



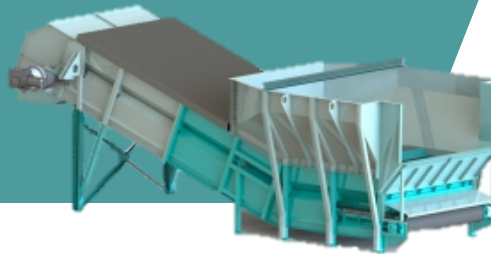
CEMENT & BUILDING MATERIALS REVIEW

Published by : Arab Union for Cement and Building Materials No.81 September 2020

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Cement Production using Alternative Fuels

- » Receiving
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Arab Album

International News

New Products

Technical Articles

Diary Dates

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- *The Magazine editorial staff welcome the contribution of experts to enrich the contents of the magazine .*
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Contents

Arab News

International News

New Products and Media

Articles:

- **Technical Information on a New Accelerated Compressive Strength Test Method for Cement and Fresh Mixed Concrete**
By: CST Instruments Ltd., United Kingdom
- **Effects of Storage Duration and Silo Conditions on Flowability and Time Consolidation of Alternative Fuels**
By: Prof. Dr. Dominik Aufderheide, South Westphalia University of Applied Sciences, Germany and Dr.-Ing. Luigi Di Matteo, DI MATTEO Group, Germany
- **Chemical Additives to Improve Cement Quality and Increase Production**
By: Eng. Abbass Abdulkareem Abbass, Northern Cement State Company, Iraq
- **Remote Plant Optimisation**
By: JAMCEM Consulting, United Kingdom
- **Production of Active Belite Cement by Using Colemanite Boron Ores**
By: Serkan Türk, Turkish Cement Manufacturers' Association, Turkey

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

EDITORIAL SCHEDULE 2020

ISSUE	THEMES	EVENTS
December 2020	<ul style="list-style-type: none">- Lubrication Systems- Maintenance in Cement Plants- Repair and welding techniques- Spare-parts Management- Vertical Mills- Crushers- Coolers- Burner Technology- Refractories & testing of refractories- Interview	

Deadline for receiving articles, press releases, or advert materials for December 2020 Edition is **4th December 2020**

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Half Page (Colored)	450	550	650	750
Quarter Page (Colored)	300	350	400	450
Full Page (B/W)	300	350	400	450

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- *Arab News*
- *International News*
- *Technical Articles*
- *New Products*
- *Diary Dates*
- أخبار عربية
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- مقالات تقنية
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Arab News

EGYPT

Alexandria Portland Cement submits voluntary delisting request

Alexandria Portland Cement has submitted a request to delist its shares from the Egyptian Exchange in accordance with the extraordinary general meeting's decision.

The request will be referred to the listing committee and the company will purchase shares of those negatively affected by the voluntarily delisting. The company is seeking to delist its 458.02 million shares valued at EGP 6.3 apiece.

[Mubasher](#)

Egypt's cement industry requires support from local government

Egypt's cement industry is facing a large production surplus of more than 30m tonnes annually. At the same time, there has been a consecutive decrease in market demand for the last four years, between 2016 and 2020.

Cement market demand has further decreased in 2020 by 4.1% against last year, with more products entering the market in the meantime. Cement prices are also unable to cover the costs of production, which has led to large-scale financial losses for many companies.

IRAQ

Minister of Industry opens a new cement production line in Badoosh

On 3rd September, the Iraqi Minister of Industry opened cement production at the new Badoosh plant, within the Badoosh cement complex in Nineveh Governorate, affiliated to the Iraqi Cement State Company after it had been stopped 15 years ago. The line was rehabilitated and operated within 5 months and at a capacity of 1000 tpd, raising the total capacity of Badoosh cement complex to around 5,500 to 6,000tpd.

This line will enhance the capacities of the company and the factory of high-quality cement to support construction and reconstruction projects in the province and meet local demands. Efforts will continue to rehabilitate all existing lines to increase cement production capacities in Iraq.

Cement plant in Iraq begins commercial operations

The government of Iraq announced that the Al-Kaytan Falcon cement plant in Basra has officially started its commercial operations. The plant has a production capacity of one million tons per year.

The plant is a joint venture between Attock Cement Pakistan and Al Geetan Commercial Agencies. Attock owns the Falcon cement brand, which began commercial production with effect in September 2019.

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Turkey's cement export to Iraq drops

The export of cement from Turkey to Iraq dropped by 11.60% from January through May 2020 compared to the same period of 2019, amounting \$37.3 million. Turkey's export of cement to Iraq decreased by 5.79% in May 2020 compared to May 2019 and amounted to \$9.7 million.

