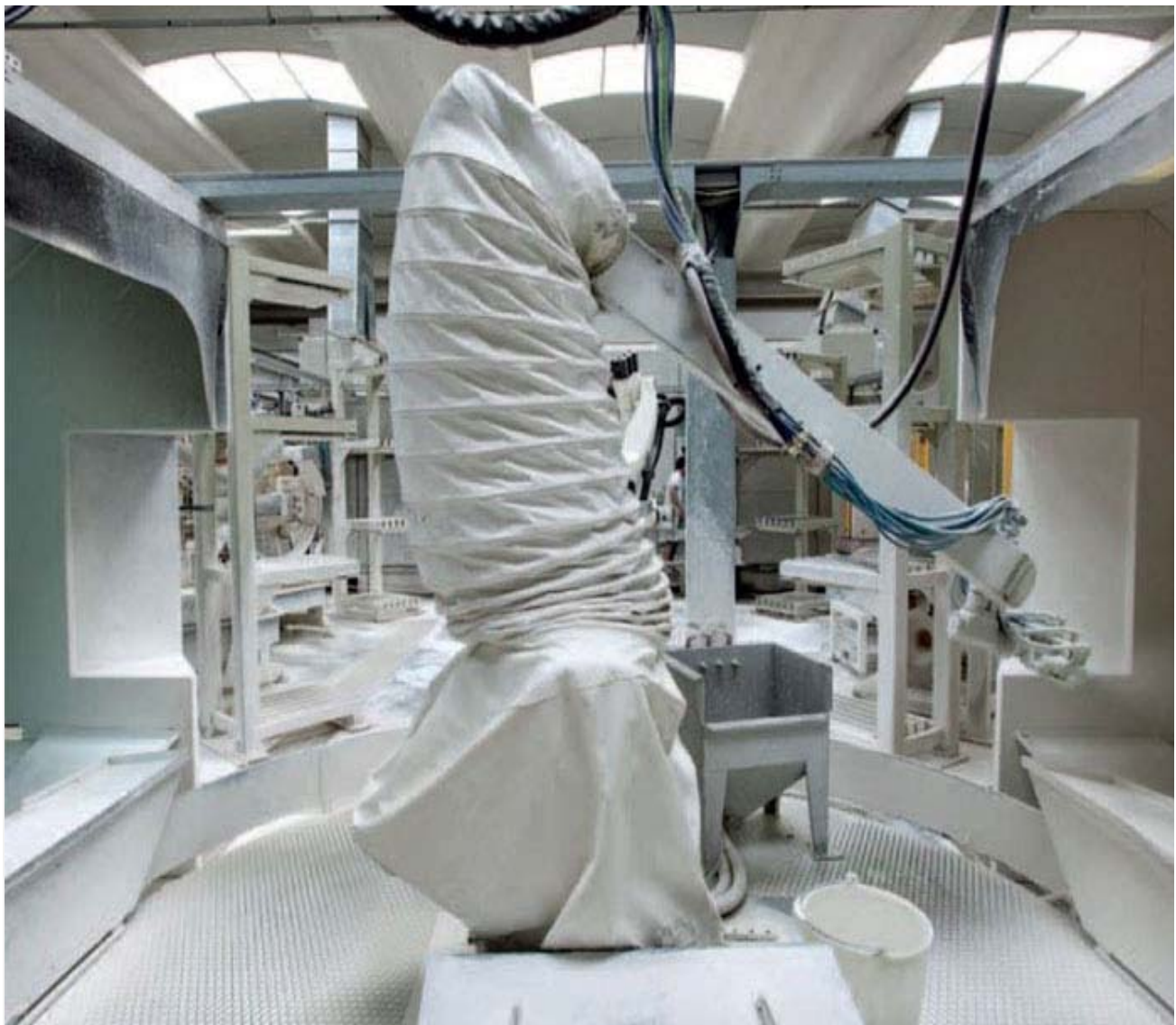
Gaiotto has supplied Duravit Egypt with a new GA2000 robot. The arrival of this fourth glazing robot marks the latest step in the ambitious expansion and upgrade project being implemented by Duravit's Egyptian branch, seen by the multinational German manufacturer of high-quality designer sanitaryware as essential to its operations in North Africa.

The new GA2000, a 7-axis model equipped with glaze delivery control system, joins the three similar

Gaiotto devices already in operation on the glazing line. This perfectly designed robot combines advanced self-learning capabilities with off-line glazing recipe programming, resulting in even more efficient control of the production mix.

This new supply contract further strengthens the longstanding relationship between Sacmi and Duravit, a partnership that is increasingly focused on process automation and standardisation with a view to ensuring the highest possible finished product quality.

CeramicWorldWeb Newsletter



CO₂ REDUCTION TECHNOLOGY REVIEW

By: Mark Mutter, JAMCEM Consulting, UK

Introduction

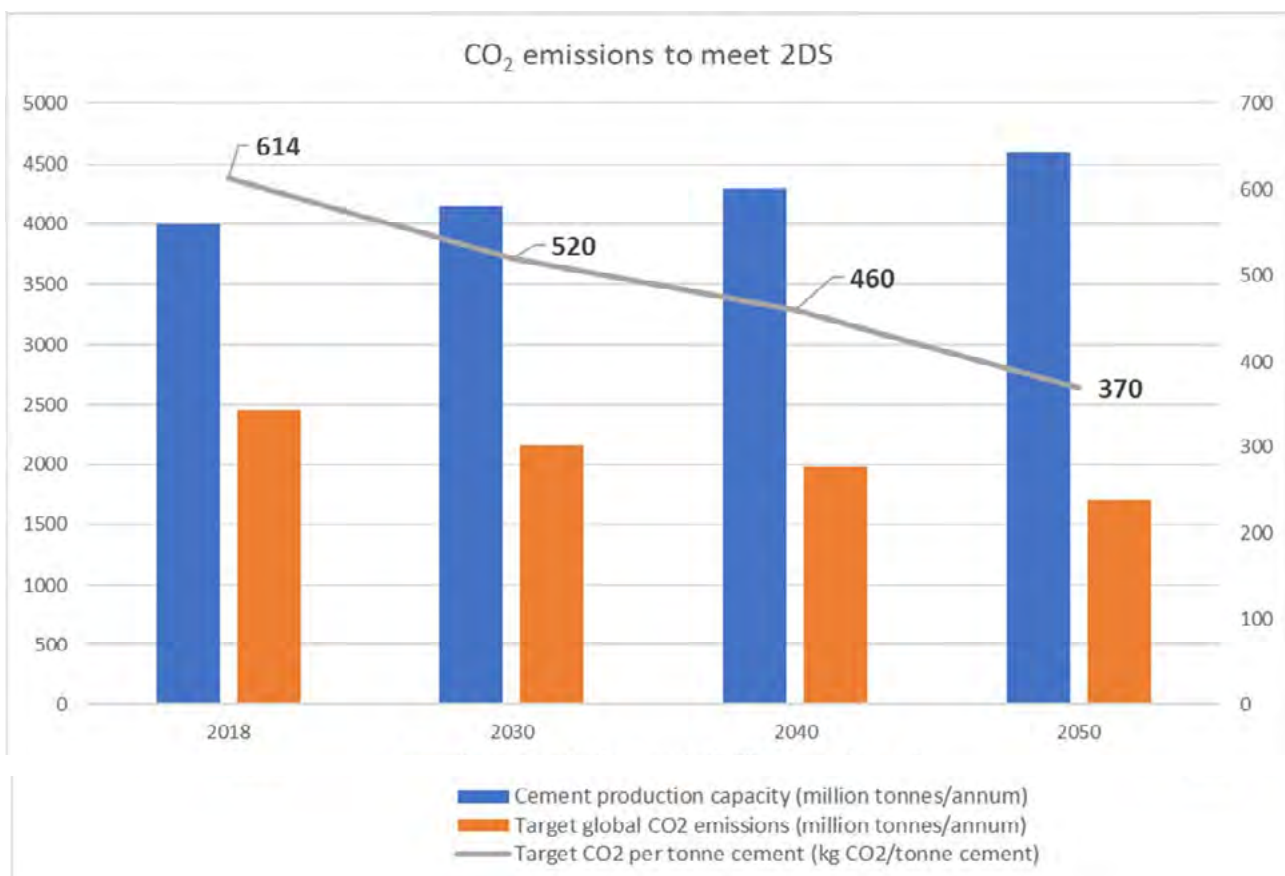
When most people read the title of this article, they may well imagine that it is one of the many articles that has been written in recent years about how cement companies can reduce their CO₂ emissions through alternative fuels use, increased biomass use, improving process efficiency and reducing clinker content in cement. Fortunately, it isn't!

Whilst the technological advances in the cement industry have been relatively slow in the past 100 years, the past two years have seen a relative explosion of ideas and developments, all focusing on reducing the impact of the global cement industry of emissions of CO₂ and climate change.

Background

CO₂ emissions from the cement industry are nothing new and in fact the industry as a whole has made good progress in reducing emissions per tonne of clinker – in real terms – since the 1990s. Much of this development has come from actions such as closing older, smaller plants and in particular wet kilns, converting preheater kilns to precalciners with efficiency improvements and developments in clinker cooler technology. In net terms, the use of biomass fuels has also reduced the net emissions from the industry in more recent years.

However, the size of the global industry in the past 20 years has grown substantially and the gains mentioned above have been by far outweighed by this growth; whilst many European countries have reached market



maturity in this time, the cement industries in many countries have rapidly grown including places such as China, Vietnam, Indonesia and Saudi Arabia. This has led to a far higher overall emission of CO₂ from the industry, despite the latest and lowest emitting process type kilns being installed in these growing countries.

With more recent political developments including the Paris Agreement and the “2-degree Celsius Scenario” (“2DS”), the industry as a whole and larger multi-national cement manufacturer in particular are now committing to reducing the amount of CO₂ emitted. The 2DS scenario focuses on how much CO₂ emissions have to drop to ensure that global average temperatures do not increase more than 2°C above pre-industrial levels. For the cement industry, a pathway has been calculated to show how much the CO₂ per tonne of cement must decrease by 2030, 2040 and 2050. The situation is complicated by the fact that cement production capacity is forecast to continue to grow, so whilst the 2DS scenario calls for a reduction of 30% less CO₂ emissions from the cement industry by 2050, the CO₂ per tonne of cement needs to drop by around 40%, when the increased production capacity is considered. The challenges of achieving this – both technically and financially – are significant. Whilst emissions trading schemes and carbon taxes are in place in some countries, which provide some financial “carrot and stick” for change, they only cover a fraction of the global cement production capacity.

In recent work completed by JAMCEM Consulting, we have identified over 20 different potential technologies – some of which are still at pilot scale and some of which have been implemented and commercialised – for the reduction of CO₂; some of these technologies are described in this paper. Widely known technologies, such as biomass alternative fuels and use of cementitious materials are not covered here as they are not considered to be new technologies.

Clinker vs. cement

When considering this subject, it is important to consider how the measurement is expressed, the source of the CO₂ and the final characteristics of any alternative product. Clearly, the CO₂ emissions are coming from the production of clinker but the final product that is purchased by the customer is cement. So the carbon

content of cement is expressed as kg CO₂ cement and not clinker. This can give a distorted view of the actual overall emission created in producing the cement and its final use. For example, a cement may be produced from a clinker that has high CO₂ emissions (high fuel consumption kiln with zero biomass) and then ground into a cement with only 70% clinker content to reduce the CO₂ per tonne of cement. The final performance of the cement would therefore be less than that of a low CO₂ clinker that has say 90% clinker content and therefore more of the lower CO₂ cement would be required in the mix to match the eventual concrete strength. So care needs to be taken in considering not just the CO₂ per tonne of cement but also the strength of the concrete that it will produce. This theme was extensively covered in one of our previous articles in the AUCBM review.

The same point has to be considered with the new cements that are being developed and marketed at the current time. Many cements are quoting the reductions in CO₂ per tonne compared to conventional cements, but most do not quote the quantity required in concrete to achieve the same performance.

Financial aspects

As mentioned earlier, the development and adaptation of any of the solutions will not be without cost. The development of some of these solutions is extremely expensive is being supported by various funding mechanisms such as state aid, Europe wide initiatives such as the EU Innovation fund or various funds from the Department of Energy in the USA.

Certain countries also have financial incentives for the reduction of CO₂ emissions. For example, under the latest EU Emissions Trading scheme, cement producers are given an allowance of CO₂ credits, above which they have to pay for the additional CO₂ which they emit, with the allowance given to plants reducing by 2.2% per year up to 2030 (after which the scheme will be replaced with undoubtedly a more stringent system to drive CO₂ emissions lower). Therefore, the reduction of CO₂ emissions will result in a reduction in the quantity of CO₂ purchases required – with the current CO₂ price per tonne running above €50 per tonne. Under previous versions of the trading scheme, which is now in its fourth incarnation, it was possible to

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CATEGORY	TECHNOLOGY	DESCRIPTION
Carbon separation	LEILAC Oxyfuel	Novel technologies to produce a high purity stream of CO ₂ separate from kiln gases for easier capture/storage/use
Conventional plant reducing CO ₂	Minimising clinker content	Conventional use of GGBFS, fly ash, pozzolans etc. Some concern over long term availability of fly ash with the reduction in coal fired power generation.
	Artificial pozzolans	Calcined clays have cementitious properties and are produced with a lower fuel consumption compared to clinker; still need to be blended with cement to produce final product
	Finely ground construction waste	These technologies rely on a low level of cementitious activity in the base material being enhanced by fine grinding
	Precipitated calcium carbonate	Technology which appears to produce an ultrafine calcium carbonate which can have a value in void filling in concrete.
	Strength enhancers	Improving the performance of cements and therefore reducing the quantity of cement required in concrete
Novel cements	Geopolymer cements	All similar technologies using GGBFS, fly ash/calcined clay and an alkaline activator. Relies on availability of low cost ggbfs and has the reputation of fast setting and overall higher cost structure than normal cements
	Low lime cements	Cements with a low lime base which will not directly set in water. In the case of some cements CO ₂ set used.
	Belite Ye'elimite-Ferrite cements	Based on a well-known chemistry of an alternative cement type. But requires low-cost alumina slag which has low availability and high cost.
	Magnesia based cements	Based on magnesia bonded cement – still at pilot scale
	Calcium sulphoaluminate cements (CSA)	This alternative cement has been known for many years. Has a lower CO ₂ footprint but high cost bauxite and gypsum required as raw materials.
Use of CO ₂ in concrete	With conventional cements	Using captured CO ₂ to carbonate precast and readymix. Claimed higher strengths – some commercial trials completed but challenge of getting CO ₂ to sites is a longer-term challenge
	With low lime cements	Using sequestered CO ₂ to carbonate precast and readymix but with low lime cements. Backing of one multinational and now at industrial stage
	Using other wastes finely ground e.g. steel slag	Finely ground waste materials (steel slags) combined with CO ₂ curing. Currently used only for precast.

Table 1: Examples of types of research and development into CO₂ reduction solutions

sell any surplus of credits. However, mechanisms have been put in place to eliminate excessive surpluses of credits, which mainly occurred when cement producers were given credits for 100% of their capacity but then operated at a much lower output. Under the current scheme, the benchmark performance level of emissions is 693 kg CO₂/tonne of clinker, so only the very best producers with very high levels of biomass fuels will be in surplus. Early adapters of any technology that has a significant impact on CO₂ emissions could benefit from sales of their credits, but as more producers adapt technologies there will be less and less demand for credits and therefore no real market for the sales. The latest version of the scheme also has protections in place to prevent the CO₂ price from dropping to maintain the “stick” to drive CO₂ reduction.

In the USA, the approach on taxes is different, with some states either implementing or considering direct taxes either per tonne of cement or tonne of CO₂. The USA does have one potential advantage over other countries in that it already has a CO₂ transport network in place across some states and therefore any adaptation of carbon capture could in theory link up to this network at a lower cost than countries that will have to develop the infrastructure themselves. In addition, there is a tax credit of \$35 per tonne of CO₂ if it is used or \$50 per tonne if stored.

Bearing in mind that the EU and the USA – the countries with the biggest incentives in one form or another – make up around 8% of global capacity, there is a long way to go in terms of providing the incentives on a country-by-country basis to drive reductions in CO₂ emissions.

Development routes

It appears that there are two main routes of development of solutions – those that are being developed in partnership with the existing cement companies and those which are new market entrants looking to make an environmental and commercial success of their products or technologies. Included within these development routes are technologies that involve carbon dioxide capture and storage, processes that use the carbon dioxide for curing of concrete or capture in building materials, new cement types either used on

their own or within a mix with conventional cement as well as solutions relating to downstream applications in concrete products.

The table on the previous page shows an example of some of the different technologies that are currently under development; this list is not exhaustive, as there appear to be many potential solutions being announced on a frequent basis.

Carbon capture

Technologies for the capture of carbon are not new but are complex, due to the fact that the gas stream that needs to be treated at the stack is a mixture of different gases – mainly nitrogen, which enters the process in air for the combustion of fuel – along with CO₂, steam and oxygen. It is therefore necessary to separate out these different gas streams prior to being able to either use the CO₂ or compress and transport the CO₂ to storage. Care also has to be taken with volatile minor elements such as heavy metals.

The technology for separating the CO₂ from the stack gases is that of amine absorption. There are a number of trials on-going with this technology including several in the USA and one large scale project in Norway. It is clearly essential to be able to store the CO₂ once captured.

In Europe, the most advanced project with amine absorption is that being developed at Brevik in Norway, which is planned to be in operation in 2024. The project is designed for the capture of 400ktonnes of CO₂ per annum (50% of the emissions from the plant). It is understood that the total project cost of the capture element is €300m, of which 85% is being paid for by the Norway Government and the remainder paid for by Heidelberg Cement i.e., €45m.

For the storage, reports indicate that the Longship Project, being developed by the Norway Government, is expected to cost \$1.7 billion, with annual operating costs of around \$90 million per annum. Much of the investment will again be by the Norway Government. It is our understanding that the intention is for this facility to be used by other European countries but will require extensive networks to connect up to the system.

Other routes to capture CO₂ are based on attempting to produce a purer CO₂ stream from the cement process thereby reducing the requirement to separate the CO₂ from the rest of the stack gas stream. There are two main techniques that are currently in development focusing on this methodology – the LEILAC project and Oxyfuel, as described below.

The principle of the LEILAC process involves keeping the CO₂ from the decarbonation of the raw meal separate from the kiln gases, so that an almost pure stream of CO₂ is obtained for capture and subsequent use or storage. In order to achieve this, the LEILAC principle is to replace the existing calciner with a new reactor where the meal passes through the centre tube of the reactor, which is externally heated by hot gases. Phase 1 of the project was completed at Lixhe in Belgium, with a single reactor tube to prove the concept and Phase 2 is now in the planning phase for installation at the Hannover plant of Heidelberg Cement. This larger installation aims to take around 25% of the total raw meal feed to save 100ktonne per annum of CO₂. It should be noted that at this stage, the project will only be focusing on testing the technology to separate the CO₂ from the raw mix and not the capture/storage/use. Completion of this second phase of the project is planned for 2025, after which a final pilot plant will be required to take the full capacity of the raw meal for the plant.

With Oxyfuel, the focus is to avoid introducing air into the process – which carries with it the large volume of nitrogen – by burning fuels in a pure oxygen stream. This should increase the proportion of CO₂ in the stack gas from around 20% to 70%, thereby making separation easier.

Both LEILAC and Oxyfuel will require significant changes to the existing plant equipment and still have significant technical challenges to overcome. Other pyro-processing initiatives such as hydrogen use in kilns to permit an increase in alternative fuels use and electrification of pyro-processing are still some way off.

Cement alternatives

As well as the efforts to capture emissions from the existing process, there are also a wide range of different cementitious products that are being developed, with

some already in the commercialisation phase. Many of these products still use some fuel, but since they operate at a lower temperature than conventional clinker manufacture, the CO₂ emissions from the fuel element is reduced. Within this article, we have commented on two of these alternative cements that are being developed – geopolymers and calcined clay.

Geopolymers are not new materials but are only now starting to show more significant signs of potential commercialization due to the increased efforts to reduce CO₂ emissions from cementitious materials. Typical examples are Earth Friendly Concrete (EFC) by Wagners and E-Crete by Zeobond in Australia and similar geopolymer cements (Regen, Cemfree etc.). The problems with these types of cement are that the source materials (ground granulated blast furnace slag - ggbfs, fly ash and calcined clays) are in short supply and already have embodied CO₂. Hoffman Green Technologies (France) are probably the most commercially developed. Hoffman built their first semi-industrial plant in 2015 in France and are now in building a 250 ktpa plant on the same site. Their technology is based on ggbfs, flash calcined clays, gypsum and alkaline activators (Na(OH)₂ and NaSiO₃) and they are the most advanced of the geopolymer cement producers.

Rising CO₂ prices will assist this technology, but lack of the raw materials could hinder progress. It should be remembered that much of the ggbfs and fly ash that could go to the production of these geopolymers is already being used by cement producers as a means of reducing the clinker content in cement (or being used directly as cement substitutes at the readymix production stage). Therefore, taking these materials and further processing them may not actually lead to an overall reduction in CO₂, especially if the strength generated by the geopolymer is less than that which would be generated when mixed with an OPC cement.

As with the technology behind geopolymers not being new, the ability to activate cementitious properties in certain clays (kaolin, illite, smectite) by heating to 600 to 800oC has been known for more than a century but has been rarely applied other than by a single producer in the USA and more generally in Brazil. However, in the past 10 years, with CO₂ pressures and a decline in the availability of fly ash and ggbfs, there has been

a massive upswing in cement industry interest in calcined clays. Several calcined clay plants have been commissioned in the past 5 years and many more are in planning. A good metakaolin can be added into cement at 30% and LC3 and FutureCem attempt to take this further with the addition of 15% limestone. Many national standards will have to change to accommodate this type of cement.

CO₂ uses in construction

The final group of technologies that are reviewed within this article are those using the CO₂ within the construction sector as opposed to it being used within a different industry or being stored.

One example is the Solidia process, where the primary stage is the production of a low lime cement, with the second stage being the use of CO₂ at high pressure to carbonate, rather than hydrate, the low lime cement in precast concrete products. This part of the technology has been known since at least the 1970s, but the limitation of use in concrete products only (site curing is very difficult) and some issues with CO₂ penetration of thicker concrete sections have deterred development. Solidia started up in 2008 and has now attracted serious investment, notably from Lafarge Holcim.

CarbonCure is essentially a less ambitious version of the Solidia concrete technology. Founded in 2007, the main concentration of the technology is the treatment of conventional concrete with CO₂. Essentially this tries to accelerate the re-carbonation of the calcium hydroxide released in the hydration of conventional cement. Claims are more limited than for Solidia, with a 10% gain of 28-day concrete strengths versus conventional curing.

Carbcrete is again essentially a less ambitious version of the Solidia concrete technology. Founded in 2016, the main concentration of the technology is the treatment of precast concrete manufactured using ggbfs with CO₂. Ggbfs is an even lower calcium containing material than the Solidia Cement, with high content of CS (Wollastonite). Performance claims are difficult to find.

Conclusion

The aim of this article is to describe some of the challenges around CO₂ reduction, how certain countries and regions are dealing with the challenge and some of the developments that are on-going within the industry to reduce CO₂ emissions either from cement or in the manufacture of concrete. The issue is complex, and we have by no means been able to cover all the technologies that are being developed.

The industry is taking significant steps and whilst there is a long way to go with many of these technologies, the growth of work in this area is something that has not previously been seen within the cement industry. Most of the multi-national cement producers have announced their target CO₂ emissions levels for 2030 and much of this is expected to come from reduction in clinker content and increases in biomass use in pyro-processing fuel.