[Menafn](#)

JORDAN

Jordanian Cement Factories Company files for insolvency

The Jordanian Cement Factories Company said that it was filing for insolvency, citing adverse financial conditions, worsening as a result of the novel coronavirus, as the reasons for the move.

The company said difficult financial conditions faced by the Jordanian Cement Factories Company, and which it said were exacerbated by the spread of the coronavirus, have led to a partial stoppage of its operational activities, in terms of sales, collection and production operations.

Consequently, the company has become unable to fulfill its obligations towards its employees, retirees and creditors, the statement added.

The company's management has worked as part of a road map to restructure the company on developing plans to increase sales, production and operational efficiency; controlling costs, thus limiting the increase in burdens



and future obligations, and thereby increasing liquidity. However, "the negative economic repercussions of the pandemic have impeded this progress". For these reasons, the company today requests insolvency so as to avoid liquidation, the company said.

[The Jordan Times](#)

LIBYA

Libya's Tobruk port receives a large volume of cement

Merchant ships carrying various goods recently docked at the port

[CW Group](#)

OMAN

Raysut Cement targets 26 MTPA capacity

Oman's Raysut Cement is planning a five-fold increase in production capacity to grow its business within and outside the Sultanate.

The company is aiming to increase its production capacity from the existing 5-plus metric tonnes per annum to 26 MTPA through a mix of JVs, acquisitions and greenfield projects.

The company plans to add 16 MTPA in East Africa and 1 MTPA in Yemen. Raysut currently has a 1.4 MTPA plant in UAE through its subsidiary Pioneer Cement and a 4 MTPA plant in Oman. The company has acquired a 75% stake in a cement terminal in Thilafushi, Maldives; a 1 mln MTPA milling unit and service station costing \$30 mln in Duqm; a 1.2 mln MTPA integrated cement plant in Georgia valued at \$200 mln & a \$40 mln cement grinding plant in Berbera, Somaliland.

[Zawya](#)

SAUDI ARABIA

Arabian Cement's mill project in Rabigh to suffer delays

The project is now expected to begin commercial production in the third quarter of 2020

[CW Group](#)

City Cement to reduce its capital to enhance performance and profitability

City Cement Co.'s CEO Majed Al-Osailan said the company is planning to cut its capital due to surplus, and expects this move to have a positive effect on its performance, capital efficiency and profits.

The company sought approval from the Capital Market Authority (CMA) to trim its capital from SAR 1.89 billion to SAR 1.4 billion, by reducing shares from 189.2 million to 140 million.

Al-Osailan added that despite the global pandemic crisis, financial results for this year's second quarter were relatively good as the company continued its production. Zero exports were recorded, but the company is now exploring the probability of trading in the future.

The company's current clinker inventory is sufficient for five months, less than the industry's total stockpiles of over ten months, but he assured customers that they are closely monitoring supply levels.

Al-Osailan also foresees a recovery in cement demand as government projects occur across the Kingdom.

[CW Group](#)

TUNISIA

Carthage Cement exports cement to Italy

Carthage Cement has announced the successful shipment of 4100t of cement from its 2Mt/yr integrated Jebel Ressay plant in Ben Arous Governorate. The shipment was postponed from March 2020 due to the coronavirus lockdown in Italy and Tunisia and is to be the first of a number of shipments of a total of 250,000t of Ordinary Portland Cement (OPC), in accordance with Carthage Cement's contract with a local construction firm.

[Global Cement](#)

Tunisian government grants cement producers permission to use polypropylene bags

The Ministry of Industry and Small and Medium-Sized Enterprises has issued a decree authorising the use of polypropylene cement bags, with the aim of increasing



the competitiveness of Tunisian cement against rival Turkish products on the Libyan market. The loss of a valuable exporter market following Algeria's attainment of a cement surplus led the ministry to enact the cost-cutting policy. In January 2020, Algeria enacted a progressive prohibition on this type of packaging with a view to a blanket ban from 1 January 2021.

Minister said that polypropylene bags, which are permitted for use in food, lime, animal feed and fertilisers packaging, are "both recyclable and reusable," and would enable the Tunisian cement industry to become self-sufficient in serving its bagging needs. As a further cost-cutting measure, the Minister proposed that the government establish a solar power plant in order to reduce cement companies' total energy bills by US\$5.13m/yr.

The 16Mt/yr-capacity Tunisian cement sector, which includes international companies such as Carthage Cement and Brazil-based Votorantim Cimentos subsidiary La Cimenterie de Jbel Oust, produced 11Mt of cement in 2019 against a domestic demand of 7.0Mt.