It is more than likely that a number of these technologies and solutions will have to be used in combination to reach the levels of the 2DS let alone the industry becoming carbon neutral. Other issues will have to be resolved – for example the production of fly ash and ggbfs is reducing and these materials are used in both conventional reduction of clinker content in cement as well as some of the novel cements; which use is the most beneficial needs to be considered, as the current production of these two materials equates to about 10% of the global production of cement. Therefore, even with full use of these materials as a solution, other methods will be required.

Wherever you are on your CO₂ emissions reductions pathway, please feel free to contact JAMCEM to identify what your current CO₂ emissions per tonne of clinker and cement actually are and how you can develop a strategy to progressively reduce these emissions, regardless of your location and current regulatory requirements.

The Kingdom of Saudi Arabia Goes Green

By Dirk Lechtenberg, MVW Lechtenberg & Partner

Is the Kingdom of Saudi Arabia on the way to become a driver of innovation in the field of renewable energy? Which impact does the currently low and subsidised price for commodities have on the cement industry in the country? And what is the future of the Kingdom's waste management sector? In this article, Dirk Lechtenberg will review these and more questions regarding Saudi Arabia's "Vision 2030" to become a greener country through a spearheading sustainability agenda.

Covid-19 and its impact on the global economy was the main topic during the last G20 summit which was held virtually from 21 to 22 November 2020. However, the hosting country, the Kingdom of Saudi Arabia, has also put sustainability and the climate change as a priority on the agenda.

On the website off the summit, Safeguarding the Planet (g20.org), topics such as "Managing Emission for Sustainable Development" and "Clear Energy Systems for a New Era" are placed on top of the list.

The Kingdom furthermore surprised with press releases and the announcement of its endeavours for a sustainable future: the country plans, for example, to realise the to date biggest hydrogen project for its planned futuristic NEOM city. The 5-billion-dollar project includes the production of green hydrogen to fuel the growing bus and truck fleets of the region. Companies Air Products, ACWA Power and the tech-city NEOM joined forces for the successful implementation of the plan.

A 5-billion-dollar investment. For comparison: The German energy group RWE will invest 100 million euro in the "biggest electrolysis plant in the world" in Lingen, Germany. It is interesting to note that the Dutch manager Peter Terium, formerly CEO of RWE and RWE subsidiary Innogy, is now Managing Director for Energy, Water and Food at NEOM.

It remains to be seen whether such forward-looking energy projects are not just good intentions, but will actually be implemented.

The Hydrocarbon-Based Economy

Saudi Arabia has the ideal preconditions to produce great amounts of solar or wind energy, with an annual average of 9.5 hours of sunshine per day. The United Arab Emirates, for example, have issued several tenders for low energy costs of most recently \$0.0135/kWh. Why has the Kingdom not done the same?

Let us take a closer look at the energy sector in Saudi Arabia. Saudi Aramco, officially the Saudi Arabian Oil Company, is one of the largest companies in the world by revenue. Saudi Aramco has both the world's second-largest proven crude oil reserves, at more than 270 billion barrels, and the largest daily oil production of all oil producing companies. After becoming public on 11 December 2019, the company's shares commenced trading on the Tadawul stock exchange. The shares rose to 38.70 riyals, giving it a market capitalisation of about USD 2.07 trillion.

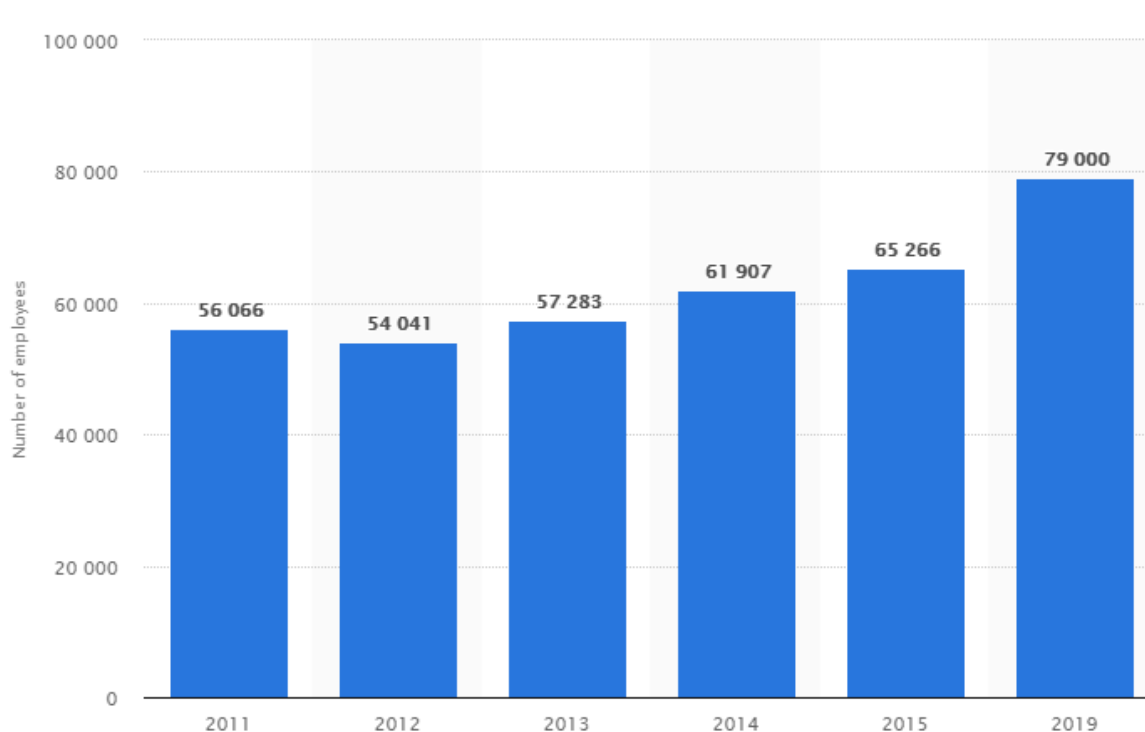
Not only oil drilling, but also the enclosed refineries and petrochemical industries are part of the Kingdom's "hydrocarbon-based economy". Whereas Aramco has „only“ 80,000 employees, the associated industries are the country's largest employer.

As of today, oil production accounts for more than 90 % of the country's wealth. The local oil and gas industries are dominated by expat workers, with roughly 6 million foreign citizens being employed in the Kingdom. According to the UN factbook, Of the total population of 33 million, around 15 % are foreigners.

The Kingdom's consumption of its own oil production has steadily increased and it now consumes about one quarter of its oil production (approximately three million barrels per day). As of 2012, petrol in Saudi Arabia was sold at a price cheaper than bottled water—approximately USD 0.13 per litre.

This might be the root of an underlying problem: Saudi Arabia's whole economy is based on hydrocarbons. For decades, oil has been the guarantee for the country's

¹ Abu Dhabi's 1.5 GW tender draws world record low solar bid of \$0.0135/kWh – pv magazine International (pv-magazine.com)



(Figure 1: Number of employees at Saudi Aramco worldwide from 2011 to 2019. (Source: Statista.de)

wealth. At the same time, the commodities have not been used sustainably. As long as energy is cheap, it is unfortunately often being wasted. According to Jim Krane from Baker Institute, "Saudi Arabia now consumes more oil than Germany, an industrialized country with triple the population and an economy nearly five times as large."

According to a report by Citigroup's analyst Heidi Rehman, "As a result of its subsidies we calculate 'lost' oil and gas revenues to Saudi Arabia in 2011 to be over \$80 billion", adding that "at the domestic level, we believe the only real way to rationalize energy consumption would be to reduce subsidy levels."

Change is Coming

Already in 2012, MVW Lechtenberg & Partner has been involved in a study for the "Mandatory Energy Efficiency Programme" under the patronage of HRH Prince Abdulaziz bin Salman Al Saud. The objective was to identify potential for energy savings within the Saudi Arabian cement industry. Our results showed that most plants were built according to modern standards and worked efficiently.

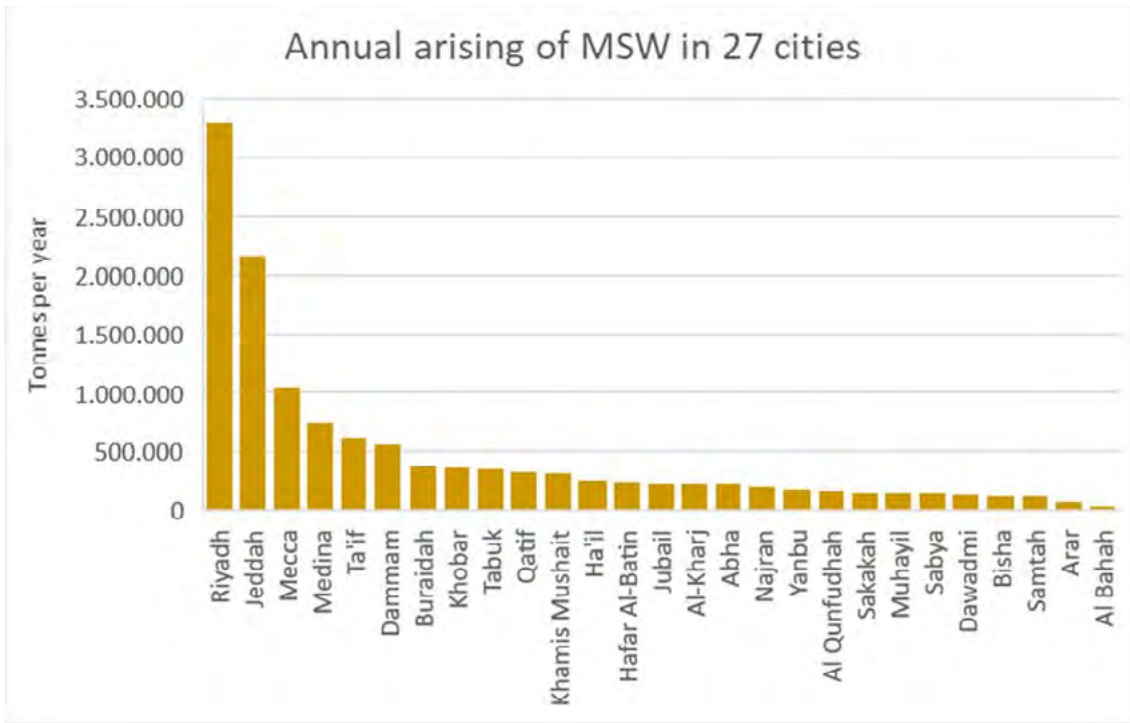
The country's cement industry has a combined clinker production capacity of more than 84 million tonnes, with more than half of it being installed in the last 15 years. Most of these plants are among the most modern and energy efficient in the world.

Also, energy costs in Saudi Arabia are the lowest globally. One tonne of fuel oil is currently delivered to the cement industry for \$27 (as of December 2020). Currently, fuel oils are heavily subsidized by the Government. This means that any other alternative fuel is much more expensive than subsidized fuels. These are not ideal conditions to promote the use of alternative fuels.

Nonetheless, the government has now made the first step towards a sustainable future. Within the project "Vision 2030", the country is putting the use of alternative energies at the top of its priorities. In various reports that MVW Lechtenberg & Partner has edited for the Ministry of Environment, a significant potential for the use of, for example, refuse derived fuels (RDF) in the Kingdom of Saudi Arabia has been identified.

As a rich country, in Saudi Arabia there are arisings of approximately 13 million tonnes of municipal solid waste (MSW) which is characterized by a high calorific value. From the MSW alone, alternative fuels with a heating value of 5,500 kcal / kg can be derived. This equals a third of the Kingdom's cement industry's energy demand.

Further energy sources can be found in the high arisings of wastes from the petrochemical industries or other industrial wastes, in biomass from the country's cattle and farming sector, as well as in the great amounts of waste tyres.



(Figure 2: Annual arisings of MSW in 27 cities in the Kingdom of Saudi Arabia. (Source: MVW



Figure 3: Date palm wastes in the Kingdom of Saudi Arabia. (Source: MVW)

Old tyres are already being used as alternative fuel in a few cement plants in the Kingdom. Most of these plants cannot cover their energy demand from subsidised oil alone and are therefore more or less forced to use other energy sources. However, these alternative sources of energy are easily 3 to 4-times more expensive than fossil fuels.

It is thus even more impressive that City Cement Company in Marat which relies on MVW Lechtenberg's consulting services for a while now, has not only implemented an own tyre shredding unit, but is now starting to use alternative fuels from pre-treated MSW.



Figure 4: Used and scrap tyres on a landfill in the Kingdom of Saudi Arabia. (Source: MVW).

At the beginning of our Cooperation with City Cement, I have told former CEO Mr. Saleh Al Shabnan and current CEO Majed Al Osalain that no matter what we will do, any alternative fuel will be more expensive than the subsidised oil. And I will never forget their reply: „We are convinced that the subsidies will cease at some point. By then, we want to have the required infrastructure and experience to use alternative fuels at place”. And as a

reply to my concern that this moment might not come too soon, I have been told: “We are Arabs. As Arabs we know that a camel can survive a long time in the desert without water. Until then, we will continue to march in this direction.”

Since then, the company has undertaken great investments to install their own RDF production plant with the capacity to treat up to 600 tonnes of MSW per day. Besides the sorting of recyclables (such as paper, cardboard and plastics), the treatment line enables the production of a high-quality alternative fuel which is successfully implemented in the cement plant. The erection can be seen as a flagship project for the whole industry which showcases that it is indeed possible to produce a high calorific and high-quality alternative fuel from Saudi Arabian MSW.



Figure 5: The first RDF produced from MSW in the Kingdom of Saudi Arabia. (Source: MVW).

Every tonne of alternative fuels produced is an investment into the future, as oil is still much less expensive. However, it is a very future-oriented and innovative endeavor for City Cement Company to commit themselves to a sustainable energy supply and waste management.

We are optimistic that the camel will be able to walk a little longer without water.

I am also convinced that the government will stick to its plan to reduce the subsidies for oil, to even raise the oil price locally and to invest the newly gained funds into a new, job-creating and sustainable economy. Vision 2030 is more than just a vision.

The Method of Reducing Carbon Footprint in Cement Plants- Energy Efficiency through False Air Reduction

By: K.K. Sharma, and Ketan Goel, Invotech Industrial Solutions Private Limited, India

INTRODUCTION: In the present environmental scenario due to energy crisis and steep increase in the cost of energy and other input materials, it has become imperative to give a serious thought on how to make operations and equipment efficient towards use of energy and adopt latest technology equipment to retain the requisite competitive edge in the market, discusses KK Sharma of Invotech Industrial Solutions Private Limited.

India was the second largest cement producer in the world in terms of cement capacity during 2020. Therefore, one can easily assume the amount of energy being consumed in cement production facilities and its wastage attributed to non-availability of proper technology to plug the leakages. We can find hundreds of research papers / case studies discussing the effect of different factors on energy consumption in cement manufacturing facilities. Some researchers also discuss this issue with the help of mathematical models. However, all the researchers more or less agree to the fact that ‘FALSE AIR’ not only but may be one of the factors of more energy consumption in cement industry. Further, based on the several studies in the field of operational audit, it can be concluded that production level can be improved and energy consumption minimized by reducing “FALSE AIR” as well as improving energy efficiency.

WHAT IS FALSE AIR?

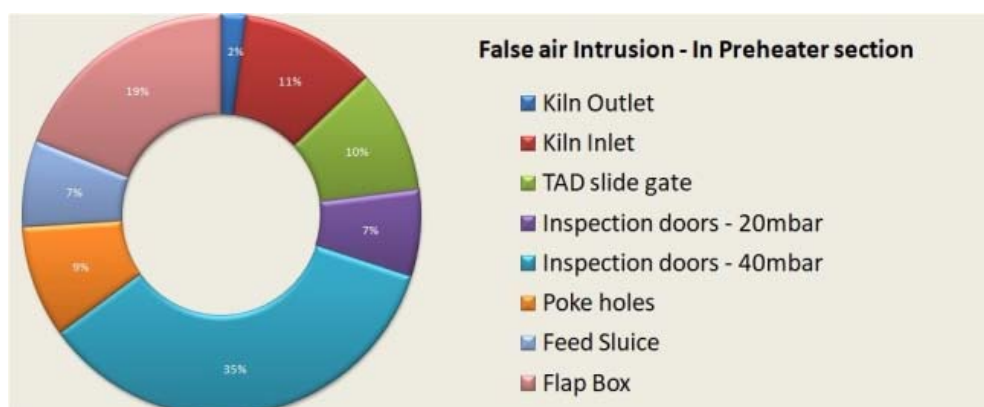
False air is any unwanted air entering into the process system. The exact amount of false air is difficult to measure. However, an indicator of false air can be, increase of % of oxygen between two points (usable for gas stream containing less than 21% of oxygen). Due to unwanted air, the power consumption increases and system’s temperature decreases. Therefore, to maintain the same temperature fuel consumption has to be increased.

IMPACT OF FALSE AIR IN CEMENT PLANT

1. Increase of power consumption
2. Increase the fuel consumption
3. Unstable operation
4. Reduction in productivity
5. Higher wear of fans

FALSE AIR INTRUSION POINTS

In Cement Plant, generally false air intrudes in Kiln section through Kiln outlet, inlet seal, TAD slide gate, inspection doors and flap box. Similarly, in mill section false air intrudes through rotary feeder at mill inlet, Mill body, Mill door, flaps, expansion joints, holes of ducts and tie rod entry point.



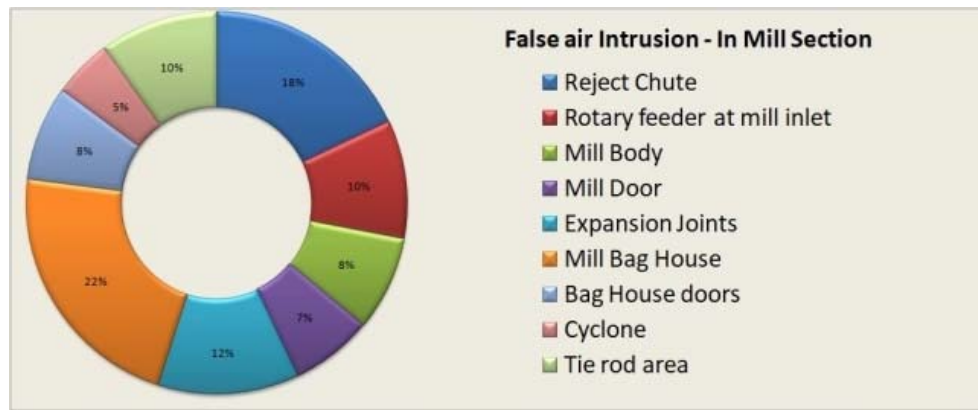


FIG. 01 FALSE AIR INTRUSION POINTS IN KILN & MILL SECTION.

In Power Plant, generally false air intrudes in CPP section through Air Pre-heater Casing, Boiler Main door, Fan Casing, Inspection Doors, ESP Main doors, ESP Hopper Doors, Expansion bellows, Ducts. Similarly, in GPP section false air intrudes through Main holes, Hammering, Bellows, Rotary Air Locks, Damper Casing, Expansion Bellow etc.

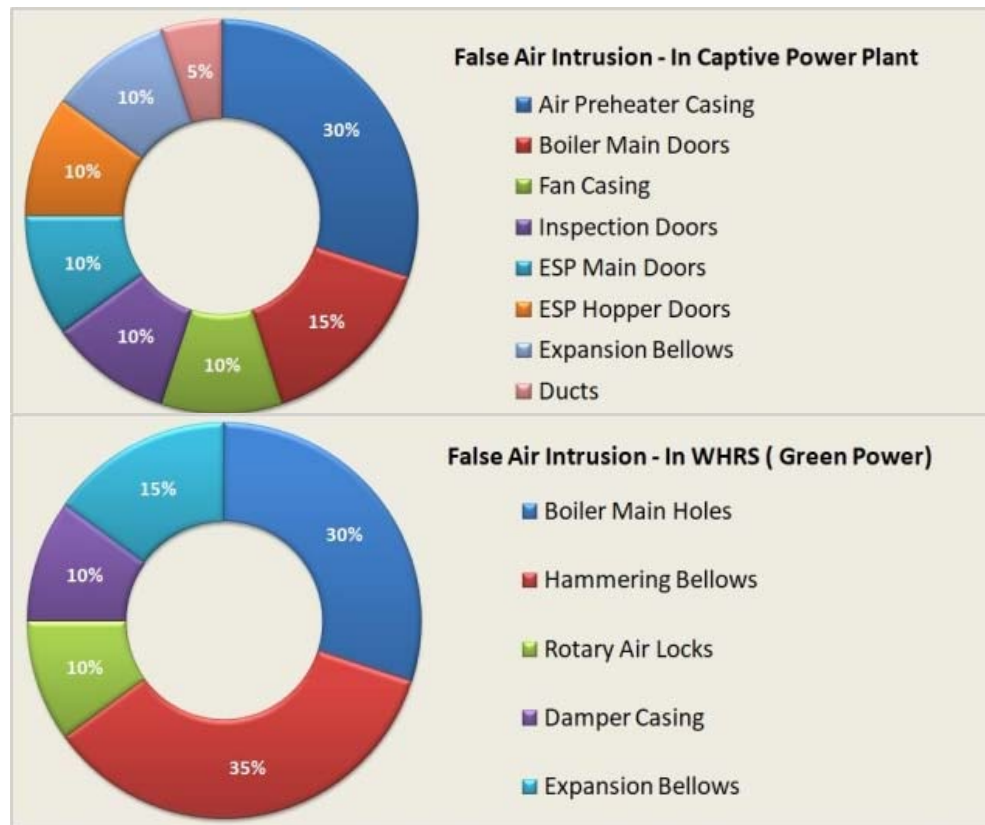


FIG. 02 FALSE AIR INTRUSION POINTS IN CPP & GPP.

HOW TO MEASURE FALSE AIR

The formula used for measuring false air is as under: -

$$\% \text{ of False Air} = \frac{\% \text{ Outlet } O_2 - \% \text{ Inlet } O_2}{20.99 - \% \text{ Outlet } O_2} \times 100$$

Atmospheric air normally has a content of 0% CO and 20.99 % O₂.

HOW TO MEASURE FALSE AIR ACROSS PRE-HEATER AND MILL:

Based on the oxygen content and flow measurement at particular location, we can find out amount of false air across the Pre-heater and mill circuit. For this purpose, % of O₂ is measured at different locations i.e., Pre-heater inlet and outlet, cyclone Inlet and Outlet, Mill inlet and outlet, mill outlet to fan inlet, across Bag-house or ESP.

FALSE AIR DETECTION THROUGH ULTRASONIC LEAK DETECTOR:

Ultrasonic Leak detectors often called sniffer, especially designed to find small leaks, are being used in Power plants. However, Cement plants are still lacking use of ultrasonic leak detector. Since ultrasonic leak detectors search for the sounds of leaks rather than escaping gases, they are able to detect leaks of any gas type. Though the device is unable to measure gas concentration, it is able to determine the leak rate of an escaping gas because the ultrasonic sound level depends on the gas pressure and size of the leak.



FIG. 03 FALSE AIR DETECTION BY ULTRASONIC LEAK DETECTOR

FUNCTIONING OF ULTRASONIC LEAK DETECTOR:

When gas escapes a pressurized line, it generates a sound in the range of 25 kHz to 10 MHz, well above the frequencies, the human ear is sensitive to but in a range easily identifiable to Ultrasonic Sensors. When the detector senses ultrasonic frequencies, they are isolated from normal background noise, amplified, and converted to a frequency audible to humans.

DETECTION PRINCIPLE:

When a gas passes through a restricted orifice under pressure, it goes from a pressurized laminar flow to low pressure turbulent flow. The turbulence generates a broad spectrum of sound called “White Noise”. There are ultrasonic components in this white noise. Since the Ultrasound is loudest at the leak site, it can be detected very easily.

FALSE AIR ARRESTING IN CEMENT AND POWER PLANTS

Usually Cement and its associated Power plants use conventional methods to arrest false air, but these conventional methods are not reliable or permanent in nature. In fact, it works more like a silencer & just after few days it gets damaged.



Fig 04: Conventional False Air arresting methods (By Sodium Silicate + Mortar/Raw Mill Powder, By Ceramic Blanket + Sodium Silicate)



Fig 05: Conventional False Air arresting methods (By Ceramic Paper + Sodium Silicate)

Therefore, Invotech Solution & Systems now Invotech Industrial Solutions Private Limited, a Rajasthan based company have come up with a unique product range after their years of extensive research, which are being used in many Cement manufacturing facilities and their associated power plants. Their client list figures renowned names like- JK Cement Group, Dalmia Bharat Group, Nirma Group (Nuvoco Vistas Corp. Ltd.), Ultratech Group, India Cements Group, Sagar Cements, Birla Corporation, The Mehta Group, Shree Cement Group, Chettinad Cement, Tata Chemicals, Jindal Saw and many more in pipe line.

Invotech Industrial Solutions Private Limited provides innovative & Cost-effective Industrial solution for arresting False Air in cement plants i.e., Pyro-Process, Raw Mill, Coal Mill, Cement Mill section & Bag-House and its associated power plants. The 'Arrest Master' (Product Name) is user friendly and safe to use.

PRODUCT RANGE: FALSE AIR ARRESTING COMPOUND

1. Arrest Master 1001: For Upper Cyclones, VRM's & Power Plants, Shell temperature resistant up to 180°C
2. Arrest Master 1002: For Bag-House & Bag-Filters Top Doors.
3. Arrest Master 1003: For High temperature zone up to 500°C.
4. Arrest Master 1004: For High temperature zone up to 800°C.
5. Arrest Master 2001: For areas having vibrations, Shell temperature resistant up to 180°C

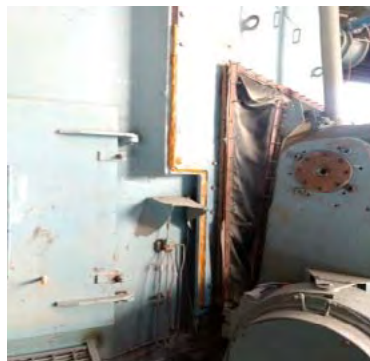
Arrest Master 1001



Arrest Master 1001



Arrest Master 1001



Arrest Master 1002



Arrest Master 1003



Arrest Master 2001



Fig 06: False Air Arresting by Arrest Master Range of Products.

PROPERTIES OF ARREST MASTER- FALSE AIR ARRESTING COMPOUND:

Application of 'Arrest Master Series' of product brings down the level of false air and it is useful in all Cement and Power Plants. It hugely impacts plant productivity and contributes towards better housekeeping. Its other characteristics are: -

1. Gets further strong with heat.
2. Once cured, Arrest Master becomes rock hard ensuring no leaks.
3. High compressive strength & impact resistant, which can only be removed by hammering.
4. Non-Shrinkable properties & No tools required for application.

CASE STUDIES: -**CASE STUDY- 1**

- Single String, 5- Stage ILC Pre-heater, KHD
- Annual losses due to False Air- 46.26 Lacs
- Products used- 2.5 Lacs
- Payback Period- 1 Month

(Case Study- 1) Invotech Industrial Solutions Pvt. Ltd.

<i>S No</i>	<i>Particulars</i>	<i>Plant Details</i>	
1	Type Of plant	Single string ILC	
1.1	Kiln length	65 Mtr	
1.2	Kiln Dia.	4.2 Mtr	
1.3	Heat Consumption	750 K Cal/Kg-Clinker	
1.4	Type of Cooler	Grate cooler	
1.5	Calciner Type	ILC	
1.6	PH Make	KHD Humbolt	
1.7	PH Stages	5	
<i>S No</i>	<i>Particulars</i>	<i>Unit</i>	<i>Values</i>
2	Plant Data		
2.1	Kiln Feed	TPH	318
2.2	Clinker Factor		1.62
2.3	Barometric Pressure at site	mmWg	10036
2.4	Ambient Temp.	Deg. C	25
2.5	Power Cost	Rs/Unit	3.2
2.6	Coal CV	K Cal/Kg Coal	7800
2.7	Coal Cost	Rs/Kg	8
2.8	PH Out let pressure	mmWg	820
	Pressure at PH fan Inlet	mmWg	860
2.9	PH Outlet Temp.	Deg. C	302
2.1	Flow at PH Outlet	m ³ /Hrs	732000
2.11	Flow at PH Outlet	Nm ³ /Hrs	310002
3	False air 1.5%		
3.1	False air Volume	m ³ /Hrs	10980

3.2	False air Volume	Nm ³ /Hrs	4650
4	LOSS in Power		
4.1	Loss on account of PH Fan	KwH	31.85
4.2	Loss in money	Rs/Hr	101.91
4.3	Annual Loss due Power	In Lacs	8.07
5	Loss in Heat		
5.1	Loss on account of heat	Kcal/hr	470141
5.2	Loss in money	Rs/hr	482
5.3	Annual Loss due to Heat	In Lacs	38.19
5.4	Total Loss in money	Lacs per annum	46.26
5.5	Arrest Master 1001 Cost	Lacs	2.5
5.6	Payback period	In one month	
Note: Considering 330 days run plant in a year			
Conclusion: Arrest Master 1001- Cost-effective Industrial Solution			

CASE STUDY- 2

- Double String, 5- Stage ILC Pre-heater, KHD
- Annual losses due to False Air- 42 Lacs
- Product used- 4.2 Lacs
- Payback Period- 1.11 Month.

(Case Study-2) Invotech Industrial Solutions Pvt. Ltd.

S No	Particulars	Plant Details		
1	Type Of plant	Double string ILC		
1.1	Kiln length	55.8 Mtr		
1.2	Kiln Dia.	3.8 Mtr		
1.3	Heat Consumption	815 K Cal/ Kg - Clinker		
1.4	Type of Cooler	Grate Cooler with IKN KIDS		
1.5	Calciner Type	ILC		
1.6	PH Make	KHD Humboldt		
1.7	PH Stages	5		
S No	Parameters	Unit	Values	
2	Plant Data			
2.1	Kiln Feed	TPH	216	
2.2	Clinker Factor		1.64	
2.3	Clinker production	TPH	3161	
2.4	Barometric Pressure at site	mmWg	10017	
2.5	Barometric Pressure at sea level	mmWg	10336	
2.6	Ambient Temperature	Deg. C	35	
2.7	Power Cost	Rs/Unit	3.2	

2.8	Coal CV	K Cal/Kg Coal	7800		
2.9	Coal Cost	Rs/Kg	8		
3 Reduction in False air after using " ARREST MASTER 1001"					
3.1	Reduction in False air	%	2.15		
	Parameters	Unit	Kiln	Calciner	Total
4	Preheater outlet				
4.1	Temperature	Deg. c	390	392	
4.2	Draft	mmWG	-620	-825	
4.3	Flow	M ³ /h	228000	325000	
4.5	Flow	Nm ³ /h	85353	118654	204007
5	False air = 2.15%				
5.1	False air volume	Nm ³ /h	1835	2551	4386
5.2	False air = 2.15%	M ³ /h	5032	7176	
6	LOSS				
6.1	Loss on account of Power in SG fan	Kwh	11	21	32
6.2	Loss in money	Rs/hr	36	67	102
6.3	Loss on account of heat	KCal/hr	235828	329683	565512
6.4	Loss in money	Rs/hr	177	247	424
6.5	Total Loss in money	Lacs per annum	17	25	42
6.6	Cost of Arrest Master 1001	Lacs	4.2		
7	Payback period	Month	1.11		
Note: Considering 330 days run plant in a year					
Conclusion: Arrest Master 1001- Cost-effective Industrial Solution					

CASE STUDY- 3

- Single String, 5- Stage SLC Pre-heater, KHD
- Annual losses due to False Air- 79.20 Lacs
- Products used- 2.75 Lacs
- Payback Period- 0.42 Months

Invotech Industrial Solutions Pvt. Ltd. (Recent Work- 2021)

<i>S No</i>	<i>Particulars</i>	<i>Plant Details</i>	
1	Type Of plant	Single String SLC Pre-heater	
1.1	Kiln length	51 Metres	
1.2	Kiln Dia.	3.6 Metres	
1.3	Heat Consumption	850 K Cal/ Kg - Clinker	
1.4	Type of Cooler	Grate Cooler	
1.5	Calciner Type	SLC	
1.6	PH Make	KHD Humboldt	
1.7	PH Stages	5	
<i>S No</i>	<i>Parameters</i>	<i>Unit</i>	<i>Values</i>

2	Plant Data		
2.1	Kiln Feed	TPH	111
2.2	Clinker Factor		1.61
2.3	Clinker production	TPD	1650
2.4	Barometric Pressure at site	mmWg	10333
2.5	Barometric Pressure at sea level	mmWg	10173
2.6	Ambient Temperature	Deg C	25
2.7	Power Cost	Rs/Unit	6.5
2.8	Coal CV	K Cal/Kg Coal	7800
2.9	Coal Cost	Rs/Kg	12
3	Process Calculation		
3.1	Kiln String & Pyro String		PH-1
3.2	Before & After		Before After
3.3	False air reduction	%	3.5
3.4	PH Fan flow	m ³ /hr	338000 316709
3.5	PH Out let temp.	deg C	315 300
3.6	PH Pr.	mmwg	-550 -550
3.7	T & P correction factor		0.43 0.44
3.8	Flow (nm ³ /hr)	Nm ³ /hr	143777 138247
3.9	Air power	kwh	488 457
3.1	Shaft power	kwh	751 703
3.11	Motor power	kwh	790 740
3.12	Savings in power	kwh	50
3.13	Savings in heat	KCal/kg Clk	3.08
3.14	Benefit through power saving	Rs/yr	1773643
3.15	Benefit through heat saving	Rs/yr	6146575
3.16	Total savings (Heat + Power)	Rs/yr	79.20
3.18	Total Investment	Rs.	275000
3.19	Payback	months	0.42
Note: Considering 330 days run plant in a year			
Conclusion: Arrest Master 1001- Cost-effective Industrial Solution			

Invotech Industrial Solutions Private Limited has also recently developed a product called Arrest Master ABS for enhancing energy efficiency. It can be used to cool down the area rapidly with less air consumption but gives output 7 to 8 times as compared to normal air consumption. It is a special design Nozzle, works on COANDA EFFECT. Arrest Master ABS uses little amount of compressed air to deliver high volume output. Arrest Master ABS, a compressed air boost device, has been designed to give trouble free & maintenance free service as there is no moving part in it. It can also be used to cool down bearing housing, cutting hot material, cooling of lathe machine jobs etc.



Fig 07: Arrest Master ABS: Compressor air saving device- For Kiln Shell, Bearing housing cooling Energy efficient device



Fig 08: Bearing housing cooling by Energy efficient device (Arrest Master ABS)



Fig 09: Kiln Shell cooling by Energy efficient device (Arrest Master ABS)

PRODUCT HIGHLIGHTS OF ARREST MASTER ABS

- Energy efficient device
- Provides efficient cooling
- User friendly & ready-to-use modules
- Easy installation and Relocation

Invotech Industrial Solutions Private Limited keeps itself abreast of latest development in Cement and Power Industry so as to cater the need of the Industry using latest technology and quality systems. Also, with a view to retain the requisite competitive edge in the market, participated and will be participating in various Seminars, details as under:

1. 15th & 16th NCB International Seminar on cement, concrete & building materials held from 5th to 8th Dec, 2017 and 3rd to 6th Dec, 2019 at Manekshaw Center, New Delhi. Will also be participating in upcoming 17th NCB International Seminar to be held during Dec'2021.
2. "National workshop cum technology exhibition to promote energy efficient & cleaner production for sustainable industrial growth" held from 8th to 9th March, 2018, at India Habitat center, New Delhi, where presented a Technical Paper on "significant savings in energy through false air reduction" & received an award for "upcoming entrepreneur in the field of energy efficiency". given by Mr. Pankaj Kumar, Secretary, Bureau of Energy Efficiency, Government of India, under the Ministry of Power.
3. 14th Green Cementech 2018 held from 17th to 18th May, 2018 at Hyderabad International Convention Center, Hyderabad where presented a Technical Paper on "Enhancing Energy efficiency in Captive Power Plants by reduction of False Air".
4. Some of our articles also published in CMA's Technical Journal "Cement Energy & Environment", Vol. 17 No. 1 (Jan – Jun 2018) & Vol. 18 No. 1 (Jan – Jun 2019).
5. Our latest article COMPRESSED AIR SAVING DEVICE "A PORTABLE, ECONOMIC HOT SPOT COOLING SOLUTION TO PLUG AND ELIMINATE ROUTINE ENERGY WASTE IN CEMENT PLANTS" will be publishing in upcoming edition of CMA Technical Journal 2021.
6. Our article on Energy Conservation in Cement Plants was published in widely circulated INDIAN CEMENT REVIEW magazine April-2021.

CONCLUSION

Substantial potential for energy efficiency improvement exists in the Cement and Power industry. Persistent efforts are also being made to improve energy efficiency and reduce energy cost for the Cement and Power industry for survival and growth. Our baby step towards arresting "FALSE AIR" and improving "ENERGY EFFICIENCY" can contribute immensely towards cost cutting of cement and power manufacturing and improving energy efficiency. It is needless to mention that our efforts to improve energy efficiency will also minimize greenhouse gas and mitigate the environmental problems associated with cement and power production.

ABOUT THE AUTHOR

Author: K.K. Sharma is a renowned Chemical Engineer, Process Expert & Founder of Invotech Industrial Solutions Private Limited.

Co-Author: Ketan Goel is an experienced Mechanical Engineer with a demonstrated history of working in the mechanical & industrial engineering industry. Presently working in IISPL.

Address: Near Shivam Hyundai, Parbatpura Industrial Area, Ajmer- 305001, Rajasthan, INDIA

Tel: +91- 8005521600

Email: invotech@invotechsol.com | invotech_ajm@yahoo.com

Website: www.invotechsol.com

EXTRAORDINARY TIMES REQUIRE RAPID, INNOVATIVE RESPONSES*

By: Bruks Siwertell, Sweden



The Covid-19 pandemic has brought about some of the most significant societal changes and restrictions that modern populations have even seen, but within this, the wheels of economies are still turning, requiring business to respond and adapt.

The universality of this shared experience means that everyone understands the restrictions that are in place, but businesses still need to continue operating and customers still need support.

The very nature of the dry bulk handling and processing markets mean that these sectors are critical; transporting the materials for life's essentials. So, for port terminal equipment, how has Bruks Siwertell ensured that these continue and that customers get the help they need? Furthermore, has the crisis raised any opportunities for positive change?

IMPORTANCE OF A HAND-SHAKE

“We operate in a business where practically all contact and discussions have historically been carried out face-to-face, during physical meetings,” says Axel

Dahl, Sales Manager, Bruks Siwertell. “As most of our machines are custom-made, a great deal of time and energy is spent in technical discussions with customers to ensure that a final solution is the most effective for an individual operator’s needs.

“The pandemic changed this almost overnight,” continues Dahl. “Today, they are instead held remotely via internet link, with people joining from either their home or their workplace.

“For customers where we have an established relationship this works fine, even though it is not optimal. However, with new customers, it is a bit more of a challenge as we have not had a chance to establish a relationship and understand the nuances of their operations,” he says.

Bruks Siwertell’s dry bulk handling operations are coordinated from its offices in Bjuv, Sweden, which stands out as a country with a different approach to the pandemic to many. Although restrictions are in place, it has not seen the national lockdowns familiar in others and extremely tight travel restrictions. “We are aware that we are operating a bit differently as a

* This article is taken from *Bulk Handling News Issue 2, 2020*.



country,” Dahl points out. “Each country has its own travel restrictions, which can make it complicated, but from our point-of-view, we just have to adapt to the situation.

“I think the main challenges to our way-of-business-life is habit: we are used to having physical meetings; we are used to being able to travel at ease. We are in an industry where meetings held through video conferencing is a new concept, where other industries have operated like this for many years. Change can be difficult, but we are transforming.

“In fact, this change was actually easier than we first thought, particularly because what is happening is a common experience; customers and suppliers are of the same opinion, let us make the best of the current situation,” he says.

RESTRICTIONS BRING REWARDS

“There are also benefits; schedules are more open, as you can have meetings with different customers from different countries in the same day. Many customers are focusing more on the environment and their return on investment; these are some of our key strengths as a company. Restrictions on flight travel are having a positive environmental impact, and once these have been lifted, some customer meetings can definitely continue to be held via internet links, and some things might never return to the way they were.

“Except for the environmental impact of traveling,

however, face-to-face physical meetings offer something that online ones do not. We are social creatures after all, we respond to each other’s presence and build relationships more quickly. A handshake has always been a gesture of trust. I cannot see it losing this importance, but at the moment, it is not worth the risk.

“The pandemic has of course affected and impacted the entire world, and our market is not an exception. Some projects have been affected, whilst others have carried on with little interruption. The way we interact with customers has been completely reshaped.

“Even though we cannot rely on visits and conferences to make new contacts and get our messages out to the industry, I think that this is a good opportunity to take a step back and focus on the core strengths of our business; maximizing the efficiency and minimizing the environmental impact of handling dry bulk. It is our responsibility to help customers find the best solution for their terminals. In times like these, this is more important than ever,” concludes Dahl.

PROJECTS MANAGED REMOTELY

Connecting with operators and finalizing equipment and terminal designs presents a specific set of challenges during these times, but surveying, building and delivering equipment reveals a whole new array of considerations.

When asked: what has been the biggest change in how you are able to deliver and commission an unloader

installation during the pandemic? Per Hansson, Project Manager, Bruks Siwertell, replied: "Everything.

"As most borders were closed, and some still are, travel is restricted so sending out supervisors and commissioning engineers is difficult. The current situation means that our ordinary work takes longer and new site visits, to evaluate and study them, have been difficult to achieve. We solved much of this by relying on our local representatives and colleagues, establishing group 'chats', and internet-based communication platforms. We also had to dictate more subject-specific documentation and additional information to help guide people on how to carry out work," continues Hansson.

But, like Dahl, Hansson notes some positives to this change. "We have witnessed our strengths as a team and company, and have discovered new ways of working and communicating. We have been forced to look at our operations from another perspective, driving a resolve to consider better alternatives. This is a good thing, and has a positive environmental impact.

"A face-to-face discussion can never be replaced by a computer and a monitor, and for much of our work, we are needed 'on the ground', but for sure some project meetings and different follow-up functions, can absolutely be done remotely and was something that we had already started to implement," he says.

STAYING ON TRACK

Working, at times, from what he calls his 'command-centre' at home, Hansson explains that some projects naturally found themselves mid-way through and needing input. "This has been a challenge, but like us, customers are open and understanding, focusing on solving issues. They rightly want us during ongoing commissioning work. Because of an exemption for specialist assistance for essential business, we have been allowed to travel to some sites without having to quarantine upon arrival. However, for others, in fact most, we have to quarantine for 14 days, before work can commence. It is also difficult to keep track of all the changing restrictions around the world; but we do what we can to stay on our toes.

"To highlight one ship unloader assembly project in China, a primary task that we had to undertake was a risk assessment; evaluating the situation that Covid-19 put us in and assessing all elements that needed to happen to keep a delivery on track. This included local and technical, commercial considerations as well as the project's execution.

"All of this was discussed with the customer and together we presented a solution for the four different scenarios,

resulting from the impact of Covid-19; all of which we now had a solution to. With this as a basis, we carried them out accordingly, and in the knowledge that we had a bounty of back-ups if the situation shifted," he notes.

"We also established specific chatgroups for assembly personnel, so that for us in Sweden, we could respond quickly when a question from the site arose. To further strengthen back-office support, we had weekly project meetings, both internally as well as with the owner, monitoring not only the project but also the evolution of Covid-19," says Hansson.

"We are used to having our own people on site, so for this assembly case, we really did have to step out of our comfort zone. Information and communication are everything. Our Chinese co-workers not only needed enough information, but good information to ensure the quality and outcome of the work. It is a fine line, as too much detail is confusing and has the opposite effect to clarifying something.

"Our communication network, with all relevant experts, was reviewed regularly. Thanks to our colleagues in China, who know our equipment well, this was a very successful approach. As a collective they are very strong and I had no concerns about their ability to undertake the work.

"The ship unloader has now been successfully assembled and is currently on a vessel bound for its final destination. Once ready at the site, our physical presence will be required for commissioning," Hansson notes.

WE DO IT TOGETHER

A key player in the successful assembly of the ship unloader came from support from Bruks Siwertell's offices in Shanghai, headed by Stephanie Dong, General Manager, China.

Commenting on the project, Dong notes that it was a "vivid example of our capabilities to 'do it together'. Through working remotely, but closely with colleagues from Sweden, we assembled the machine and completed its shipping as a team."

Like her colleagues, Dong says that the biggest shift in recent times is moving face-to-face meetings to internet-based platforms. "Currently, we have had to rely on our own local personnel for China-based installations, which is fine, but it is always good to have all the relevant experts on-the-ground for projects.

"For us, the main challenges of the pandemic are that potential customer visits have been postponed due to

travel restrictions, and it takes a little longer to send service personnel to help with any technical issues. Also, delivery schedules are having to be extended and spare parts need to be ordered with a bit more lead time,” Dong says.

A DIGITALIZATION BOOST

“On a positive note, I think this pandemic has pressed the ‘fast-forward’ button on the digitalization keyboard. We are adopting advanced technologies faster and are embracing this change, which will definitely bring competitive opportunities in the future,” she notes.

“Remote offices and online business styles are more and more widely used. We have realized the efficiency and convenience of these online collaborations, which is vital in turning a ‘passive’ position into an ‘active’ ongoing positive choice for the company. The communication tools that we now have at our fingertips, if used correctly, can prove extremely helpful and also reduce the number of some costly, both financially and environmentally, travel.

“Besides, through the continuing integration of Bruks Siwertell’s resources and a well-built contingency plan to reflect the best advantages in the change of operational procedures, we have been able to gather the efforts of the whole China team. We have learned that, with the support of the wider organization, some essential work can be performed by local staff, which benefits customers and the whole company,” highlights Dong.

People sitting on the flooring participating in Bruks Siwertell training

KEEPING IT INTERESTING

Another area of change is in operator training, needed not only once a ship unloader has been delivered, but throughout its lifetime to ensure peak operating performance years down the line.

Not being able to visit customers has brought about some unique challenges for training experts like Daniel Nilsson, Project Leader Electrical Systems, Bruks Siwertell. “Remote training has to be more detailed, but even more interesting. Engagement is key in an online setting, where you lose some of the dynamism that is naturally present in face-to-face sessions,” he says.

Bruks Siwertell is already moving forwards with its digitalization portfolio, capitalizing on the benefits that augmented reality can deliver to its customers. The use

of these platforms and other practical and theoretical training methods is helping to bridge this current gap in travel.

“Once we understood that this was the direction that we needed to go in, we were quickly able to move to online training portals. But we know from our extensive experience that making these sessions interesting is essential to embed learning.

“People naturally ease-off their concentration over time and it is our responsibility, as trainers, to help maintain it and ask the right questions. This helps to ensure that important information is being absorbed.”

MIXED APPROACHES BRING BENEFITS

“There are also benefits to having a change in approach to ‘live’ online training, as trainers are more accessible; the downside, for us, is the difference in time zones. As to whether they continue after, or if the travel restrictions can be lifted, I think a mixed approach needs to be taken.

For clients that already have a good working knowledge of their Siwertell unloader, then this can definitely be a successful approach. However, for those who are completely new to our systems, I would prefer to carry out on-site training. There is a lot to learn, with many different interlocking procedures that we need to demonstrate. This is a lot more challenging when working through an interpreter as well.