Global Cement

UAE

Dubai architects make cement out of salt

A Dubai-based architect duo is looking to break from conventional building practices with an alternative cement conceived in the salt flats of the UAE and made using a problematic waste material.

They enlisted the scientific knowhow of universities in the UAE and Japan to create a cement made using brine generated by the UAE's desalination plants, which remove salt from seawater. They were inspired by the UAE's mineral-rich sabkha -- salt flats that are part of the country's wetlands.



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Sabkha have been used in architecture before: centuries ago, blocks were hewn from salt flats and used to build Siwa, a medieval town in Egypt close to the Libyan border. But rather than mine the delicate sabkha ecosystem, the architects turned to waste brine, which contains many of the same minerals.

Brine contains magnesium minerals. The architects extracted a magnesium compound from the liquid, and used it to make the cement.



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Cementing the deal: Mondi acquires two paper bag lines and signs exclusive supplier agreements with leading cement producers in Egypt

- Mondi Paper Bags has acquired two paper bag lines from Helwan Cement Company and InterCement Sacs1.
- With these acquisitions, Mondi's paper bag production volume in the country will increase by approximately 60-80 million bags annually.
- As part of the agreement, Mondi will become exclusive supplier of paper bags to Helwan Cement Company and InterCement Sacs.

Mondi Paper Bags, part of Mondi Group, a leading global packaging and paper manufacturer, has acquired two paper bag lines from Helwan Cement Company and InterCement Sacs, two major cement producers in Egypt. The acquired production lines will increase Mondi's capacity by approximately 60-80 million bags annually and strengthen Mondi's position in the Middle Eastern bag market, particularly in supporting suppliers to the construction industry.

Mondi Paper Bags, a global producer that operates two plants in Egypt, will also become the exclusive supplier of paper bags to Helwan Cement Company and InterCement Sacs.

"We are excited to have signed long-term supply agreements with two of our biggest customers in Egypt further securing our position in the Middle Eastern market. These collaborations will offer Helwan and InterCement access to our latest innovations, industry expertise and our strong plant network and customer service in the Middle East. Thanks to Mondi's vertical integration, our partners will further benefit from our high quality kraft paper," said Claudio Fedalto, Chief Operating Officer of Mondi Paper Bags.

"Building sustainable partnerships is InterCement's tagline, and it is exactly what this deal represents. It is a long and fruitful partnership, in which we will focus on our cement production, while Mondi is supplying us with high quality bags and comprehensive customer service," said Paulo Dall'Aqua, Legal & Administration

Director, Amreyah Cement.

"We are delighted to continue our relationship with a reputable and reliable global paper bags supplier like Mondi, while we can focus on our core operations, the production of grey cement and ready-mix," said Jose Maria Magrina, Managing Director, Suez Cement Group.

Mondi Paper Bags in Egypt consists of Suez Bag and Mondi Cairo.

About Mondi Paper Bags

Mondi Paper Bags, a business segment of Mondi Group, is the leading international producer of industrial paper bags selling more than 5 billion bags per year. Thanks to its broad range of bag specifications, Mondi Paper Bags serves major industries including cement and building materials, chemicals, food, feed and seed. The business segment operates a dense sales and service network, the specialised filling equipment department Natro Tech, as well as its Bag Application Centre, where researchers develop and test innovative packaging solutions.

About Mondi

Mondi is a global leader in packaging and paper, contributing to a better world by making innovative, packaging and paper solutions that are sustainable by design. Our business is fully integrated across the value chain – from managing forests and producing pulp, paper and plastic films, to developing and manufacturing effective industrial and consumer packaging solutions. Sustainability is at the centre of our strategy and intrinsic in the way we do business. We lead the industry with our customer-centric approach, EcoSolutions, where we ask the right questions to find the most sustainable solution. In 2019, Mondi had revenues of €7.27 billion and underlying EBITDA of €1.66 billion.

Mondi has a premium listing on the London Stock Exchange (MNDI), and a secondary listing on the JSE Limited (MNP). Mondi is a FTSE 100 constituent, and

(1) Helwan Cement is a subsidiary of Suez Cement Group Egypt, part of leading global cement company HeidelbergCement AG. InterCement Sacs is a subsidiary of Amreyah Cement, part of InterCement, a major Brazilian cement producer.

has been included in the FTSE4Good Index Series since 2008 and the FTSE/JSE Responsible Investment Index Series since 2007.