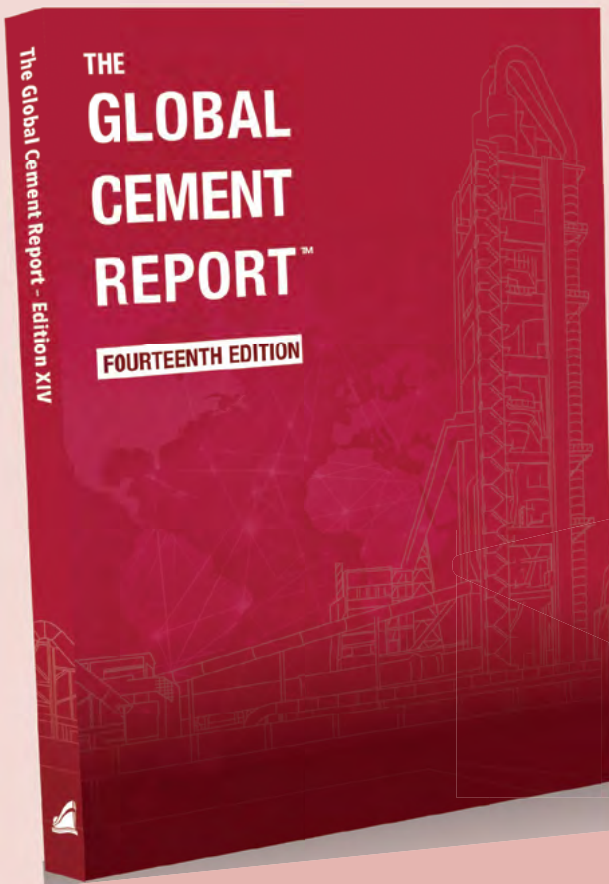
“There is also a great deal of value being with an operator, and carrying out training using their unloader. New operators naturally have a lot more questions and we can answer them as they crop-up,” notes Nilsson.

“Saying this, the online training sessions that we have had to conduct through the initial acute phase of the pandemic have been really successful. For example, an operator in Mexico was thrilled that we were able to do the training online. It was reaching its deadline for the project, and today the ship unloader is up and running.

“Like many things, it was a challenge at first, as this way of working and set-up was completely new to us, and for the project team, but when everyone put their efforts into it, we managed to train the operator and they now have a fully functioning ship unloader in peak operation,” concludes Nilsson

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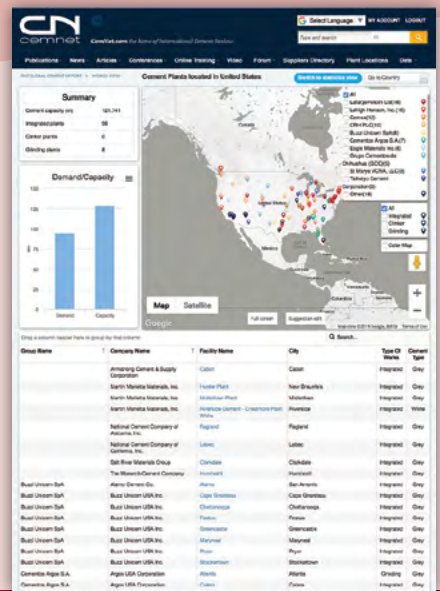
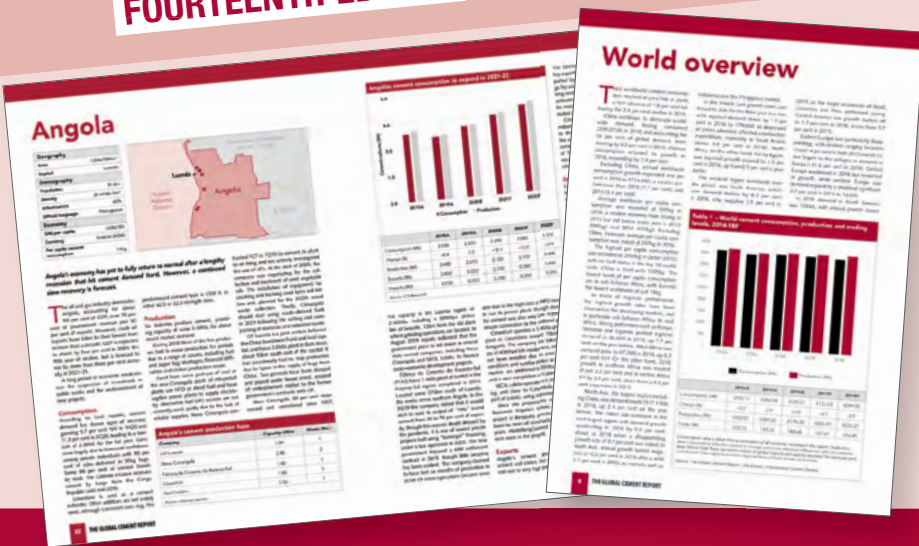
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Schenck Process introduces CONiQ® Cloud

Cloud-based solution for data-driven services and performance optimization

Schenck Process introduces new IT solution CONiQ® Cloud on March 8th, 2021



Advancing its digitalization strategy, Schenck Process launches its newest innovation CONiQ® Cloud, a cloud-based IoT solution designed to access data from machine assets. The cloud solution builds the foundation for all digital services of Schenck Process and offers operators powerful tools for data-driven maintenance and performance optimization. An integrated knowledge base further empowers experts to monitor OEM equipment remotely in real-time and to respond timely in case of a process-critical event.

With this initial release, CONiQ® Cloud covers data ingestion from edge devices, provides secure data storage within the cloud, and professional user and device management.

The wide range of technologies and applications that can be connected to the cloud will open-up new functionalities for different machines. In its first version, it will focus on the application for vibrating screens and provide dashboards and functions to improve condition monitoring.

With CONiQ® Cloud, Schenck Process continues to add to its existing CONiQ® family. Extending its digital portfolio, it now offers:

- **Cloud dashboard:** An easy-to-use web dashboard brings KPIs directly to any laptop, tablet or mobile device, simply by using an existing internet connection. The design ensures improved user experience and quick assessment of essential performance indicators both for machines and individual processes.

- **Extensive service options:** Data provided by the cloud allows experts to offer tailored remote services. It enables real-time condition monitoring and intelligent process control for output optimization and exact resource planning. The resulting transparency facilitates efficient management of consumables and spare parts scheduling.
- **Broad compatibility:** CONiQ® Cloud guarantees data-processing from various sources. It is connectible to any customer system or other IoT clouds and directly compatible with Schenck Process' CONiQ® Monitor systems.

CONiQ® Cloud will be released with Schenck Process' IoT edge solution CONiQ® Monitor which manages all sensors, performs edge analytics and securely pushes all relevant data into CONiQ® Cloud. The edge solution enables data ingestion by the local process control system, thus providing process critical information directly to plant operation and maintenance.

As a global market leader in industrial weighing and feeding applications, Schenck Process focuses on digitizing existing products and developing new digital services while combining technology and application processes in a smart and data-driven way.

Find more information on CONiQ® Cloud: <https://www.schenckprocess.com/next/stories/digital-launch-event-coniq-cloud>



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4B BRAIME: REMOTE SENSOR MONITORING INTERFACE FOR PLC'S & AUTOMATION SYSTEMS

4B Braime's Industrial Ethernet Node (IE-NODE) is a remote monitoring interface designed to provide sensor data to PLC's or other automation and control systems. The IE-NODE operates by reading its sensor inputs and sending processed data when requested by another system (e. g. PLC).

The 4B Braime IE-NODEs are equipped with an RJ45 Ethernet socket and support PROFINET, EtherNet/IP, and Modbus TCP/IP protocols for easy integration.

The units are equipped with an RJ45 Ethernet socket and supports PROFINET, EtherNet/IP and Modbus TCP/IP protocols for easy integration with Siemens, Allen-Bradley Rockwell, Modicon and other PLC's or automation devices.

The IE-NODE is available in two versions, both with a total of 10 sensor inputs. Version 1 has 8 contact or NTC temperature inputs, and 2 pulse or 4-20 mA (current loop) inputs. Version 2 has 10 inputs for 4-20 mA (current loop) sensors.

Both units can be expanded to 16 sensor inputs with the installation of optional expansion boards.

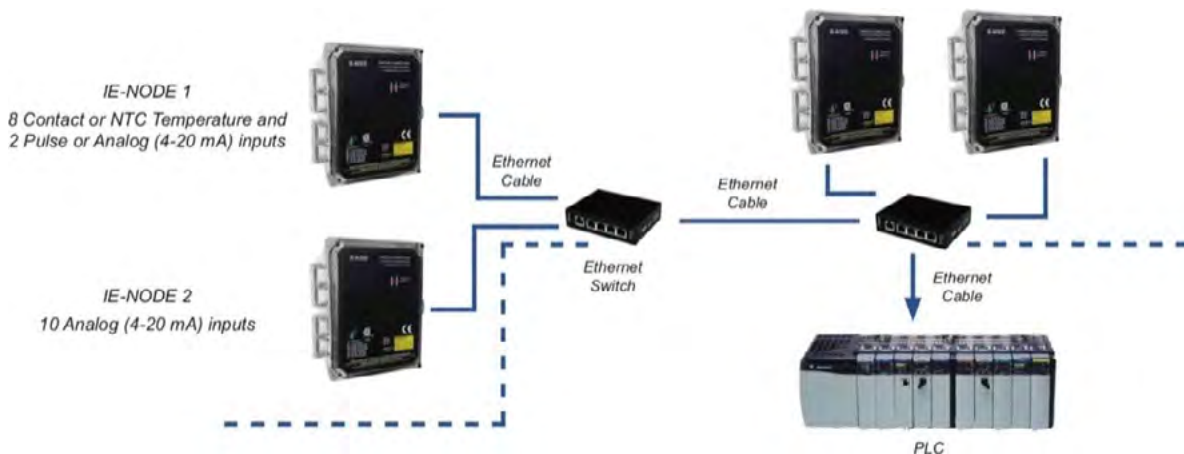
The IE-NODE's network configurator software provides a visual view of all devices on the network. It allows for easy identification of each unit on the network and allows for network settings to be changed as needed.

Network diagram

The following 4B sensors are compatible with the IE-NODE (version dependent):



- Temperature (Bearing & Surface)
 - ADB Series (NTC Type)
 - Milli-Temp Series (4-20 mA)
- Belt Misalignment
 - Touchswitch (Contact)
 - Rub Block (NTC Type)
- Belt Speed & Slip –
 - Milli-Speed Switch (4-20 mA)
 - P300 Proximity Sensor (Pulse)
 - P800 Proximity Sensor (Pulse)
 - M800 Elite Speed Switch (Pulse).





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Fast, gentle comminution and homogenisation!



Knife Mill PULVERISETTE 11 in standard configuration



Different knives with 4 blades – up to 56,000 cutting processes per minute

The **Knife Mill PULVERISETTE 11** provides a homogeneous sample in a very short time due to its special design. Each subsample taken from any location in the grinding vessel is representative for the original sample and thus ensures an exact, significant analysis. And that for a wide range of different materials, regardless of whether the sample is dry, moist, soft, medium-hard, fibrous or oily. Ideal for sample preparation in the fields of foodstuffs or animal feed testing, agriculture and forestry, biology, pharmaceuticals and chemistry.

For each application the perfect accessories

The standard knife made of stainless steel can be used for comminution of nearly all materials due to its four blades and a well-conceived geometry. For comminution of brittle, hard samples we recommend the sickle knife made of stainless steel. The sickle knife with serrated blades is ideal for grinding especially fibrous, tough or sinewy samples, such as fish, meat, asparagus or bamboo.

Even with the 1.4 litre grinding vessels you have the choice: In addition to the grinding vessel made of scratch-resistant Polycarbonate, a grinding vessel made of stainless steel 316L for cryogenic comminution and for grinding harder sample materials is available. Or use the grinding vessel made of glass for food-safe analysis and for verification of polymers. For grinding oily samples and for BPA-free sample preparation, we recommend the grinding vessel made of Eastman Tritan Copolyester.

Configure your Knife Mill PULVERISETTE 11 suitable for your specific application.

Autoclavable Vario-Lid system

The freely adjustable Vario-Lid system fulfills two important requirements at the same time. It can be used to reduce the grinding chamber volume down to 0.54 litre and to manually compress and loosen up the sample material at the beginning and at any time during comminution.

Easy cleaning – especially safe

Grinding vessel, lid and knife of the PULVERISETTE 11 can be cleaned without a problem in a dishwasher. Depending on the version, all parts which come into contact with the sample materials such as grinding vessel, lid and knife are autoclavable.

Fast cryogenic comminution in a single step

Samples which are difficult to grind such as gummi bears,



Autoclavable Vario-Lid system for sterile comminution



Cryogenic comminution of chocolate

chocolate or plastic toys can be embrittled with liquid nitrogen for comminution directly in the grinding vessel made of stainless steel 316L. The sample material remains 100 % cold. Just select the special lid with the easily exchangeable single-use sieve insert – the reliable protection against contamination.

Operation advantage: Save up to 20 SOPs

With the PULVERISETTE 11 you have the possibility to program and save up to 20 Standard Operating Procedures (SOPs). In each SOP you can save up to 15 grinding sequences.

Via the integrated USB interface, all saved SOPs can be uploaded, exchanged and saved with the free SOP editor by laptop. Simply download the SOP Editor at www.fritsch.de/p-11/sop.

Software P-11Control

With the software P-11Control, the mill can be controlled via the integrated USB port. SOPs can be edited, saved and managed directly on the connected laptop via drag & drop. Reversion-proof grinding reports can be created, archived quickly and easily with the integrated report generator.

For more information, please contact:

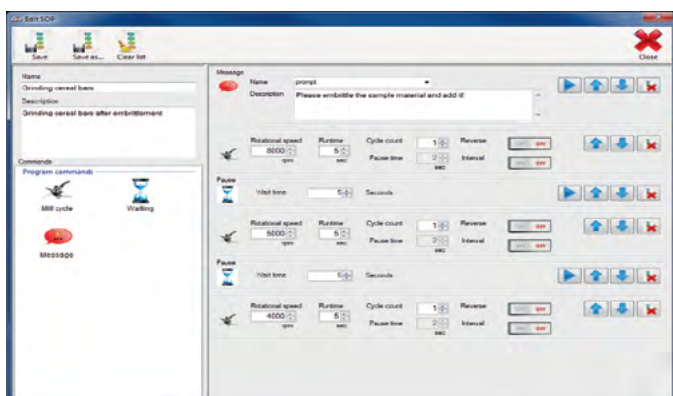
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Software P-11Control for automatic control of the mill via USB, for editing, saving and managing of the SOPs with grinding report generation

Really sharp, but yet gentle: These Cutting Mills adapt to your samples!

Ideal for size-reduction of different materials due to variable adjustment of the rotational speed of the rotor to the sample materials.



Universal Cutting Mill PULVERISETTE 19 with variable rotational speed adjustment

Both models of the **Universal Cutting Mills** from FRITSCH are ideal for size-reduction for a wide range of diverse materials due to variable adjustment of the rotational speed of the rotor, different rotors with various knife geometries, replaceable blades, practical sieve cassettes and that with an unmatched ease of cleaning.

NEW: Wear-free labyrinth seals made of stainless steel on both sides of the rotor – on the shaft and in the lid – offer effective contamination protection and no additional heat effect for your samples. They can be removed for fast, residue-free cleaning.

Variable 300-3000 rpm for fine comminution

The **high-speed Universal Cutting Mill** PULVERISETTE 19 comminutes up to 60 l/h of soft to medium-hard sample materials and **fibrous materials at a torque of up to 30 Nm with reliable reproducible results. The great advantage: The variable rotational speed adjustment in increments of hundred between 300 and 3000 rpm enables fine tuning of the comminution process** for each sample within a very wide range of applications.

Variable 50-700 rpm for powerful comminution

The **low-speed Universal Cutting Mill** PULVERISETTE 19 with variable rotational speed adjustment between 50-700 rpm in increments of ten and a torque of up to 67 Nm enables due to the combination of low cutting rate and extreme cutting forces a very powerful comminution of hard, tough-elastic samples and small sample quantities. At the same time, it is the ideal solution for all cases where e.g. thermal damage, the loss of highly volatile substances, or an excessively high fine share need to be avoided.

Especially for analytical sector, food and pharmaceutical industry

The Universal Cutting Mill PULVERISETTE 19 is also available in both variable rotational speed versions in a corrosion-resistant stainless steel 316L version. All materials have an increased resistance to alkalis and acids and are conform to the guidelines of the food and pharmaceutical industry.

Optimal sample exhaustion: FRITSCH Cyclone separators

Clean, convenient, cool: Combine your FRITSCH Universal

Cutting Mills PULVERISETTE 19 with a FRITSCH Cyclone separator for sample exhaustion and an exhaust system which can be ordered along. The strong airflow ensures simple feeding, increases throughput, reduces the thermal load of the samples and enables the use of finer sieve cassettes to achieve a higher final fineness – even for materials, which are otherwise difficult to comminute finely. The result: an especially fast and efficient comminution.



Universal Cutting Mill PULVERISETTE 19 with FRITSCH high-performance Cyclone separator

Choose according to your needs:

FRITSCH high-performance Cyclone separator

The FRITSCH high-performance Cyclone separator completely made of stainless steel 304 is particularly indispensable in the analytical sector and in the food and pharmaceutical industries, and for the processing of heterogeneous mixtures of material, e.g. in the cement industry. Due to its high surface quality, it offers enhanced resistance to corrosive media such as alkalis and acids and is especially easy to clean with a wide range of possible cleaning agents, without leaving any residues. In addition, it can be completely dismantled, fully emptied, flooded and sterilised, and thus offers reliable protection against cross-contamination.

The FRITSCH high-performance Cyclone separator is available with both: flexible or solid piping made of stainless steel 304 and special seals.

FRITSCH small volume Cyclone separator

Especially for exhaustion of small sample quantities, we designed the compact FRITSCH small volume Cyclone separator. It is made of plastic, can be dismantled completely and cleaned in a dishwasher for reliably preventing contaminations. The comminuted sample is collected in a screwed-on sample glass of 250 or 500 ml volume.

Clean Design for unmatched ease of cleaning

Available only from FRITSCH: For residue-free cleaning all grinding parts of our Cutting Mills can be removed within seconds without tools – unbeatable fast, simple and efficient.

The result: a completely open, empty grinding chamber with minimised dead space and smooth interior walls for quick and easy cleaning and reliable protection against cross-contamination. Convince yourself of the unmatched ease of cleaning:

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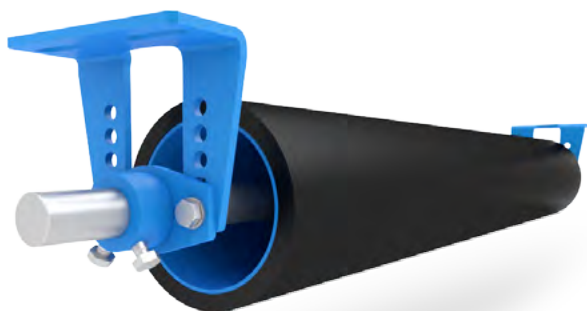
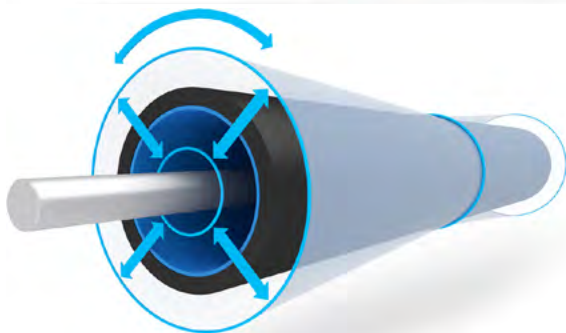
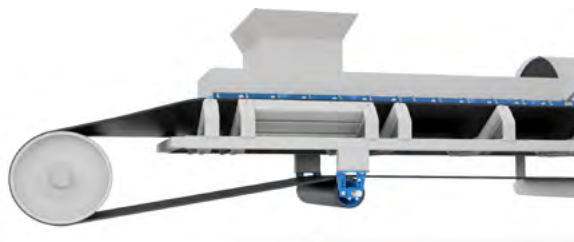
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Scrapetec releases new belt tracker, the PrimeTracker!

New to Scrapetec's range of conveyor components is the PrimeTracker belt tracker, which is designed to eliminate problems associated with conveyor belt systems, including misalignment, abrasion and belt damage.



“For optimum performance of a conveyor system, it is critical that the belt always runs straight on the conveyor, without sideways movement. Our new PrimeTracker belt tracker has been designed to automatically guide a conveyor belt back into the correct straight-line position, to prevent costly downtime and component replacement,” explains Thorsten Koth, Sales and Distribution for Scrapetec. “An advantage of the Scrapetec PrimeTracker is that it operates in the idling position at all times, unless there is sideways movement of the belt. This system corrects misalignment immediately, by guiding the belt back into the correct position, with no damage or abrasion to the belt or tracker.

“This is unlike conventional belt trackers that slide over the belt surface causing possible abrasion and belt damage – rather than adopting free rotation. Conventional belt trackers, with tapered edges, never idle and are always in a braking mode.

“What’s also notable, is the cylindrical shape and pivot bush that allow this belt tracker to swing and tilt during operation and to always be in full contact with the belt. Added to this, the Scrapetec PrimeTracker has the same peripheral speed over the entire surface of the belt, where traditional crowned rollers have different speeds at the center and edges of the system.”

Other advantages include easy installation, low maintenance requirements and protection of belt edges and structure of the conveyor belt. A strong corrugated EPDM rubber hose protects this system from dust and sand, while the rubber pivot offers soft suspension of the tracker shaft, ensuring extended service life of the system. This system can be installed in front of every return pulley, above and below the belt.

Scrapetec also designs and manufactures a range of specialist products for conveyor systems, which are designed to prevent dust formation, reduce material spill, enable thorough belt-cleaning and minimize the risk of explosion.

This range is available throughout the world from ScrapeTec and in the US and in Africa from BLT WORLD and South America from Ingenieria Del Sur.

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The VPLog-i is the perfect device for mobile current measurements of e.g. compressors, vacuum pumps, driers, or any other electric equipment within your plant. Installation is very easy and takes you less than a minute; just wrap around one of the three-phase power cables and close the snap fitting. Moreover, due to the digital signal processing and extremely large measurement range of the VPLog-i-R, 100 to 1600 A RMS, you just need one size for all your measurement applications.

About VPIstruments

VPIstruments offers industrial customers easy insight into energy flows. We believe that industrial energy monitoring should be easy and effortless, to enable insight, savings and optimization. VPIstruments' flow meters are calibrated on state-of-the-art calibration facility. Our calibration equipment is maintained under our ISO 9001 Quality Management System and is traceable to National Standards.

VPIstruments' products are recommended by leading energy professionals worldwide and offer the most complete measurement solution for compressed air flow, gas flow and electric energy consumption. Our monitoring software, VPIvision, can be used for all utilities, and enables you to see where, when and how much you can save. Our products can be found all over the world. We serve all industrial markets, for example; automotive, glass manufacturing, metal processing, food and beverage, and consumer goods. We can also help your industry. Let us open your eyes and start saving energy.