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Suez Bags



Mondi Cairo



A market with potential: AUMUND is increasing its focus on Conveying Solutions for Alternative Fuels

The cement, steel and power industries are all energy-intensive, and still predominantly use fossil fuels in their processes releasing carbon dioxide which is damaging to the environment. At the same time these industries have to comply with increasingly stringent domestic and international legal requirements in order to reduce their CO₂ emissions. Alternative fuels play a significant role in achieving these targets. The AUMUND Group is therefore convinced of the industry potential of alternative fuels.

At EU-level for example, the “European Green Deal” is regarded as the path to a sustainable EU economy. The overriding aim of the concept is that net greenhouse gas emissions are reduced to zero by 2050, and therefore the EU becomes carbon neutral. One of the most important initiatives of the Green Deal is the climate protection law that was introduced in March 2020. It requires EU emissions of CO₂ to be reduced by 50 to 55 percent by 2030 compared to 1990. On this journey, the use of all kinds of refuse as alternative fuels in energy-intensive industrial processes will become more and more important.

Alternative fuels can be divided into two groups. The first is biomass, which comprises among other things wood chips, wood pellets, sunflower seeds, coconut shells, soiled straw or hay and sewage sludge. Biomass is carbon neutral because when burnt, it is only re-releasing the CO₂ that it had taken out of the atmosphere whilst growing or being produced.

The second large group is comprised of materials such as plastics, tyres, medical refuse, and waste from textile manufacturing, shredded paper or bone meal. In many countries it is no longer permitted to dump plastics, but as the possibilities for recycling are limited, plastic is an appropriate alternative fuel. A particularly suitable application is in the cement industry, where high-temperature processes break up the long chain hydrocarbons which are normally released by burning and can cause health hazards.



AUMUND Trailer Docking Station type TES



AUMUND Moving Floor type SBA



AUMUND Rotating Screw Discharger type RAS



AUMUND Drag Chain Conveyor type TKF

The AUMUND Group offers a wide range of products for handling and conveying alternative fuels all over the world. Many of these are newly developed specialised AUMUND solutions such as the Trailer Docking Station type TES, the Moving Floor type SBA, the Rotating Screw Discharger type RAS, and a modified version of the Drag Chain Conveyor type TKF for alternative fuels. Also suitable are the well-known AUMUND Bucket Elevators, the mobile Samson® Material Feeder and SCHADE Reclaimers.

Target markets for the AUMUND solutions are in the first instance various branches of industry in Germany and Western Europe, where there is still a lot of potential, but even more so in Eastern Europe, the USA and Asia, where alternative fuels are only just starting to come into use. Also, many emerging countries are facing considerable challenges with regard to refuse disposal.

Enormous amounts of climate-damaging emissions, which could be significantly reduced by utilisation in a thermal process, are released from dumps or incineration plants.

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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PREMAS® Inspections by AUMUND keep Machines fit for the Future!



PREMAS® Preventive Maintenance Service is becoming an increasingly important milestone in the lifecycle of bulk materials conveying and storage equipment all over the world. The AUMUND Group of Companies carries out PREMAS® inspections internationally for machinery and equipment of AUMUND Fördertechnik, SCHADE Lagertechnik, SAMSON Materials Handling, Besta & Meyer, WTW and LOUISE, as well as for plants and machinery made by other manufacturers supplying in bulk materials industries.

Since April 2020 Robert Henry Morris has been head of the PREMAS® department at AUMUND After Sales, focussing on the countries in Europe, the Middle

East and Africa. R.H. Morris has years of experience, in particular with complex capital equipment, and has worked in the EMEA Region for companies connected with the mining industry.

The most significant aspects of the preventive maintenance service are on-site inspections, documentation of the condition of the machines and advice to customers by appropriately trained and certified inspectors. The objective is to minimise maintenance costs, to increase the service lifetime of the machinery, to make recommendations for spare parts, and from time to time also to advocate conversions of equipment in order to improve performance.

Idylium, the new brand for large surfaces

Founded in July 2018 in Milan, Idylium has entered the market at the beginning of 2020 and has already a presence in Europe, USA, China, Australia and Middle East

Founded in July 2018 in Milan, Idylium is a newly established Italian company in the field of premium surfaces for the world of design. The exclusive design of its large-format “mineral stone” slabs is one of the two key areas on which the company has decided to focus. The other is the cutting-edge technology chosen to produce these products, which consists primarily of the Supera® pressing system.

The multinational company Best Surface was set up specially for the production of the large Idylium slabs, and from its Milan headquarters manages the production facility in L’Alcora in the Spanish tile manufacturing cluster of Castellón. Here, the brand new turnkey system entirely designed and built by Siti B&T Group was inaugurated in December 2019.