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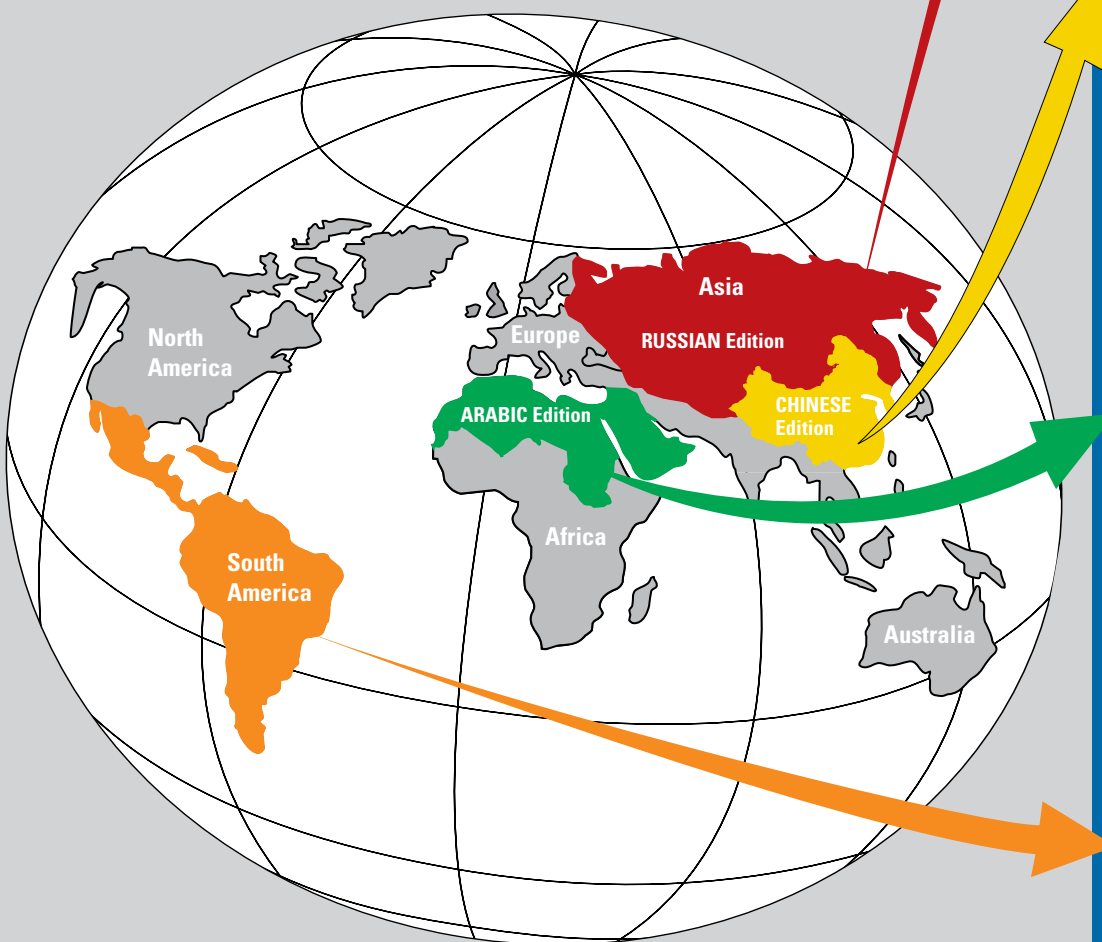
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Austrian Invention Becomes National Standard for Cement Packaging in China

Block bottom valve bags made of polypropylene tape fabric are one of the packaging options prescribed by law for cement producers in China.

As China is modernizing its cement production, the government has also set up a national standard defining types and specifications of bags used for packaging cement. One of the three bag types permitted in the Chinese Standard GB/T 9774-2020 “Sacks for Packing Cement”, which was officially released in October 2020, are block bottom valve bags made of woven polypropylene tape fabric. This type of bag was invented in 1995 by the Austrian engineering company Starlinger & Co. GmbH and patented under the brand name AD*STAR.



Environment-friendly cement bags

With the AD*STAR bag, Starlinger, specialised in machinery for woven plastic packaging, created a sustainable and efficient packaging solution for cement and all kinds of dry bulk goods.

The idea behind it was to combine the advantages of a paper bag – its brick shape and suitability for automatic handling – with the tightness and flexibility of a PE film bag, and the strength and resistance of a woven PP bag. The result: A laminated one-layer block bottom valve bag made of stretched and woven polypropylene tapes.

The main assets of AD*STAR bags are their extremely low breakage rate and excellent protection against moisture. Especially in countries like China, transport and storage of cement in bags is widespread and involves a lot of transshipping and long-term storage. Loss of cement due to bag rupture or hardening in humid conditions is a big issue. Packaging cement in AD*STAR bags offers substantial savings potential in this respect: low breakage rates and good moisture protection mean that significantly less cement is lost in the logistic chain. Consequently, not only environmental pollution is reduced, but also less cement needs to be produced to replace these losses, which in turn saves CO₂ emissions. An independent Life Cycle Analysis carried out in 2015 showed that due to these characteristics AD*STAR cement bags have lower global warming potential than multi-layer paper cement bags and are currently the most environmentally friendly packaging for cement.

AD*STAR bags are produced on Starlinger ad*starKON block bottom conversion lines and are available in a wide range of sizes. The company's focus on research and development ensures that AD*STAR bags and AD*STAR production technology are continuously improved and adapted to the needs of the market. Technological advancements and new product features such as easy-open closure or handles for carrying make the bags even more versatile and usable in different applications.

Currently, around 15.7 billion AD*STAR sacks are produced each year on more than 550 Starlinger conversion lines installed on five continents.

High standards for safe and efficient packaging

The new Chinese Standard for cement packaging applies to cement bags holding up to 50 kg and lists the above mentioned laminated woven plastic bags (made of one layer of laminated plastic fabric or with additional paper liner), paper bags (3-layer, 3-layer with PE liner, 4-layer bags), as well as paper-plastic composite bags (paper bags with plastic liner) as possible packaging options. All three types of bags must be designed as block bottom valve bags.

The standard specifies the dimensions as well as physical and mechanical requirements of the cement bags. Regarding break resistance, for example, a cement bag has to survive a drop from 1 meter height a minimum of six times before it breaks. Furthermore, printing and marking, general bag appearance, testing methods, and rules for quality inspection during bag manufacture are established in the standard. It also stipulates that each bag must be provided with a certificate before selling.

By recommending woven polypropylene block bottom bags in the new National Standard, the Chinese government has adopted a future-oriented approach that aims for more sustainability in the cement industry. It curbs unnecessary loss of cement during production, transport and storage, reduces environmental impacts, improves working conditions for operators on the cement filling lines, and generally makes the handling of cement in 50kg or smaller units more efficient.

It also means that the formerly widely used sewn woven plastic bags which were irregular in shape, often leaking, and problematic for automatic filling and handling, will no longer be permitted as cement packaging in China. Cement companies are given a transition period until March 31st, 2022 to adapt to the new standard. Due to this time limit, Starlinger's AD*STAR conversion lines are currently high in demand in China. The company expects to deliver and install machines for an additional production capacity of more than 2 billion AD*STAR bags on the Chinese market in 2021 and 2022.

Note: AD*STAR® is a registered trademark. AD*STAR® sacks are produced exclusively on Starlinger machinery.

About Starlinger & Co. Ges.m.b.H.:

Starlinger is a Vienna-based engineering company with production sites in Weissenbach and St. Martin, Austria, as well as Schwerin, Germany, and Taicang, China. As the world's leading supplier of machinery and complete lines for woven plastic bag production, recycling and PET extrusion and refinement, Starlinger & Co. Ges.m.b.H. is a synonym for leadership in quality and technology in over 130 countries. Founded in 1835, the family-owned business has been exporting machines worldwide for more than 50 years with an export quota of over 99.5 %. Sales and service centres in Brazil, China, India, Indonesia, Mexico, Thailand, Russia, South Africa, USA and Uzbekistan ensure quick and professional technical support and service.

Further information:

Starlinger & Co. Ges.m.b.H.

Sonnenuhrgasse 4

1060 Vienna, Austria

T: +43 1 59955-0

F: +43 1 59955-25

E: sales@starlinger.com

www.starlinger.com



A HUNGRY WORLD NEEDS SUSTAINABLE OPTIONS

The world's insatiable appetite means that we all have to think more sustainably if we are to secure a future for a growing population and its need for energy, food and infrastructure. It is not enough to simply maintain our current position. We need to apply radical thinking and new technologies to meet the tide of future demands; not just because the increases will be significant, but they have to be met within a framework of urgent environmental protection.

Industries are at the forefront of change and possess incredible power to implement positive shifts. For us, we recognize that we work in environmentally intensive sectors, making environmental protection even more pertinent.

CLOSING SUSTAINABILITY GAPS

The need for sustainable, high-capacity, enclosed dry bulk material handling is vital. Future terminals will have to meet higher annual volumes because of increased populations, and the utilization rates of ports will have to improve.

In the simplest terms, dry bulk handling equipment needs to be dust-free, efficient, minimize vessel unloading times and maximize the operational profits of the terminal, whilst also ensuring no material is wasted through spillage, negatively impacting the environment and profitability.

We believe that it is time for historic, wasteful practices to be set to one side, and make way for better ones, capable of meeting modern demands in a way that protects the environment. However, change can be difficult; tradition often trumps innovation, but as dry bulk handling equipment lasts for decades, operators can potentially be stuck with sub-optimum performance and a sustainability gap for years.

UNDERSTANDING EQUIPMENT LIMITATIONS

Not every piece of equipment can unload every material, but some are far less suitable than others. For example, powdery materials, such as cement and sulfur, often rule out the use of grab cranes; bucket chain unloaders are not used for grain handling, mainly due to their very high weight, which has a negative impact on cost. The unloader itself is also not completely enclosed in the transfer between the vertical and horizontal conveyor, and because of that dust can escape.

Chain unloaders are enclosed; however, they have some fundamental drawbacks for some materials. Similar to pneumatic unloaders, they lack the capability of withstanding any digging forces, making them unsuitable for any compacted bulk. This is the main reason why chain unloaders are not used for materials such as salt or coal, and neither pneumatics nor chain unloaders are used for fertilizers and soya meal, where digging forces are needed for efficient unloading. Where pneumatics are used, they require extremely extensive assistance from payloaders and excavators because of their limited hold reach.

WHAT MAKES OUR SYSTEMS SUSTAINABLE?

Bruks Siwertell offers the most environment-friendly dry bulk handling products on the market. Our Siwertell unloading systems are fully enclosed, eliminating dust and spillage, and are extremely efficient, with excellent reach into the vessel's holds, ensuring market-leading through-ship capacities and the fastest possible vessel turnarounds.

Throughout the world, Siwertell unloader installations handle more than 45 different bulk materials including biomass pellets, salt, cement, coal, all different kinds of grain and soya beans and soymeal as well as various types of fertilizers. They can switch between materials and be optimized to handle specific bulks.



Siwertell ship unloader in Denmark

For example, our salt handling unloaders have components that are specially designed to withstand salt's corrosive effects and offer high digging forces to overcome its extreme compaction in the hold. Siwertell screw-type unloaders are also the only enclosed systems on the market that have the capability of handling highly volatile commodities such as sulfur; these systems are fitted with the specially designed Siwertell Sulfur Safety System (4S), which detects and extinguishes fires and mitigates the effects of sulfur explosions.

Siwertell screw-type unloaders are capable of unloading at very high capacities, regardless of bulk material type. High-capacity mega-terminals served by Siwertell screw-type ship unloaders include an installation in Liverpool, in the UK, which has a rated capacity of 1,800t/h for handling grain, and achieves an average capacity of 70 percent when unloading 75,000 dwt vessels, and transfer terminals on the Amazon River in Brazil unloading soya beans from barges at 1,500t/h at an average efficiency of 75 percent.

For other materials, a Siwertell cement unloader in Texas, in the US, has a rated capacity of 1,500t/h, and two unloaders at the Ha Tinh steel plant in Vietnam, each have a capacity of 2,400t/h when handling thermal and metallurgical coal. Both of these were ground-breaking for their time; the former set the highest cement-handling rates on the market in 2006 and the latter is the first installation of dedicated Siwertell coal unloaders for the steel industry.

MAKING A SUSTAINABLE SWITCH

An increasing human population also requires more energy. The global shift towards biomass to mitigate

some of the effects of burning fossil fuels is seeing a huge spike in demand. Our wood-processing technology is used across this industry and our ship loading and unloading systems are at the forefront of meeting demands in port.

Biomass pellets are very dusty and sensitive to degradation, making them unsuitable for handling with grabs. Pneumatic unloaders are restricted in capacity. Again, our systems can offer the upper hand; Siwertell unloaders deliver a continuous rated biomass handling capacity up to 2,000t/h with minimal material degradation, making them ideal for meeting large-scale imports.

In fact, five UK-based Siwertell unloaders handle 70 percent of the total annual wood pellet imports in the country; at 1,200t/h they also set the industry standard rate for unloading pellets in the UK. We are already discussing the use of higher capacity biomass unloaders with operators.

Siwertell unloaders have a capacity range from 150t/h to 3,000t/h, all with market-leading efficiencies, regardless of the material handled. We believe that they offer the most sustainable dry bulk handling on the market in terms of efficiency, profitability and environmental protection, but we are not standing still.

With sustainability on the global agenda, we are advancing in efficiency and integrating new digital technologies if they hold the promise of adding value both for the operator and the environment.

Flender and Schaeffler introduce innovative and eco-friendly packing system for large size bearings

- **Flender and Schaeffler develop innovative “SMART Box”, a reusable transport box for large size bearings**
- **The modular design of the box ensures improved handling and reduced storage space**
- **“SMART Box” provides an innovative solution for environmental and climate protection**

Making the transport of large bearings not only safe, but also sustainable - this is what drive manufacturer Flender and automotive and industrial supplier Schaeffler have set themselves as goal by developing an innovative and environmentally friendly reusable packaging system. The so-called “SMART Box” (Schaeffler Modular Adaptable Returnable Transport Box) replaces previous disposable transport boxes and is currently used for bearings with an outer diameter of 350 to 750 mm. Together, the two companies are making a significant contribution towards conserving resources and avoiding waste.

Flender Group CEO Andreas Evertz names sustainability as one of Flender’s guiding principles. “In recent years, Flender has systematically minimized its own CO₂ emissions and was able to reduce it by 83 percent from 2015 to 2020. We aim to be completely CO₂ neutral by 2030. In addition, the close cooperation with customers and suppliers is a key part of achieving complete climate neutrality. For this reason, it is also important for us to focus our attention on potential savings within the supply chain. We are pleased to have a partner in Schaeffler who also thinks along these lines. With the introduction of SMART boxes for one gearbox platform, we are already reducing the amount of wood used as disposable packaging material by more than 100 tons per year,” says Evertz.

“The subject of sustainability has been firmly rooted in Schaeffler’s DNA for many years and represents one of our four corporate values. Thanks to the new packaging

system, not only the handling of the boxes is improved, but storage space and costs are also significantly reduced,” says Dr. Stefan Spindler, CEO Industrial at Schaeffler.

“The replacement of up to 25,000 disposable transport boxes each year could be achieved for deliveries to Flender alone.”

Innovative design

During the development of the new packaging system, considerable importance was placed on ensuring its usability for different bearing designs. Schaeffler is currently working on a design of the box for bearings with an outer diameter of up to 2400 mm. A GPS tracking system, which facilitates tracking of the boxes in transit, is also currently being tested. The size of the boxes is uniform and adapted to the footprint of a euro pallet with a total of up to five frames stacked per pallet. Thus, one complete unit of the new packaging system replaces a multitude of individual boxes across several pallets.

Sustainable solutions

In contrast to the materials used in the previous disposable boxes, the new SMART box results in a CO₂ reduction of more than 50 percent. This calculation already includes the return transportation of empty packaging. This reduction in CO₂ is particularly stemming from the avoidance of wood waste resulting from the increased number of transport cycles of the new SMART box. Thanks to the abrasion-resistant melamine resin coating on both sides, the SMART boxes are much more robust than uncoated wooden transport boxes and can be used for up to 20 transport runs.

Striving to sustainable business

Avoiding waste and conserving resources in the supply chain is an essential part of Flender’s commitment to sustainable business. In addition to consistently reducing CO₂ emissions at its own sites and along the supply chain, Flender is committed to the 17 Sustainable Development Goals (SDG) of the United Nations. By acting ethically fair and complying with standards and values, Flender specifically supports sustainable economic growth and creates a benefit for society.



The new “SMART Box” (Schaeffler Modular Adaptable Returnable Transport Box) is an innovative reusable packaging system for large size bearings.

One complete unit of the new packaging system replaces a multitude of individual boxes across several



pallets. A total of up to five frames can be stacked per pallet with up to three bearings stacked per frame.

MONO 10T EVOLUTION FROM SACMI-SAMA THE VERY LATEST IN AUTOMATIC DIP GLAZING TECHNOLOGY



A modular design to meet all production requirements simply, quickly and according to personalized specifications. Specially designed for rapid glaze-colour change-over, the strong point of this machine is the extremely low maintenance requirements. In addition, it is the only solution on the market for the automatic glazing of “wash foot” articles.

SACMI presents MONO 10T Evolution, the latest solution for the automatic dip glazing of cups, mugs and bowls. The new version has developed from the well-established SACMI-SAMA MONO 10T solution which has been a reference point on the market for over two decades for the automatic glazing of these kinds of tableware articles.

A single process, highly automated and efficient, represents the distinguishing feature of this innovative system. The first main advantage of the new machine is its modular design, which gives the customer maximum flexibility in the choice of configurations, thus increasing the ability to customize and to reduce delivery times.

Developed according to the plug&play logic, this configuration simplifies both the shipment and the assembly and testing stages, allowing for an incremental approach to the investment so the customer can integrate new features over time.

Equipped with 10 glaze pots, the MONO 10T Evolution stands out for its main advantages of rapid glaze-colour change-over and reduced maintenance requirements. Furthermore, it is provided with other new features specially conceived to minimize set-up times thus increasing plant availability.

Machine movements are controlled by servo-assisted motors to ensure maximum precision of operations. All the settings can be made in a simple and intuitive manner thanks to a PLC interface. Improved accessibility to the machine helps the operator carry out routine cleaning and maintenance operations (for example, the glaze tank

can be easily installed or removed from the machine using guides and wheels allowing for fast glaze change-over).

With the Evolution solution, the mechanism for rotating the glazing arm has also been re-designed in order to optimize the angle at which the pieces are dipped into the glaze and to reduce to a minimum any contact between the glaze and the supports. This further reduces the need and time required for cleaning. When being dipped into the glaze and then removed from the glaze, the cup is rotated to avoid forming drops and residue on the surface, thus guaranteeing perfect quality of the glazed piece.

Additional special features have also been introduced to increase machine availability: for example, if a piece should fall into the glaze, the MONO 10T Evolution has a safety valve to hold the rest of the pieces safe on the supports. The machine then automatically stops and removes the article which has fallen into the glaze tank. This feature is a very important benefit especially with single firing production processes.

Further innovations deal with the pick-up system, specially configured to allow dip-glazing also for wash foot articles, which are now in demand on the market since they are provided with a small incision on the bottom of the cup to help water flow out during a normal washing cycle. Mono 10T Evolution is a unique solution on the market for the automatic glazing of this type of piece.



CeramicWorldWeb.it

SACMI, PUTTING PEOPLE FIRST: SANITANA INAUGURATES THE FIRST LINE TO DRASTICALLY REDUCE DUST IN THE WORKPLACE

As part of a revamp of the entire glazing line, the very first solution that removes - without the need for a worker - all the finishing dust has been installed. This reduces in-workplace dust dispersion in compliance with the EU Directive that came into force earlier this year.

Alongside quality and efficiency, a new manufacturing culture is focusing on workplace safety. Founded in 1979 and Portugal's leading ceramic sanitaryware producer, Sanitana has selected SACMI to complete an ambitious project to revamp and modernise the glazing lines supplied in 2007.

Automation, a widening of the product mix and a drastic reduction in workplace dustiness lie at the core of this project, concluded at the end of the summer with the start-up of the first complete line. What's more, the line – originally configured to glaze just one WC model – has now been equipped with solutions that allow glazing of the entire product catalogue.

From a factory efficiency standpoint, water trap glazing and foot cleaning no longer require manual work, boosting productivity considerably. What's more, SACMI has supplied a special robotized booth where the finishing dust is blown off and extracted without any need for a worker, ensuring full compliance with the EU directive in force since January 2020.

SACMI was keen to provide a solution that would meet the real needs of this customer, who generally carries out finishing on already-mature pieces, which can generate a lot of dust. This system - which SACMI is supplying to the market for the first time - eliminates the risks associated with tasks previously performed in open extraction booths. On the just-supplied unit, in fact, pieces are loaded automatically onto the conveyor and extraction can be made much more powerful as airflows do not need to take the presence of a worker into account.

Additional improvements include implementation of the latest SACMI solutions for the offline programming of glazing recipes. With this revamp, then, Sanitana is looking to the future and staying ahead of changes in standards, even strict European ones. It is also leading the way, in Portugal, towards a new awareness that puts people first in manufacturing facilities.



IRAQI CEMENT DEMAND EXPECTED TO REACH 28 MILLION TONS BY 2026

Robust growth on Iraq's construction sector, positively influenced by the country's reconstruction and rehabilitation program, with a total investment exceeding USD 94 billion over the coming decade, is expected to continue to drive cement demand in the country, according to the 2021 update of the Iraq Cement Market & Forecast Report.

Iraq's cement demand is expected to increase to an estimated 28 million tons between 2021 and 2026, while capacity is set to increase by over 6 million tons in the same period. Even though the country is expected to add new capacity, cement ex-clinker imports are also forecast to witness a slight increase by 2026, with illegal imports from Iran continuing to be a factor, especially in the border areas.

"The Iraqi cement market is bound to experience steady demand growth as a consequence of continuous GDP growth which remains linked to international crude prices. Global economic recovery driving demand for crude oil is expected to result in robust public and private investments in the construction sector. The increase in demand is expected to be catered by existing domestic players as well as by imports from Iraq's neighbors," states Prashant Singh, Associate Director at CW Group.

Cement demand to grow on robust infrastructure investment

In the next five years, Iraqi cement demand is forecast to expand as a result of investment, mostly directed towards the reconstruction program. The Iraqi government under its 2018-2022 plan requires more than USD 150 billion, focused mainly on reconstruction and rehabilitation. The government intends to fund around 60 percent and seeks the remaining from the private sector, including international donors.

After a major transformation in the cement trade, since the official ban on Iranian cement imports, implemented in May 2019, official trade statistics showed that cement imports ex-clinker declined from over 3 million tons in 2016, predominantly from Iran and Turkey, to just over 0.1 million tons in 2020. However, it is expected that imports will see an increase over the forecast period as relations normalize.

Cement production capacity likely to increase along with utilization rates

Despite having a capacity surplus of more than 20 million tons, the cement industry in Iraq is expected to see utilization rates increase to more than 54 percent in 2026, to cater new projects like the Baghdad Metro and the Al Rasheed Housing project.

Production levels have been improving over the past years as a result of the Iraqi authorities' commitment to support the recovery of the cement industry, especially by partnering with the private sector.

Ex-works and retail prices forecast to decline this year

Cement ex-work prices are expected to decline in 2021 by almost 21 percent after a sharp and unexpected increase of 36 percent year-on-year in 2020 due to the depreciation of the Iraqi currency. Over the past five years, retail prices have mirrored to a great extent the pattern in ex-works pricing, and retail prices in 2021 are also expected to decline.

Meanwhile, Iraqi import cement prices have been relatively stable, except when there was a sharp increase in 2019 following the ban on Iranian cement, are expected to revert back this year to levels prior to that of 2020.

The Iraq Cement Market & Forecast Report provides qualitative and in-depth market assessment and forecast of the country's cement industry, including cement volume trends in detail, trade flows, cement demand and production (historical and a five-year outlook), per capita consumption, and the competitive landscape. The report also comprises key players' profiles, cement production facility details, including past and announced brownfield production increases and greenfield projects.

MED BASIN CEMENT PRICES INCREASE IN JANUARY SUPPORTED BY TURKISH AND ALGERIAN EXPORTS



Average export prices for cement and clinker continued their upward trajectory in the Mediterranean Basin while declining in the Persian Gulf-Arabian Sea and East Africa in January 2021, according to CW Research's Cement and Clinker Price Assessment for Med Basin and Persian Gulf-Arabian Sea & East Africa.

FOB prices for both Portland cement and clinker in the Mediterranean Basin saw a monthly increase of almost 1 percent while in the Persian Gulf-Arabian Sea and in East Africa FOB prices for both Portland cement and clinker declined by an estimated 1 percent month-on-month.

“Cement prices in the Mediterranean Basin continued to reflect the robust performance of Turkish and Algerian cement exports. In the Persian Gulf, prices have cooled down in the past months, stabilizing around USD 35 per ton despite the sales rebound in Saudi Arabia and production growth in Iran and Qatar,” observes Juliana Vieira, Business Analyst at CW Group.

Iranian cement production increases between March and December 2020

Iranian cement output saw a 15 percent growth year-on-year in the first nine months of the current Iranian year (March 21 to December 20), to almost 54 million tons, according to Iran's Industry, Mining, and Trade Ministry.

Qatar's Industrial Production Index (IPI) for October 2020

increased 3 percent compared to September, with

cement production showing the second largest increase in the manufacturing category, growing by almost 10 percent.

Meanwhile, in Saudi Arabia, domestic cement sales rose by almost 21 percent and exports increased by about 10 percent in 2020.

Turkish exports reach nearly USD 1 billion in 2020

Turkish cement exports totaled 30 million tons in 2020, worth nearly USD 1 billion. With good prospects, Turkey's Bursa Çimento announced that will launch a new fully integrated clinker line set to start by the end of 2022.

On the other hand, in Spain, cement demand declined by 1.5 million tons in the first eleven months of 2020 compared to the same period last year.

Shipping market outlook

In terms of shipping at a global level, the Baltic Dry Index reached 1,856 points on January 13, the highest in over three months, up 645 points from December 11. The Capesize and the Panamax markets saw strong demand in the beginning of January, with rising demand from Atlantic routes, while the Handysize market recorded a slow start to the year.

In terms of vessel trade, the Bangladeshi industrial conglomerate, Meghna Group, placed an order at Yangzi-Mitsui Shipbuilding for the construction of four 66,000 dwt Ultramax bulkers.

Regional FOB cement prices edge down amidst weak Saudi exports

Despite a recovery in sales in several markets, FOB prices for Portland cement continued to decrease in April in both the Persian Gulf-Arabian Sea and in the Mediterranean Basin, down by about 1 percent and almost 2 percent month-on-month, respectively. Furthermore, clinker export prices also declined by about 1 percent in both regions according to the CW Research's Cement and Clinker Price Assessments for Med Basin and Persian Gulf & East Africa.

In East Africa CFR prices for bagged cement slightly also decreased by less than one percent. Messebo Cement, in Ethiopia, announced that it has resumed production in the Tigray region, following a 4-month suspension of operations.

“Despite a robust upward trend in domestic cement sales in Saudi Arabia, exports weakened in April. In the Med Basin, Spain is expected to continue seeing year-on-year sales growth building on a strong first quarter performance especially as the country emerges from Covid-19 related restrictions,” observes Wanderson Teixeira, Junior Business Analyst at CW Group.

Saudi Arabia's cement sales continue to witness growth in March

Domestic cement sales in Saudi Arabia continued on their upward trajectory in March, increasing by more than 4 percent year-on-year, according to data by Yamama Cement Company while exports slightly declined by less than one percent compared to the same month of last year.

Meanwhile, in Iran, the governor of Iran's Bushehr province, Karim Ground, announced that in March that cement factories may export only with the permission of the development area, in order to fight a cement shortage in the region.

Cement consumption drops in Spain and Portugal

In Spain, cement consumption declined by more than 2 percent in February, compared to the same month in 2020. Meanwhile in Portugal, in January, cement sales decreased by almost 3 percent year-on-year.

In Egypt, cement sales rose 15 percent year-on-year in March, including exports. Meanwhile, the value of cement exports from Turkey increased by over 2

percent year-on-year in the first two months of 2021.

Shipping market outlook

In terms of shipping at a global level, the Baltic Dry Index reached 2,140 points, up by 170 points versus the level on March 11, boosted by the Capesize market.

In April, the German dry bulk owner Oldendorff Carriers ordered two 61,300 dwt ultramax newbuilds and two secondhand 93,000 dwt post-panamax. The ultramax will be delivered from Dalian Cosco Kawasaki Ship Engineering Co (DACKS) in July 2022. and the two 2012-built post-panamax were acquired from India in April.

For more information, placing an order, or interview inquiries, please contact Susana Tomaz, Marketing Team, CW Group, by [e-mail at st@cwgrp.com](mailto:st@cwgrp.com).

About the Report

The Cement and Clinker Price Assessments for Med Basin and Persian Gulf are part of CW Research's price assessment series for tradable commodities. The reports offer prompt cargo (next 3060- day deliveries) pricing insights, regular monitoring of the market and an overview of key developments that are crucial for those involved in the cement, clinker and petcoke trade to understand. The monthly price assessments synthesize key market information based on CW Research analysts' ongoing interactions with market participants, including traders, exporters, buyers and other stakeholders involved in the cement, clinker and petcoke trade.

More information about the price assessments can be found here: <http://www.cwgrp.com/research/research-products/price-assessments>

About CW Group

The Greenwich (Conn.), USA headquartered CW Group is a leading advisory, research and business intelligence boutique with a global presence and a multi-industry orientation. CW Group is particularly recognized for its sector expertise in heavy-side building materials (cement), light-side building materials, traditional and renewable power & energy, petrochemicals, metals & mining, industrial minerals, industrial manufacturing, bulk cargo & shipping, among others. We have a strong functional capability, grounded in our methodical and quantitative philosophy, including due diligence, sourcing intelligence, feasibility studies and commodity forecasting. www.cwgrp.com

Diary Dates

Diary Dates

Cement

Virtual Middle Eastern Cement 2

Date : 06th July 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com / rob@propubs.com

Website: www.MiddleEasternCement.com

3rd Conference of Cement Industry & Technology in Syria & the Region 2021

Date : 26 - 28 July 2021

Venue: Cham Palace, Damascus, Syria

For more information, please contact:

E-mail: info@cementtechco.net

Mobile/WhatsApp: +963969019984

Website: www.cementtechco.net

Virtual African Cement Conference

Date : 07th September 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com

Website: www.AfricanCement.com

CEMENTTECH 2021

The 22nd China International Cement Industry
Exhibition

Date : 08 - 10 September 2021

Venue: Nanchang Greenland International Expo Center,
Jiangxi, China

For more information, please contact:

Ms. Joann Long

Tel: +8610 88083329

Fax: +8610 88084171

Email: Joannalong@ccpitbm.org

Website: www.cementtech.org

3rd International Conference on Concrete Sustainability

Concrete – Challenge for Sustainable and Resilient Built Environment

Date : 08 - 10 September 2021

Venue: Faculty of Civil Engineering, Czech Technical
University in Prague, Czech Republic

For more information, please contact:

Czech Concrete Society

Email: fibiccs20@cvut.cz

Website: www.fibiccs.org

Middle East Concrete 2021

Date : 12 - 15 September 2021

Venue: Dubai World Trade Centre (DWTC), Dubai,
United Arab Emirates

ONLINE: 22 August - 17 November 2021

For more information, please visit:

<https://www.middleeastconcrete.com/>

8th International Drymix Mortar Conference idmmc8

Date : 13 September 2021: 09:00 - 17:00hrs

Venue: Ofenwerk, Nürnberg, Germany

Email: info@drymix.info

Website: www.drymix.info

CW EMENA Cement & Fuel Summit

Date : 22 - 23 September 2021

Venue: Madrid, Spain

Email: inquiries@cwgrp.com

Website: www.cwgrp.com

Cement

Virtual Global CementQC Seminar 2

Date : 5th October 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com

Website: www.CementQC.com

Egypt Drymix Mortar Meeting

Date : 20 October 2021

Venue: Cairo, Egypt

Email: info@drymix.info

Website: www.drymix.info

International Lime and Calcium Industry Expo

Date : 26 - 28 October 2021

Venue: Handan, China

For more information, please contact:

Ms. Dido, CCPIT Building Materials Sub-Council

Tel./ Fax: 86 10 88082338

Email: liuyan@ccpitbm.org

Website: www.limeexpo.com/english

Virtual Global CemProducer 4: Refractories, wear, lubrication & cement plant maintenance

Date : 9th November 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com

Website: <http://www.cemproducer.com>

Global Cement Electrical Power Conference and Exhibition

(virtual Global CemPower Seminar)

Date : 23rd November 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com

European Cement - Virtual

Date : 7th December 2021

Venue: Your device

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: info@propubs.com

Website: www.EuropeanCement.com

INTERCEM Americas

Date : 06 - 07 December 2021

Venue: Hilton Downtown Hotel, Miami, Florida, USA

Tel: +44 20 8669 5222

Email: info@intercem.com

Website: www.intercem.com

Alternative Fuels & Raw Materials (AFARM) Americas 2021

Date : 8 - 9 December 2021

Venue: Cancun, Mexico

For more information, please contact:

Mr. Ali Assad, Business Development Executive

Mobile: +40 754 023 330

Email: aga@gmiforum.com

Ms. Magda Kwapisiewicz, Conference Producer

Mobile: +351 939 114 543

Email: mk@gmiforum.com

www.gmiforum.com

15th Global Slag Conference

Date : 18 - 19 January 2022

Venue: Vienna, Austria

For more information, please contact:



CEMENTTECH 2021

The 22nd China International Cement Industry Exhibition

September 08-10, 2021

Nanchang Greenland International Expo Center · Jiangxi · China



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

Cement

Dr. Robert McCaffrey, Conference convenor
Tel.: +44 1372 743837
Fax: +44 1372 743838
Email: info@propubs.com
Website: www.globalslag.com

15th Global CemFuels Conference and
Exhibition on alternative fuels for the cement
and lime industry

Date : 16 - 17 February 2022

Venue: Lisbon, Portugal

For more information, please contact:

Dr. Robert McCaffrey, Global Boards Conference
convenor

Tel.: +44 1372 743837

Fax: +44 1372 743838

Email: rob@propubs.com

website: <https://www.cemfuels.com/>

16th TURKCIMENTO International Technical
Seminar & Exhibition

Date : March 2022

Venue: TBC, Turkey

For more information, please contact Turkish
Cement Manufacturers' Association

Email: info@turkcimento.org.tr

4th Edition of the Italian Concrete Days

Date : 28 - 30 April 2022

Venue: Piacenza Expo, Italy

For more information, please visit

www.gic-expo.it

7th Alternative Fuels Symposium

Date : 2022

Venue: Germany

Tel.: +49 0 203 34 65 16 0

Fax: +49 0 203 34 65 16 50

Email: workshop@lechtenberg-partner.de

Website: www.lechtenberg-partner.de

TRAINING

In-class Training “Plant Maintenance and Refractories Course”

Date : 6 - 10 September 2021

For more information, please contact:

Ms. Julia Volchkova

Tel: +49-211-45 78-402

Email: training@vdz-online.de

Website: <https://www.vdz-online.de>

Virtual Online Course “Firing Alternative Fuels: Opportunities, impacts on process, optimisation and limitations”

Date : 25 - 28 October 2021

Email: training@vdz-online.de

For more information, please visit:

<https://www.vdz-online.de>

In-class Training “Basic Course Process Control”

Date : 8 - 11 November 2021

For more information, please contact:

Ms. Julia Volchkova

Tel: +49-211-45 78-402

Email: training@vdz-online.de

Website: <https://www.vdz-online.de>

In-class Training “Process Technology of Cement Production”

Module 1 (Grinding Technology and Raw
Material Preparation)

Date : 29 November - 3 December 2021

Module 2 (Clinker Production and Material
Technology)

Date : 6 - 10 December 2021

For more information, please visit:

<https://www.vdz-online.de>

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Training Programme 2021

Online Courses

**Firing Alternative Fuels:
Opportunities, impacts on process,
optimisation and limitations**
25 - 28 October 2021

In-class Training

Plant Maintenance and Refractories
6 - 10 September 2021

Basic Course Process Control
8 - 11 November 2021

Process Technology of Cement Production
29 November - 10 December 2021

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training@vdz-online.de

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VDZ
Toulouser Allee 71
40476 Duesseldorf
Germany

CERAMIC

Coverings 2021 - The global tile & stone experience

Date : 07 - 09 July 2021

Venue: The North Hall of the Orange County Convention Center, Orlando, Florida, USA

For more information, please visit:

www.coverings.com

CERSAIE 2021

The healthiness of ceramics for rethinking home design and architecture

Date : 27 September - 01 October 2021

Venue: Bologna Exhibition Centre, Italy

For more information, please visit:

www.cersaie.it/en/

27th Tecna 2021

Date : 27 September - 1 October 2021

Venue: Rimini Expo Centre, Italy

Tel: +39 0541 744111

Fax: +39 0541 744200

Email: segreteria@tecnargilla.it

<https://en.tecnaexpo.com/>

CEVISAMA – International Ceramics & Bathroom Experience

Date : 07 - 11 February 2022

Venue: Valencia Fair, Spain

For more information, please visit:

<https://cevisama.feriavalencia.com>

GENERAL

Chemical Industry 4.0 Virtual Conference

Date : 28 - 29 June 2021

Venue: Your device

For more information, please contact:

John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

The Marketing Algorithm Virtual Summit – Virtual Conference

Date : 29 - 30 June 2021

Venue: Your device

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

Data Analytics in Construction Summit – Virtual Conference

Date : 07- 08 July 2021

For more information, please contact:

John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

9th Annual Modular & Prefabrication Construction – Virtual Summit

Date : 07- 08 July 2021

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

2nd Annual BIM Virtual Summit

Date : 07- 08 July 2021

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

2nd Annual World Digital Engineering Summit – Virtual Conference

Date : 18 - 19 August 2021

For more information, please contact:

XXIII INTERNATIONAL CONSTRUCTION FORUM

CEMENT - CONCRETE DRY MIXTURES

NOVEMBER 1-3, 2021. EXPOCENTRE, MOSCOW.



XXIII INTERNATIONAL CONSTRUCTION EXHIBITION
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International Conference
«Concrete technologies: chemistry, production,
precast»

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program

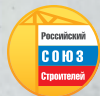
MixBuild

International Scientific and Technical
Conference «Modern Technologies of Dry
Mixtures in Construction»

150 exhibits

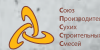
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GENERAL

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

2nd Annual Sensor Tech in Engineering Summit – Virtual Conference

Date : 18 - 19 August 2021

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

2nd Annual Digital Predictive Maintenance Summit – Virtual Conference

Date : 18 - 19 August 2021

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

Coastal Engineering Virtual Summit – Virtual Conference

Date : 25 - 26 August 2021

For more information, please contact:

Mr. John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

Chief Data Scientist - Virtual Conference Accelerate data innovation and creating business value with data science

Date : 25 - 26 August 2021

Venue: Your device

For more information, please contact:

John Karras

Tel.: +603 2775 0067

Email: johnk@trueventus.com

The Big 5 Solar

Date : 12 - 15 September 2021

Venue: Dubai World Trade Centre, Dubai, UAE

For more event please visit:

www.thebig5solar.ae

The Big 5 Heavy

Date : 12 - 15 September 2021

Venue: Dubai World Trade Centre, Dubai, UAE

For more event please visit:

www.thebig5heavy.com

Breakwaters 2021

Date : 13 - 16 September 2021

Venue: Portsmouth, UK

Email: breakwaters@ice.org.uk

European Coatings Show

Date : 14 - 16 September 2021

Venue: Nürnberg, Germany

Email: info@drymix.info

Website: www.drymix.info

RWM

Date : 22 - 23 September 2021

Venue: NEC Birmingham, UK

For more information, please visit:

www.rwmexhibition.com

Egypt Projects

Date : 30 September - 02 October 2021

Venue: Egypt International Exhibition Center - EIEC, Cairo Governorate, Egypt

For more information, please contact:

Mr. Amr Hassan

Tel.: +20226774263

Fax: +20226774252

Mobile: +201009069609

Email: amr@arabiangerman.com

Website: www.Egypt-projects.com

3rd Digital Refining & Petrochemicals Summit 2021

Focusing on Asset Performance

Management against a Backdrop of Digital Transformation

Date : 05 - 06 October 2021

Venue: London, UK

For more information, please contact:

Mr. Marcin Janecki

Tel.: +48616467047

Email: mjanecki@acieu.net

Website: http://acieu.net

MHEA Bulkex 2021

Date : 12 - 13 October 2021

Venue: Chesford Grange - Warwickshire, UK

For more information, please visit:

<https://mhea.co.uk/bulkex21/>

9th European Bulk Liquid Storage Summit

Date : 27 - 28 October 2021



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CCPIT Building Materials Sub-Council

Institute of Technical Information for Building Materials Industry

China Lime Association

Contact:

Ms. Dido

Tel: 86-10-88082338

E-mail: liuyan@ccpitbm.org / lime@ccpitbm.org

GENERAL

Venue: Cartagena, Spain
For more information, please contact:
Cheryl Williams
Tel.: +44 203 141 0605
Email: cwilliams@acieu.net

BATIMATEC Expo

Salon International du Bâtiment des Matériaux de
Construction et des Travaux Publics
Date : 07 - 11 November 2021
Venue: Palais des Exposition Pins Martimes, Algiers,
Algeria
For more information, please visit:
www.batimatecexpo.com

Switchgear and Circuit Breakers Virtual Conference

Date : 15th November 2021
Venue: your device
For more information, please contact:
John Karras
Tel.: +603 2775 0067
Email: johnk@trueventus.com

2021 European Base Oils & Lubricants Summit

Date : 17 - 18 November 2021
Venue: Amsterdam, The Netherlands
For more information, please contact:
Mr. Mohammad Ahsan
Tel.: +44 203 141 0606
Email: mahsan@acieu.net
Website: www.acieu.net

9th International Aggregate Symposium

Date : 25 - 26 November 2021
Venue: Antalya, Turkey
For more information, please visit:
www.kirmatas.org.tr

10th International Drilling Blasting Symposium

Date : 25 - 26 November 2021
Venue: Antalya, Turkey
For more information, please visit:
www.delmeplatma.org.tr

17th Edition SteelFab 2022

Machinery, Technology, Equipment
Date : 10 - 13 January 2022
Venue: Expo Center Sharjah, UAE
For more information, please contact:

Tel.: +971 6 5770000
Email: steel@expo-centre.ae
Website: www.steelfabme.com

SOLIDS Dortmund 2022

Date : 16 - 17 February 2022
Venue: Dortmund, Germany
For more information, please visit:
www.solids-dortmund.de

27th International Mining Congress and Exhibition (IMCET 2022)

Date : 22 - 25 March 2022
Venue: Antalya, Turkey
Tel.: (+90 546) 4251072
Fax: (+90 312) 4175290
For more information, please contact:
E-mail: imcet@maden.org.tr /
madenmuhodasi@maden.org.tr
Website: www.imcet.org.tr

World Cities 2022

Date : 17 - 21 April 2022
Venue: Sands Expo & Convention Centre, Singapore
For more information, please contact organizers at:
Email: info@worldcities.com.sg
Website: www.worldcitysummit.com.sg

Powtech 2022

Date : 26 - 28 April 2022
Venue: Nürnberg, Germany
For more information, please visit:
<https://www.powtech.de/en>

Hillhead 2022

Date : 21 - 23 June 2022
Venue: Hillhead Quarry, Buxton, Derbyshire, UK
For more information, please visit:
www.hillhead.com

interpack Düsseldorf

Date : 04 - 10 May 2023
Venue: Düsseldorf Trade Fair Centre, Germany
For more information, please visit:
www.interpack.com

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CEMENTTECH 2021	73	www.cementtech.org
CemWeek	7	www.Cemweek.com
GEBR. PFEIFFER	OBC	www.gebr-pfeiffer.com
Global Cement 2 nd Virtual Middle Eastern Cement Conference & Exhibition	OFC	www.MiddleEasternCement.com
The Global Cement Report™, 14 th Edition	47	www.CemNet.com/GCR14
Industrial Angles	57	www.industrialangles.com
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JAMCEM Consulting	23	www.jamcem.com
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Siman News – Iran Cement News Agency	9AR	www.simankhabar.ir
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عالم الإسمنت ومواد البناء

تصدر عن : الاتحاد العربي للإسمنت ومواد البناء العدد 84 يونيو / حزيران 2021



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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 .

● الآراء الموجودة بالمجلة لاتعبر بالضرورة عن رأي الاتحاد أو المجلة وإنما عن الرأي الخاص بكتابها ولا يتحمل الاتحاد أية مسؤولية قانونية تجاه ذلك .

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Website : www.aucbm.net

المكتويات

أخبار عربية
أخبار عالمية
منتجات جديدة

الموضوعات:

- الإسمنت ذو النسبة المنخفضة من الكربون
إعداد: م. صباح أحمد محمود / الشركة العامة للإسمنت
العراقية – جمهورية العراق
 - دليل اختيار مروحة صناعية تناسب ناقل هوائي ذو أبعاد
معينة
إعداد: م. أقدم نمير عبد الغني محمود / معمل سممت
بادوش الجديد – جمهورية العراق
 - مراجعة تقنية لتقليل انبعاثات ثاني أكسيد الكربون
إعداد: Mark Mutter / JAMCEM Consulting
– المملكة المتحدة
 - المملكة العربية السعودية تتحول نحو الإنتاج الأنظف
إعداد: Dirk Lechtenberg / MVW
Lechtenberg & Partner – ألمانيا
- مؤتمرات ومعارض
- طريقة تخفيض البصمة الكربونية في مصانع الإسمنت -
توفير الطاقة من خلال تقليل الهواء الإضافي
إعداد: Ketan Goel /Invotech و K.K. Sharma
Industrial Solutions Private Limited – الهند
 - الأوقات غير العادية تتطلب استجابات سريعة ومبتكرة
إعداد: Bruks Siwertell – السويد

المراسلات

توجه كافة المراسلات باسم رئيس التحرير / الاتحاد العربي للإسمنت 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 2021

العدد	الموضوعات	المناسبات
سبتمبر/ أيلول 2021	<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- إعدادات الفحم وإشعاله- دراسات حالة	
ديسمبر/ كانون أول 2021	<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- دراسات حالة	

آخر موعد لاستلام المقالات أو النصوص الصحفية أو الإعلانات لأعداد عام 2021 :

عدد سبتمبر / أيلول : 31 أغسطس / آب 2021

عدد ديسمبر / كانون أول : 3 ديسمبر / كانون أول 2021

الإعلانات (بالدولار الأمريكي)

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

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أبعاد الإعلان على الغلاف الخارجي : ارتفاع 20 سم وعرض 14 سم

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أخبار عربية

الإمارات العربية المتحدة

صفقة اندماج بين "حديد الإمارات" و"أركان"

قالت شركة أركان لمواد البناء الإماراتية إنها تلقت عرضاً للانضمام مع شركة حديد الإمارات . وأضافت أركان أن العرض مقدم لها من الشركة القابضة العامة (صناعات) - التابعة لشركة القابضة (ADQ) - التي تمتلك بالكامل شركة حديد الإمارات . وتهدف الصفقة لإنشاء أكبر كيان لإنتاج الحديد ومواد البناء في الإمارات بأصول تقدر بنحو 13 مليار درهم (3.5 مليار دولار).

كما قالت أركان إن مجلس إدارتها سينظر في الصفقة المقترحة ، وإنه حال التوصل إلى اتفاق بين الطرفين ، ستتعقد الجمعية العمومية لشركة أركان في النصف الثاني من 2021 للنظر في الموافقة على الصفقة .

وأضافت أركان ، أنه في الوقت الحالي "لا يوجد ما يؤكد اتفاق الطرفين على إنجاز هذه الصفقة" ، وأن العرض سيبقى مرهوناً بالحصول على الموافقات التنظيمية والحكومية ، بالإضافة إلى موافقة مساهمي الشركة .

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أعلنت شركة بترول أبوظبي الوطنية "أدنوك" عن توقيع اتفاقيتين طويلتي الأجل لبيع الغاز الطبيعي مع اثنتين من الشركات الصناعية الرائدة في دولة الإمارات ، وهما شركة "حديد الإمارات" ، أكبر شركة متكاملة لإنتاج الحديد في دولة الإمارات، و"أركان لمواد البناء" في أبوظبي .

وبموجب شروط الاتفاقيتين ، ستقوم أدنوك بتوريد الغاز الطبيعي لشركتي "حديد الإمارات" و"أركان" على مدى السنوات العشر المقبلة لدعم الطلب المتزايد على الطاقة والمواد الخام من القطاع الصناعي في أبوظبي .

وتعد "أركان لمواد البناء" مورداً رائداً لمواد البناء في أبوظبي من خلال مجموعة متنوعة من المنتجات والخدمات عالية الجودة التي تتراوح بين الإسمنت والطابوق والملاط الجاف وأنابيب PVC وأنابيب GRP والأكياس . وتشمل الشركات التابعة لـ "أركان" "مصنع إسمنت العين" ، و"مصانع طابوق الإمارات" ، و"أنابيب" ، و"مصنع أركان للملاط الجاف" . وتشارك الشركة في بعض أكبر مشاريع البناء في أبوظبي ، وتمتلك واحداً من أكبر مصانع الإسمنت في دولة الإمارات . ويعد المصنع الوحيد الذي يعمل بالغاز بالكامل في دولة الإمارات بأقل تكلفة إنتاج .

المصدر: www.adnoc.ae

الجمهورية الجزائرية

لافارج هولسيم تفتح طريق تصدير جديد من ولاية سكيكدة

بعد أن نفذت العديد من عمليات التصدير من مختلف الموانئ، افتتحت لافارج هولسيم في الجزائر طريق تصدير جديد لصناعة الإسمنت من ميناء سكيكدة ، بتصدير 9,000 طن من الكلنكر الرمادي إلى أوروبا . وقد حققت لافارج هولسيم في الجزائر ، خلال عام 2020 ، حجم تصدير إجمالي يقارب 1.2 مليون طن مقارنة بالعام السابق ، وبلغ حجم الصادرات 0.7 مليون طن . ويعد تصنيع الخدمات اللوجستية خطوة إلزامية لتصدير 10 مليون طن سنوياً ، مما سيسمح للجزائر بفرض نفسها في سوق الإسمنت الدولي والكلنكر كلاعب رئيسي أساسي .

كما أطلقت لافارج هولسيم في الجزائر محلياً عدة مشاريع استثمارية ، من بينها أول منصة لوجستية من نوعها في الجزائر مخصصة لتصدير الكلنكر، تم تدشينها في يونيو / حزيران 2019 ، واقتناء ناقلة شحن لهذا العام ، بسعة تحميل 18,000 طن في اليوم ، مما سيقبل من البقاء في الرصيف والتكاليف الإضافية لرأس مال السفينة .

ومع 500,000 طن للربع الأول من عام 2021 ، تهدف لافارج هولسيم في الجزائر إلى تصدير 2 مليون طن بحلول نهاية العام الحالي .

المصدر: www.elikhbaria.com

المملكة العربية السعودية

النظرة إيجابية لقطاع الإسمنت بدعم من مبادرات وزارة الإسكان

والمشاريع الكبرى

أبقت شركة الأهلي كابيتال على نظرتها الإيجابية لقطاع الإسمنت السعودي ، متوقعة أن تكون برامج الإسكان الجارية ، واستراتيجية 2021 - 2025 لصندوق الاستثمارات العامة هي محركات النمو الرئيسية للقطاع .

وقدرت الأهلي كابيتال نمو مبيعات الإسمنت المحلية بنسبة + 3.5 % على أساس سنوي في عام 2021 لتصل إلى 52.8 مليون طن ، عقب نمو قوي بنسبة + 20.7 % على أساس سنوي في عام 2020 إلى 51.1 مليون طن . ومع ذلك ، فإن تقلب أسعار الإسمنت هو مصدر قلق رئيسي .

وتوقعت الأهلي كابيتال أن يظل الطلب قوياً في عام 2021 (زيادة + 3.5 % إلى 52.8 مليون طن) ، ارتفاعاً من النمو القوي بالفعل + 20.7 % في عام 2020 . وهذا مدفوعاً بمبادرات

الأعمال المدنية والهيكل المعدنية والتركيبات الميكانيكية والكهربائية واختبارات بدء التشغيل .

كما توقعت الشركة في سبتمبر / أيلول 2019 الانتهاء من مشروع طواحين الإسمنت بمصنع الشركة برابع في الربع الأول 2020 ، وبدء التشغيل التجاري خلال الربع الثاني لعام 2020 ، ولكن لنفس الأسباب الواردة أعلاه توقعت الشركة في نوفمبر / تشرين الثاني الماضي الانتهاء من المشروع والتشغيل التجاري للمشروع في الربع الثالث 2021 .

المصدر: www.argaam.com

إسمنت المدينة تعلن تأسيس شركة تابعة لتقديم حلول وخدمات بيئية لمعالجة وإعادة تدوير المخلفات

أعلنت شركة إسمنت المدينة موافقة مجلس إدارتها على تأسيس شركة تابعة ذات مسؤولية محدودة مملوكة بنسبة 100 % مختصة في تقديم حلول وخدمات بيئية لمعالجة وإعادة تدوير المخلفات.

وسيكون مقر الشركة التابعة مدينة الرياض ، وذلك بعد الحصول على الموافقات والترخيص اللازمة من الجهات ذات العلاقة .

المصدر: www.argaam.com

إسمنت الجنوبية تـدشـن خط إنتاج بمصنع إسمنت جازان بطاقة 10 آلاف طن يومياً

أعلنت شركة إسمنت المنطقة الجنوبية عن إنشاء خط إنتاج بمصنع إسمنت جازان بطاقة إنتاجية 10 آلاف طن في اليوم لإحلاله محل خطوط الإنتاج الحالية . ومن المتوقع البدء في إنشاء المشروع في النصف الثاني من عام 2021 .

إسمنت اليمامة تقتـرض 863 مليون ريال من مصرف الراجحي

وقعت شركة إسمنت اليمامة إتفاقية تمويل بنكي مع مصرف الراجحي بقيمة 863 مليون ريال ، ويتوزع على تمويل طويل الأجل بقيمة 563 مليون ريال ، وتمويل قصير الأجل بقيمة 300 مليون ريال .

وقالت إسمنت اليمامة إن الهدف من التمويل طويل الأجل هو سداد التزامات بنوك أخرى وتحسين الكفاءة المالية ، بينما غرض التمويل قصير الأجل هو تمويل رأس المال العامل .

المصدر: www.alarabiya.net

مجلس إدارة إسمنت اليمامة يقرر نقل خط الإنتاج رقم 7 من المصنع القديم إلى الجديد

قرر مجلس إدارة شركة إسمنت اليمامة نقل وتركيب الخط السابع من المصنع القديم في جنوب مدينة الرياض إلى موقع المصنع الجديد في الحلال الشمالية بمحافظة الخرج التابعة لمنطقة الرياض . وأضافت الشركة في بيان لها أن طاقة الخط الإنتاجية تبلغ 10 آلاف طن/كلنكر يومياً وبذلك ستصل الطاقة الإنتاجية بنهاية عام 2024م في الموقع الجديد 30 ألف طن/كلنكر يومياً .

المصدر: www.mubasher.info

إسمنت ينبع: إيقاف خط الإنتاج الرابع لغرض التحديث

أعلنت شركة إسمنت ينبع عن تنفيذ خطتها الاستراتيجية لتحديث الخط الرابع ، وعليه يتم إيقاف هذا الخط ابتداءً من 15 فبراير/

وزارة الإسكان المستمرة ، واستراتيجية 2021 - 2025 لصندوق الاستثمارات العامة . ولا يزال الطلب من قطاع الإسكان قوياً مع وصول قيمة الرهون العقارية الجديدة إلى مستوى قياسي بلغ 32.8 مليار ريال في يناير / كانون الثاني 2021 .

وبحسب الأهلي كابيتال بلغ متوسط أسعار الإسمنت المحلي 174 ريالاً للطن في الربع الرابع 2020 ، بانخفاض 16.1% عن مستويات 2019 والربع الثالث 2020 على التوالي . مرجعة ذلك إلى حد كبير إلى المنافسة القوية (خاصة في المنطقة الوسطى) ، مما يحد من قدرة القطاع على تمرير تأثير ارتفاع ضريبة القيمة المضافة ، مضيفة مع تحسن الطلب في جميع أنحاء المملكة العربية السعودية في عام 2021 م ، يتوقع أن يبلغ متوسط الأسعار 183 ريالاً للطن . ولا يزال ضعف سعر البيع يمثل مخاطرة رئيسية .

المصدر: www.maaal.com

العربية السعودية تمنح 12 رخصة لتصدير الإسمنت والحديد في الربع الأول

أصدرت وزارة التجارة السعودية منذ بداية العام الجاري 2021 وحتى الآن ، 12 رخصة لتصدير الإسمنت والحديد مناصفة بين القطاعين العام والخاص ، حيث شهد العام الماضي إصدار 21 رخصة لتصدير الإسمنت و19 رخصة لتصدير الحديد .

وقال بدر جوهر ، رئيس اللجنة الوطنية لشركات الإسمنت في مجلس الغرف السعودية ، إنه منذ السماح بالتصدير وإعفاء الشركات من رسوم التصدير التي تمثل الفرق في الدعم حسب الأسعار العالمية ، تمت صادرات السعودية من الكلنكر والإسمنت بشكل واضح .

حيث بلغ حجم الصادرات خلال الربع الأول من عام 2021 نحو 460 ألف طن من الإسمنت و2.3 مليون طن من الكلنكر . كما وصل حجم المخزون لدى الشركات بنهاية الربع الأول من العام الجاري نحو 32.7 مليون طن وهو مخزون كاف لدعم أي زيادة في الطلب المحلي واحتياجات المشاريع الحالية والمستقبلية ، إضافة إلى استمرار إنتاج الشركات لتلبية احتياجات السوق المحلية .

المصدر: www.alarabiya.net/

الإسمنت العربية تتوقع الانتهاء من مشروع إنشاء طواحين جديدة في مصنعها برابع والتشغيل التجاري في الربع الرابع 2021

توقعت شركة الإسمنت العربية، الانتهاء من مشروع إنشاء طواحين إسمنت جديدة في مصنعها برابع ، والتشغيل التجاري للمشروع في الربع الرابع 2021.

وقالت الشركة إن ذلك نظراً لعدم تمكن المقاول من الحضور إلى المملكة لاستئناف العمل بالمشروع حتى تاريخه ، لذلك فإن التاريخ المتوقع للانتهاء من المشروع حسب إفادة المقاول شركة CNBM الصين الوطنية لمواد البناء 150 يوماً إضافية من إعادة استئناف العمل بالمشروع ، وذلك بعد تخفيف أو رفع القيود على السفر الدولي ووصول كامل العمالة الفنية لموقع العمل . وأوضحت الشركة في بيان لها أن نسبة الإنجاز المتحقق في المشروع بلغت 99.53% .

وكانت إسمنت العربية قد وقعت في أبريل / نيسان 2015 عقداً مع شركة CNBM الصينية لهندسة وتوريد وإنشاء طواحين الأسمنت بكامل معداتها الميكانيكية والكهربائية لخطها الجديد برابع ، وكذلك التصميم والإشراف على

شباط 2021 م ولمدة 60 يوماً تقريباً .

وعدرا ، الأمر الذي يوفر احتياجات السوق المحلية من الإسمنت بنسبة 60 % والجزء المتبقي يتم تأمينه عن طريق القطاع الخاص ، مع أمل زيادة كميات الإنتاج لسد الفارق قدر الإمكان وتغطية حاجة السوق المحلية .

المصدر: جريدة الثورة 2021/6/6

المصدر: www.mubasher.info

إسمنت ينبع تؤول توصية بخفض رأس المال

أعلنت شركة إسمنت ينبع عن قرار مجلس إدارة الشركة بتأجيل توصية تخفيض رأس المال استجابة لبرنامج "شريك" ، وأو برنامج للشراكة مع القطاع الخاص يستهدف رفع مساهمة القطاع في اقتصاد المملكة إلى 65 % بحلول 2030، ويتضمن ضخ 27 ترليون ريال حتى ذلك العام . وتسعى الشركة للاستفادة من ملاءة الشركة المالية لدعم أهداف برنامج "شريك" والاستثمار في الفرص الاستثمارية المحلية الواعدة .

انطلاق شعلة الفرن الرابع في معمل إسمنت طرطوس بعد الانتهاء من عمليات الصيانة التي تمت بخبرات وطنية

انطلقت شعلة الفرن الرابع في معمل إسمنت طرطوس مع تأكيد لوحة التشغيل على الاستمرارية . وأعلنت الشركة في بيان لها نجاح عمليات الصيانة التي أنجزها العمال ووفروا من خلالها مبالغ كبيرة .

المصدر: www.pministry.gov.sy

جمهورية العراق

شركة لوكي الباكستانية للإسمنت تبدأ الإنتاج في معمل السماوة بطاقة 1.2 مليون طن سنوياً

أعلنت شركة لوكي الباكستانية للإسمنت المحدودة بدء الإنتاج التجاري في منشأة إنتاج الإسمنت الجديدة في السماوة بطاقة تبلغ 1.2 مليون طن سنوياً .

ومنشأة إنتاج الإسمنت المذكورة هي مشروع مشترك مع مجموعة الشموخ العراقية حيث بلغت مجمل الطاقة الإنتاجية للشركة الباكستانية في العراق من مادة الإسمنت 2.94 مليون طن من الإسمنت سنوياً . ولدى الشركة مشروعان في العراق هما معمل طحن الإسمنت في البصرة بطاقة إنتاجية تبلغ 1.74 مليون طن سنوياً بالإضافة الى المشروع الحالي في مدينة السماوة .

المصدر: www.almaalomah.org

معمل سمنت بادوش التوسيع يتجاوز مخطط الإنتاج والمبيعات في أبريل / نيسان الماضي

أكدت الشركة العامة للسمنت العراقية أن معمل سمنت بادوش التوسيع التابع لها والواقع في محافظة نينوى تجاوز كميات الإنتاج والمبيعات المخطط لها في شهر أبريل / نيسان الماضي .

وقد حقق معمل سمنت بادوش التوسيع نسبة تجاوزت الـ 100 % من المخطط الإنتاجي للشهر المذكور بإنتاج بلغ 61,562 ألف طن رغم ظروف تفشي جائحة كورونا ، حيث حقق معمل سمنت بادوش التوسيع أيضاً نسبة تطور بلغت 44 % في الربع الأول من العام الحالي مقارنة بذات الفترة من العام الماضي من حيث كميات الإنتاج والمبيعات .

سلطنة عُمان

إسمنت عُمان توقف مشروعها في الدقم مؤقتاً وتوسع طاقتها بالمسفاة

أعلنت شركة إسمنت عُمان أنها أوقفت مؤقتاً خطط تطوير مشروع إنشاء مصنع الإسمنت في المنطقة الاقتصادية الخاصة بالدقم بانتظار تأكيد توفر الوقود للمشروع الذي يقدر بنحو 250 مليون دولار .

يأتي هذا الإعلان أيضاً وسط تحركات تقوم بها شركة إسمنت عُمان لتوسيع طاقة مصنعها الرئيسي في المسفاة بالقرب من مسقط ، وتم تعليق قرار الشركة بإنشاء مصنع جديد للإسمنت في الدقم

وكانت إسمنت ينبع قد تقدمت بملف تخفيض رأس المال إلى هيئة السوق المالية السعودية ، بعد توصية مجلس إدارتها في يناير / كانون الثاني 2021 ، بتخفيض رأسمال الشركة بنسبة 36.5 % ، ليبلغ رأس المال بعد التخفيض نحو مليار ريال بدلاً من 1.575 مليار ريال . وقالت إسمنت ينبع إن سبب تخفيض رأس المال هو زيادة رأس المال عن الحاجة .

المصدر: www.alarabiya.net

الجمهورية العربية السورية

إنتاج المؤسسة العامة للإسمنت ومواد البناء

أكد مدير عام المؤسسة العامة للإسمنت ومواد البناء أن أعمال تأهيل الفرن الثالث في شركة إسمنت طرطوس بدأت بعد الانتهاء من الفرن الرابع ودخوله الإنتاج وأخذت تتواتر كميات التسليمات التي وصلت إلى 2200 طن يومياً ، متوقعاً الانتهاء من تأهيل الفرن الثالث نهاية شهر أغسطس / آب القادم ودخوله الإنتاج ليصل إنتاج الشركة إلى 3 آلاف طن يومياً . وكانت الشركة خاسرة في العام الماضي بنحو 2.9 مليار ليرة سورية ، لكن الشركة أطفأت الخسارة وأصبحت رابحة خلال الربع الأول من العام الحالي 1.6 مليار ليرة ، وستحسن الربحية مع دخول باقي أفران الشركة في الإنتاج ، ووضع الشركة مستقر ويتطور مستمر .

وهناك تطور في إنتاجية الشركة السورية للإسمنت بحماه وفي مبيعاتها التي وصلت لنهاية مايو / أيار الماضي نحو 50 مليار ليرة ناتجة عن بيع أكثر من 440 ألف طن ، وتجاوزت أرباح الشركة خلال الربع الأول نحو 9 مليارات ليرة بينما كانت الربحية عن كامل العام الماضي 9 مليارات ليرة ، حيث أن هناك بعض مواد البناء مثل البلوك والمواد المقلعة التي حققت ريعية جيدة للشركة .

أما شركة إسمنت عدرا فنتجت ما بين 2500 إلى 3 آلاف طن يومياً وهناك بعض الانحرافات الناتجة عن الصيانات الطارئة يتم السيطرة عليها ومعالجتها على وجه السرعة . وكانت الشركة خاسرة بنحو 1.7 مليار ليرة في العام الماضي وفي نهاية الشهر الرابع من العام الجاري أطفأت الشركة خسارتها وانخفضت إلى 110 مليون ليرة ، ويتوقع أن تنتقل الشركة مع نهاية الربع الثاني من العام الجاري من الخسارة إلى الربح .

وبالإطار العام تجاوز إنتاج المؤسسة العامة للإسمنت ومواد البناء 11 ألف طن يومياً في معامل حماه وطرطوس والرسن



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وكانت شركة سند للموارد الإنشائية قد وقعت اتفاقية شراكة استراتيجية مع شركة الاتحاد الخمسة للتطوير والاستثمار من مجموعة عيسى خوري لصناعات التعدين والإنشاءات وشركة أسواق الاستثمارية من خلال شركة المشروع ، شركة أريحا لصناعة الإسمنت ، لإنشاء أول مطحنة إسمنت فلسطينية .

المصدر: <https://shuoon.om/>

وتبلغ التكلفة التقديرية لإنشاء مطحنة الإسمنت ، نحو 85 مليون دولار أمريكي ، فيما ستكون قادرة على إنتاج قرابة 1.13 مليون طن من الإسمنت سنوياً ، ما يشكل حوالي 50 % من حجم الطلب المحلي على هذه السلعة الاستراتيجية .

المصدر: www.maannnews.net

دولة قطر

قطر تشهد نمواً سنوياً في إنتاج الإسمنت

شهدت قطر نمواً قوياً على أساس سنوي في إنتاج الإسمنت والمطاط والبلاستيك وسط تباطؤ في قطاع التصنيع بشكل عام في فبراير / شباط 2021 .

وشهد مؤشر التصنيع انكماشاً بنسبة 4 % على أساس سنوي في فبراير / شباط 2021 على الرغم من زيادة إنتاج الإسمنت والمنتجات غير المعدنية الأخرى بنسبة 16.6 % ، و 10.7 % في منتجات المطاط والبلاستيك و 5.3 % في المنتجات البترولية المكررة .

المصدر: Gulf Times

سيكا توسع طاقتها الإنتاجية في مصنع الدوحة لمضافات الخرسانة وسعت شركة سيكا السويسرية من طاقتها الإنتاجية لمضافات الخرسانة في مصنعها في الدوحة . كما أعلنت الشركة عن بدء إنتاج راتنجات الأيبوكسي في البلاد .

المصدر: Global Cement

الجمهورية اللبنانية

شركة التراب الوطنية: سنتوقف عن تسليم مادة الإسمنت

أصدرت شركة التراب الوطنية بياناً جاء فيه: "بعد نفاذ ما تبقى لديها من مخزون ، والذي سلمته بالكامل مباشرة إلى المستهلك اللبناني ، تعلن شركة التراب الوطنية - إسمنت السبع ، بأنها ستتوقف أسفة عن تسليم مادة الإسمنت إلى السوق اللبناني ، وسيكون يوم السبت في 6 مارس/ آذار 2021 آخر يوم تسليم" .

ولفتت إلى أن "هذا القرار الخارج عن إرادتنا يأتي بعد توقف العمل في مقالع الشركة إنفاذاً للقرارات الصادرة عن الوزارات والهيئات الحكومية المعنية ما أدى إلى نفاذ المواد الأولية الضرورية للإنتاج بالكامل" .

وأشارت إلى أن "هذا القرار يأتي في وقت عصيب وحساس يحتاج فيه البلد إلى كل طاقة إنتاجية أو صناعية ، خصوصاً من شركة بحجم وعراقية شركة التراب الوطنية التي تأسست في العام 1953 ، وما تمثله من ثقل ودعم للاقتصاد الوطني مع تأمينها أكثر من 700 فرصة عمل مباشرة وما يقارب الـ 3500 وظيفة غير مباشرة على مساحة الوطن" .

المصدر: الوكالة الوطنية للإعلام

بطاقة 5000 طن في اليوم من الكلنكر ريثما يتم تأكيد توفر الوقود وقرارها الاستراتيجي بتوسيع طاقة المصنع الحالي في مسقط ، حسب ما ذكر في تقرير مجلس الإدارة للشركة للربع الأول من 2021 .

المصدر: <https://shuoon.om/>

ريسوت للإسمنت تحصل على شهادتي CE و NF لتطبيق منتجاتها مع المعايير الأوروبية واستعدادها للتصدير إلى دول الاتحاد الأوروبي

حصلت شركة ريسوت للإسمنت ، أكبر شركة مصنعة للإسمنت في سلطنة عُمان ، على شهادتي CE و NF ، وتعتبر هاتان الشهادتان معياراً وضمناً عالمياً للالتزام الشركة بمعايير الاتحاد الأوروبي (EU) في إنتاج الإسمنت .

ويأتي حصول شركة ريسوت للإسمنت على هذه الشهادات في إطار توسعها السريع لصادراتها إلى أسواق جديدة في جميع أنحاء العالم ، علماً بأن 50 % من إنتاج الشركة الحالي يتم تصديره إلى أسواق شرق أفريقيا ، الهند ، جزر المالديف ، جنوب إفريقيا وجزر المحيط الهندي .

تجدر الإشارة بأن شهادة CE والمعروفة بشهادة EC سابقاً ، هي شهادة تسمح ببيع منتجات إسمنتية معينة داخل المنطقة الاقتصادية الأوروبية (EEA) منذ عام 1985 ، كذلك شهادة NF الصادرة من كيان AFNOR هي شهادة امتثال فرنسية تحمل معايير السلامة ، الجودة والأداء .

كما تدرس شركة ريسوت للإسمنت أيضاً إنشاء وحدة طحن في مدغشقر وذلك للاستفادة من معدل النمو السنوي المقدر بنسبة 7-8 % في سوق مدغشقر حيث تمتلك مجموعة شركة ريسوت للإسمنت قدرة إنتاجية حالية تبلغ 6 ملايين طن متري من الإسمنت ومن المقرر أن تزيد إلى 10 ملايين بحلول عام 2022 وفي المستقبل القريب إلى 22 مليون طن .

المصدر: alerada.net

دولة فلسطين

شركة أريحا لصناعة الإسمنت توقع اتفاقية مع FLSmidth

وقعت شركة أريحا لصناعة الإسمنت مع الشركة الدنماركية FLSmidth A/S اتفاقية توريد المعدات لمشروع مطحنة الإسمنت بقيمة تقارب الـ 16 مليون دولار أمريكي ، ما يشكل الخطوة الأولى في عملية تصنيع مكونات المطحنة واستيرادها فيما سيتم تفعيل عقد آخر لتوريد سائلووات إضافية بعدد 2 من شركة أخرى في إيطاليا .

محلياً ، سيستكمل التعاقد مع عديد من الشركات لتصنيع ما يمكن تصنيعه محلياً فيما سترم عقود التركيب والتشغيل للمعدات واستكمال البنى التحتية الضرورية لعمل المشرع من خلال عقود سيتم توقيعها تباعاً وبحسب جدول زمني أعد لتنفيذ المشروع وإخراجه لحيز الوجود .

وبعد شراء أرض المشروع البالغ مساحتها 239 دونم وخط التعبئة والتغليف من المتوقع أن تنتهي الأعمال الإنشائية للمطحنة خلال العام القادم وذلك بعد انتهاء مرحلة إعداد التصاميم الهندسية والبنية التحتية في موقع المطحنة ، تمهيداً لتوريد المعدات وتركيبها وتدريب طواقم العمل والتشغيل التجريبي ثم التجاري .

لافارج مصر تضخ 100 مليون جنيه لتصنيع منتجات الإسمنت الأخضر

كشفت لافارج مصر عن استثمار نحو 100 مليون جنيه لتأهيل خطوط الإنتاج لتصنيع الإسمنت الأخضر والذي يتسم بتقليل الانبعاثات الضارة .

وكانت الحكومة المصرية قد بدأت منذ سنوات بالاهتمام بتقليل الانبعاثات البيئية في قطاع الصناعة كماً ، وهو ما دفع لافارج للاستثمار في أنشطة المخلفات والطاقة الشمسية ، بهدف تشغيل المصانع ، كما أنه في حالة تطبيق تلك المنظومة في مختلف المصانع المصرية سيؤدي ذلك لتقليل الانبعاثات البيئية بنحو 30 % وصولاً إلى نسبة 0 % بحلول عام 2030 .

المصدر: www.almalnews.com

الحكومة تقترح على شركات الإسمنت خفض الإنتاج 10 % لتخفيف تخمة المعروض

ذكر أن الحكومة المصرية اقترحت أن تخفض شركات الإسمنت إنتاجها بنسبة 10 % على الأقل لدعم الموارد المالية التي أضربها بشدة وفرة المعروض في سوق أخذة في الاتساع .

وارتفعت الطاقة الإنتاجية للإسمنت المصري إلى ما بين 85 و 87 مليون طن سنوياً على مدى السنوات الثلاث الماضية ، بعد افتتاح مصنع بني سويف ، بطاقة 13 مليون طن سنوياً ، في ظل انخفاض المبيعات إلى أقل من نصف هذا المستوى .

وبموجب الصيغة التي جرى اقتراحها ، فإن كل صانع إسمنت سيخفض الإنتاج بمقدار أساسي يبلغ 10.52 % .

وصناعة الإسمنت في مصر هي إحدى المحركات الرئيسية لصناعة التشييد ومواد البناء ، حيث تسهم صناعة الإسمنت وحدها بحوالي 1 % من إجمالي الناتج المحلي ، ونحو 10 % من الإنتاج القومي للصناعة المصرية . وتراجعت مبيعات الإسمنت السنوية إلى 41.7 مليون طن في 2020 من 43.8 مليون في 2019 ، فيما بلغت المبيعات 49.5 مليون طن في 2017 ، وهو العام الأخير قبل تشغيل مصنع بني سويف ، بينما تضررت مبيعات العام الماضي من جائحة فيروس كورونا .

وارتفعت صادرات الإسمنت خلال العام الماضي بنسبة 13 % عن 2019 ، لتصل إلى 175 مليون دولار ، وفقاً لأحدث التقارير الصادرة عن المجلس التصديري لمواد البناء .

المصدر: www.shorouknews.com

المملكة المغربية

المصنع الجديد لافارج هولسيم أكادير سوس

أعلنت لافارج هولسيم أكادير سوس عن مصنعها الجديد الذي سيتم تشغيله في يوليو / تموز 2021 ، حيث ستصل طاقته الإنتاجية السنوية إلى 1.6 مليون طن من الإسمنت . وسيتم تزويد مصنع الإسمنت أكادير سوس ماسة ابتداءً من سنة 2023 بالكهرباء المولدة بالطاقة الريحية . كما أن 15 % من الاستثمارات مخصصة لحماية البيئة .

المصدر: <http://www.mapexpress.ma>

صناعة الإسمنت تشهد أعلى مبيعات خلال شهر مارس / آذار

تحسنت مبيعات صناعة الإسمنت في مصر خلال مارس / آذار الماضي ، حيث سجلت مؤشرات إرسال الصناعة أهد أعلى معدلات التشغيل الشهرية في السنوات الأخيرة . حيث سجل إجمالي المبيعات 4.99 مليون طن (بما في ذلك الصادرات) خلال شهر مارس / آذار ، بزيادة 22 % على أساس شهري و 15 % على أساس سنوي ، وهو الأعلى منذ سنوات .

وقفزت نسبة الاستغلال الإجمالي للصناعة إلى 74 % مقارنة بـ 0 % في فبراير / شباط ، بارتفاع كبير مقابل متوسط 59 % المسجل في عام 2020 . وبلغ فائض الطاقة الفائضة 26 % ، وهو الأدنى منذ 2018 .

وسجلت الشركة الوطنية للإسمنت (بني سويف) أعلى مبيعات بلغت 990 ألف طن بحصة سوقية بلغت 20 % . وسجلت شركة إسمنت سيناء أقوى نمو مع تحسن المبيعات بنسبة 51 % مقارنة بالشهر السابق و 72 % على أساس سنوي .

وعلى الرغم من أن أحد خطوط إنتاج الشركة العربية للإسمنت لم يكن يعمل خلال معظم شهر مارس / آذار ، إلا أن الحجم شهد تحسناً بنسبة 39 % على أساس شهري ، ولكنها سجلت انخفاضاً نسبته 41 % على أساس سنوي .

أما شركة مصر بني سويف للإسمنت فقد سجلت مبيعات 115 ألف طن ، بانخفاض 8 % على أساس شهري و 47 % على أساس سنوي ، بينما بلغت مبيعات شركة مصر للإسمنت (قنا) 343 ألف طن ، بانخفاض 5 % شهرياً و 14 % على أساس سنوي .

المصدر: Daily News Egypt

اقتصادية قناة السويس: شحن 4700 طن إسمنت أبيض وتصديره إلى روسيا الاتحادية

أعلنت المنطقة الاقتصادية لقناة السويس عن استمرار عمليات تصدير الإسمنت الأبيض إلى الأسواق الخارجية عبر ميناء العريش البحري حيث تم استقبال السفينة الروسية ZERNO GRAD وذلك لشحن 4700 طن إسمنت أبيض إلى روسيا الاتحادية .

وهذه السفينة تعتبر العاشرة من نوعها لتصدير الإسمنت الأبيض إلى السوق الخارجية ليصبح إجمالي ما تم تصديره من الإسمنت الأبيض عبر ميناء العريش 44 ألف طن بواقع شحن 5 سفن إلى روسيا بإجمالي حمولات 24 ألف طن وشحن 3 سفن للبنان بإجمالي 11 ألف طن وشحن سفينة لليونان بحموله 3300 طن وشحن سفينة للمغرب بحموله 6 آلاف طن .

الجدير بالذكر أن ميناء العريش التابع للمنطقة الاقتصادية يشهد عمليات تطوير للحوض الأول ، ما بين إنشاء أرصفة جديدة وساحات للتداول وأعمال مدنية للأسوار والبوابات الجديدة وطرق رئيسية وأعمال تكريك للممر الملاحي وحوض الميناء ودائرة الدوران وزيادة الغاطس أمام الأرصفة وكذلك استكمال بناء حاجز الأمواج الحالي وبناء حواجز جديدة .

المصدر: www.masrallyoum.net

الإسمنت ذو النسبة المنخفضة من الكربون

إعداد م. رئيس مهندسين صباح أحمد محمود

اجتذبت الخرسانة منخفضة الكربون اهتماماً كبيراً بسبب كمية ثاني أكسيد الكربون التي تنبعث منها الخرسانة التقليدية . ومن الواضح أن الإسمنت له أكبر مساهمة في انبعاثات ثاني أكسيد الكربون بنسبة 75 % من إجمالي انبعاثات ثاني أكسيد الكربون بواسطة الخرسانة ، والركام هو المساهم الأكبر التالي بنسبة تقل عن 20 % . كما يرجع ثاني أكسيد الكربون المنبعث من الركام بشكل أساسي إلى الكهرباء ويمتد بشكل أقل بسبب أعمال الحفر والنقل والتفجير والنقل .

يعتبر إنتاج الإسمنت والخرسانة من أكثر الصناعات تلويثاً . من الصعب إزالة الكربون من إنتاج الإسمنت نظراً لأن أكثر من نصف انبعاثات ثاني أكسيد الكربون مرتبطة بالعملية . ومع ذلك، فهي تمثل 5-8 % من إجمالي انبعاثات ثاني أكسيد الكربون البشرية المنشأ . ويتم التحقيق في مواد وتقنيات جديدة لتقليل انبعاثات ثاني أكسيد الكربون لهذه الصناعة . ويشمل ذلك استخدام المواد المعاد تدويرها والإسمنت البديل والملاط والخرسانة ذات انبعاثات ثاني أكسيد الكربون المنخفضة .

فضلاً عن التقنيات والمواد اللازمة لعزل الكربون . ومع ذلك ، لا يزال من المتصور أن الإسمنت التقليدي القائم في بورتلاند سوف يهيمن على الاستخدام في البناء في السنوات والعقود القادمة . حيث قام الباحثون بمحاولات عديدة لإنتاج الخرسانة بأقل انبعاثات ممكنة من ثاني أكسيد الكربون . هذا لا يجعل الخرسانة أكثر ملاءمة للبيئة فحسب ، بل يصنع أيضاً هياكل لتلبية المتطلبات فيما يتعلق بالموصفات البيئية .

يبدأ إنتاج الخرسانة منخفضة الكربون من مقلع المواد الخام لإنتاج الإسمنت وإنتاج الخرسانة . هناك تقنيات معينة يمكن من خلالها تقليل كمية معينة من انبعاثات الكربون ، على سبيل المثال استخدام مواد استبدال الإسمنت مثل الرماد المتطاير ودخان السيليكا وخبث الأفران العالية الحبيبية .

معالجة الخرسانة بثاني أكسيد الكربون:

يمكن استخدام ثاني أكسيد الكربون لتقليل التأثير البيئي الضار للخرسانة . يستخدم ثاني أكسيد الكربون لتفعيل القوة المبكرة ، وفي نفس الوقت يتم عزل ثاني أكسيد الكربون في الخرسانة . كما ينتج عن تفاعل الكربنة بين ثاني أكسيد الكربون ومركبات الكالسيوم المناسبة تثبيثاً دائماً لثاني أكسيد الكربون في كربونات الكالسيوم المستقرة ديناميكياً .

مزايا الخرسانة منخفضة الكربون:

1. خفض انبعاث الكربون بنسبة تصل إلى 75 % مقارنة بالمنتجات التقليدية قوة متسارعة مبكرة .
2. متانة محسنة بسبب تكوين بلورات النانو كربونات الكالسيوم .
3. إسمنت منخفض وطاقة انضغاطية منخفضة .
4. يمكن استبدال البخار بثاني أكسيد الكربون .

دليل اختيار مروحة صناعية تناسب ناقل هوائي ذو أبعاد معينة.

إن النواقل الهوائية (air slide conveyors) وتسمى أيضاً بنظام نقل المواد بالجاذبية بمساعدة الهواء هي من أكفأ الأنظمة لنقل المواد المطحونة والمسحوقة كالسمنت والمواد الأولية حيث تتصف بالميزات التالية: متطلبات طاقة قليلة ميكانيكية أو كهربائية ، متطلبات صيانة قليلة ، تنقل مواد بكميات كبيرة ، تأخذ مساحة عمل قليلة ، ضوضاء قليلة .

هناك نوعان من الجريان في الناقل الهوائي : جريان المواد المراد نقلها أعلى القماش (membrane) وجريان الهواء ذو الضغط القليل نسبياً (باعتباره أقل من الضغط الجوي) أسفل القماش والذي هو موضع اهتمامنا.

إن مقدار ضغط الهواء الداخل إلى القناة الهوائية في الناقل يعتمد على سمك طبقة المواد المنقولة فوق القماش حيث كلما زاد سمك الطبقة كلما استلزم ضغطاً أعلى (وهنا نقصد ضغطاً نسبياً أعلى لأنه أقل من الضغط الجوي) ، أما معدل جريان الهواء فيعتمد بصورة أساسية على طول وعرض الناقل وطبيعة المواد المنقولة

إن الدافع وراء هذه الدراسة هو عدم وجود معرفة حقيقية لدى العاملين في مجال صناعة السمنت بنوع المراوح الدافعة والمزودة للناقل بالهواء وبمقدار الضغط اللازم وكمية التصريف المناسبة ، وفيما يلي دراسة لكيفية اختيار مروحة دافعة (blower fan) لناقل هوائي ذي أبعاد معينة :

كثافة السمنت القياسية هي : 1.4 ton/m^3

*الضغط اللازم لنقل كتلة من السمنت في ناقل هوائي هو كمعدل : $700 \text{ mmWG or } 70 \text{ mbar}$

*الضغط اللازم لنقل كتلة من المواد الأولية هو كمعدل : $550 \text{ mmWG or } 55 \text{ mbar}$

*مقدار نفاذية الهواء (لكل متر مربع) من قماش الناقل الهوائي هي : $1.5 \text{ m}^3/\text{min}$

ولذلك فإن كان لدينا ناقل طوله 9m وعرضه 30cm فإن معدل جريان الهواء من خلال مسامات القماش سيكون : $1.5 \text{ m}^3/\text{min} \cdot \text{m}^2 \times (9 \text{ m} \times 0.3 \text{ m}) = 4.05 \text{ m}^3/\text{min}$

ومن ثم تضرب القيمة أعلاه بمعامل الأمان الذي قيمته 2 ، وذلك لوجود مشاكل تشغيلية تواجه نقل المواد ومنها ترطب المواد والناقل في فصل الشتاء أو تقادم قماش الناقل أو عدم ترشيح الهواء الداخل للمروحة ، وبذلك سيكون أقل معدل تصريف للهواء اللازم للمروحة : $4.05 \times 2 = 8.1 \text{ m}^3/\text{min}$

*إذن ستكون مواصفات المروحة التي سنختارها للناقل الذي ينقل سمنت هي :

- ضغط المروحة = 700 mmWG

- معدل تصريف الهواء = $8.1 \text{ m}^3/\text{min} = 486 \text{ m}^3/\text{hr}$

علماً أن معدل انخفاض الضغط لكل متر مربع من الناقل الهوائي هو : 100 mmWG وبذلك فإن انخفاض الضغط في الناقل أعلاه بطول 9m سيكون : 270 mmWG ولتلافي انخفاض الضغط نضع منفذاً آخر للهواء في منتصف الناقل .

نشاطات عربية

ورشة العمل العربية حول إعادة تدوير المخلفات ومعالجة النفايات الصناعية واستخدام التكنولوجيا الأنظف في الصناعة
المكان: عن طريق الانترنت

التاريخ: 20 - 22 يونيو / حزيران 2021

الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتقييس والتعدين - المكتب الإقليمي ، بالتعاون مع المنظمة العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل عبر:

هاتف: (+202) 23807565 / (+202) 23583990 فاكس: (+202) 23803880

بريد إلكتروني: roc@aidsmo.org موقع إنترنت: www.aidsmo.org/roc

ورشة العمل العربية حول نظام إدارة استمرارية الأعمال في المؤسسات الصناعية طبقاً لمتطلبات المواصفة القياسية
الدولية ISO 22301:2019

المكان: عن طريق الانترنت

التاريخ: 04 - 06 يوليو / تموز 2021

الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتقييس والتعدين - المكتب الإقليمي ، بالتعاون مع المنظمة العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل عبر:

هاتف: (+202) 23807565 / (+202) 23583990 فاكس: (+202) 23803880

بريد إلكتروني: roc@aidsmo.org موقع إنترنت: www.aidsmo.org/roc

المؤتمر الثالث لتكنولوجيا صناعة الإسمنت للعام 2021

المكان: فندق الشام / دمشق - الجمهورية العربية السورية

التاريخ: 26 - 28 يوليو / تموز 2021

الجهة المنظمة: مجموعة سيم تك

لمزيد من المعلومات يرجى التواصل عبر:

بريد إلكتروني: info@cementtechco.net موقع إنترنت: www.cementtechco.net

ورشة العمل العربية حول تطبيق نظم الإدارة الرشيقة Lean Management لضمان تحسين الأداء بالمؤسسات

المكان: عن طريق الانترنت

التاريخ: 01 - 03 أغسطس / آب 2021

الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتقييس والتعدين - المكتب الإقليمي

للحصول على كافة التفاصيل يرجى التواصل عبر:

هاتف: (+202) 23807565 / (+202) 23583990 فاكس: (+202) 23803880

بريد إلكتروني: roc@aidsmo.org موقع إنترنت: www.aidsmo.org/roc

ورشة العمل العربية حول مبادئ وممارسات الذكاء الاصطناعي ودورها في تحسين عملية اتخاذ القرارات وإدارة الشركات
على مستوى الإدارات العليا والمتوسطة

المكان: عن طريق الانترنت

التاريخ: 15 - 17 أغسطس / آب 2021

الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتقييس والتعدين - المكتب الإقليمي ، بالتعاون مع المنظمة العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل عبر:

هاتف: (+202) 23807565 / (+202) 23583990 فاكس: (+202) 23803880

بريد إلكتروني: roc@aidsmo.org موقع إنترنت: www.aidsmo.org/roc

ورشة العمل العربية حول كيفية إعداد دراسات الجدوى المتكاملة للمشروعات الصناعية الجديدة في العالم العربي
المكان: عن طريق الانترنت
التاريخ: 05 - 07 سبتمبر / أيلول 2021
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتقييس والتعدين - المكتب الإقليمي ، بالتعاون مع المنظمة العربية للتنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل عبر:
هاتف: (+202) 23807565 / (+202) 23583990 فاكس: (+202) 23803880
بريد إلكتروني: roc@aidsmo.org موقع إنترنت: www.aidsmo.org/roc

المعرض التجاري الإفريقي – الدورة الثانية IATF
المكان: كيجالي ، جمهورية رواندا
التاريخ: 06 - 12 سبتمبر / أيلول 2021
الجهة المنظمة: شركة ريد للمعارض REED Exhibition تحت رعاية البنك الإفريقي للتصدير والاستيراد AFREXIMBANK بالتعاون مع لاتحاد الإفريقي (AU) وجمهورية رواندا
للحصول على كافة التفاصيل يرجى التواصل مع الاتحاد العربي لتنمية الصادرات الصناعية
هاتف: (+202) 22752189 / (+202) 22734950 فاكس: (+202) 22754312 / (+202) 22734950
بريد إلكتروني: auied@auied.com موقع الإنترنت: www.auied.com

معرض Egypt Projects
المكان: مركز مصر للمعارض الدولية ، القاهرة ، جمهورية مصر العربية
التاريخ: 30 سبتمبر / أيلول - 05 ديسمبر / كانون الأول 2021
للحصول على كافة التفاصيل يرجى التواصل مع السيد عمرو حسن:
موبايل: 00201009069609
هاتف: (+202)26774263 فاكس: (+202)26774252
بريد إلكتروني: amr@arabiangerman.com موقع إنترنت: www.Egypt-projects.com

الصالون الدولي الثالث والعشرون للبناء ومواد البناء والأشغال العمومية
المكان: قصر المؤتمرات ، الجزائر
التاريخ: 07 - 11 نوفمبر / تشرين الثاني 2021
الجهة المنظمة: BATIMATEC EXPO SPA
هاتف / فاكس: +21323354562 / +21323354561 / +21323354560 / +21323354555
بريد إلكتروني: batimatec.expo@gmail.com موقع إنترنت: www.batimatecexpo.com

المؤتمر والمعرض العربي الدولي للصناعات الصغيرة والمتوسطة
المكان: قصر المعارض ، الجزائر
التاريخ: 04 - 06 ديسمبر / كانون الأول 2021
الجهة المنظمة: الاتحاد العربي لتنمية الصادرات الصناعية (AUIED) والشركة العامة للمعارض والتصدير الجزائرية (SAFEX)
بريد إلكتروني: auied@auied.com / aeldib@outlook.com
موقع إنترنت: www.auied.com

دورات تدريبية عربية

تصميم مؤشرات قياس الأداء (KPI's) كأساس لتقييم وتطوير الأداء المؤسسي

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

مهارات اكتشاف الغش والتزوير في المعاملات المالية

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

الشراء الدولي

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

تخطيط وتنمية القوى العاملة

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

دور السكرتارية في تحسين صورة المنظمات

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

الأساليب الحديثة في التخطيط المالي وإعداد الموازنات

المكان: اسطنبول ، الجمهورية التركية

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

دورات تدريبية عربية

استراتيجيات وخطط التسويق Marketing Strategies and Plans

المكان: دبي / القاهرة

التاريخ: 20 - 24 يونيو / حزيران 2021

الجهة المنظمة: الدار العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع: نائب مدير التدريب: أ / سارة عبد الجواد

موبايل واتس اب: +201062992510 / +201096841626

هاتف: +20237800583 / +20237800693

فاكس: +20235866323 / +20237800573

موقع الإنترنت: www.Ahadhr.org بريد إلكتروني: saragwadi@gmail.com

مهارات مدير المكتب والسكرتير التنفيذي

Skills of Office Manager and Executive Secretary

المكان: دبي / القاهرة

التاريخ: 27 - 30 يونيو / حزيران 2021

الجهة المنظمة: الدار العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع: نائب مدير التدريب: أ / سارة عبد الجواد

موبايل واتس اب: +201062992510 / +201096841626

هاتف: (+202)37800583 / (+202)37800693

فاكس: (+202)35866323 / (+202)37800573

موقع الإنترنت: www.Ahadhr.org بريد إلكتروني: saragwadi@gmail.com

الأبعاد المتكاملة في إدارة المخازن ومراقبة المخزون

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 8 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

نظام إدارة الصحة والسلامة الوقائية حسب المواصفة (ISO 45001:2018)

المكان: دبي / القاهرة

التاريخ: 4 - 8 يوليو / تموز 2021

الجهة المنظمة: الدار العربية للتنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع: نائب مدير التدريب: أ / سارة عبد الجواد

موبايل واتس اب: +201062992510 / +201096841626

هاتف: +20237800583 / +20237800693

فاكس: +20235866323 / +20237800573

موقع الإنترنت: www.Ahadhr.org بريد إلكتروني: saragwadi@gmail.com

الهوية الذكية والتوقيع الإلكتروني

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 13 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

دورات تدريبية عربية

التميز الإداري والإبداع المؤسسي

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 13 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

بناء وإدارة المواقع الإلكترونية للمكاتب ومراكز المعلومات

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 13 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

إدارة الأصول والخصوم

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 8 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

تطوير أداء الإدارات الوسطى

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 8 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

الرقابة المالية في الوحدات الحكومية

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 13 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com

استخدام الحاسب الآلي في أعمال إدارة المكاتب والسكرتارية

المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 4 - 8 يوليو / تموز 2021

الجهة المنظمة: معهد التنمية الإدارية

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

جوال واتساب وفايبر: 00201091780140 بريد إلكتروني: Training@iadmena.com