The plant extends over an area of more than 40,000 square metres, produces over 2 million square metres of slabs per year, and consists of 95% highly innovative machinery protected by an exclusive patent. There’s also a very wide warehouse. All the technical solutions

are totally exclusive: the tower and the rear-press technology complete with through-vein kit, the press, capable of generating a pressure of 500 kg per cm², the glazing and decoration line, the two-level kiln that reaches temperatures up to 1250°C, the logistic system and the fully automated process automation with a management system developed specifically for Idylium.

Research, development and design are all done in Italy, in collaboration with Digital Design, which has become an invaluable strategic partner.

The collections, which are named after Milan subway stations, are all in production and consist of large slabs measuring 3200x1600 mm in 6, 12, 20 and 30 mm thicknesses. Each one presents specific feature, such as ultra-high-definition digital designs, through vein effect, high-relief surfaces where reliefs can extend to a depth of 30% of the thickness of the slabs, etc....

Despite the Covid-19 emergency, the market is responding well. Idylium can count on an extensive distribution network in Spain and is present in Italy, Benelux, France, the United States, China, Australia and New Zealand, Greece, Russia and the Middle East.



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BRUKS SIWERTELL'S UNITED STRENGTHS REPRESENTED IN NEW BRAND IDENTITY

Bruks Siwertell has launched a new brand identity designed to reflect the values, combined strengths and capabilities of its products, solutions and services. It includes a new Group logo, which will represent both the Bruks and Siwertell brands in all future communications.

“We have grown our business significantly over the last few years and this is a natural stage in our transformation process; a new look to show the market that we are bigger than our individual brands,” says Peter Jonsson, CEO, Bruks Siwertell Group. “We have a market-leading portfolio of products and services for the dry bulk handling and wood processing industries. These are distinct business areas in their own right, but they have a lot of natural crossovers that deliver effective synergies. We want to highlight these so that customers can draw upon their benefits.

This joint branding initiative opens the door to a future of continuing our legacy of innovation, entrepreneurship, and quality design “Our new appearance is part of a recognition process,” adds Mr Jonsson. “It shows customers that Bruks and Siwertell products are part of the same family, and enables the instant association of our equipment with the ability to add value to operations, generate profitability and offer an impressive return on investment for their owners.” “This joint branding initiative opens the door to a future of continuing our legacy of innovation, entrepreneurship, and quality design,” says Emily Braekhus Cueva, Marketing Director at Bruks Siwertell Group. “Our drive for improvement and the development of new solutions and sustainable incentives is represented in our new identity.

“The Bruks and Siwertell brands are deeply settled and respected within their respective business segments,”

she continues. “We have kept their separate identities, but brought them closer together for common communication purposes, so that all customers within Bruks Siwertell recognize them both. Therefore, some elements have been retained and we have also introduced new ones.

“Worldwide, customers will still see the single product Bruks and Siwertell brands on our ship unloaders, ship loaders, conveyors, stacking reclaiming systems, wood chippers, screening and milling systems,” Ms Braekhus Cueva explains. “They will also see a new logomark to show that, although they each represent different types of products, both brands are now part of a bigger family, able to offer a much wider span of equipment. Together, they complement each other and build a stronger portfolio.

“The logomark is designed to evoke a feeling of focus and speed, with the circles signifying movement and velocity,” she adds. “The semicircle can be interpreted as a belt conveyor and the sharp-edged parts potentially as wood-chipping knives, while within the visual of the complete circle you can see one of our core components, the screw conveyor. The three-dimensional angle implies movement and rotation, and the shape of a globe represents our international reach.”

In addition to the logo, the new Bruks Siwertell brand identity comprises other core elements such as signature colors. In communication material, the dark grey will be dominant, and complemented with elements of the blue and red shades from both the original Bruks and Siwertell brands. Subtle background circles, as well as new typography are also significant changes to Bruks Siwertell’s new appearance.



Bruks Siwertell adds service tower equipment to ship unloader range

Bruks Siwertell has launched a new service product that promises to substantially simplify and lower the cost of fitting replacement screws on its market-leading Siwertell ship unloaders.

“All our equipment, including service strategies, benefit from decades of continuous research, development and improvement, and the latest product is a service tower for replacing screw sections on our Siwertell ship unloaders,” says Björn Ohlsson, Manager, Bulk Terminals Design and Engineering, Bruks Siwertell.

“It offers a number of key advantages,” he explains. “Principally, the service tower eliminates the need for cranes, which are traditionally used to lift the screws. This reduces costs and improves the overall safety of the operation. Also, because the tower is specifically designed for the task, the whole process is faster.”

The tower’s structure is self-supporting, allowing it to be moved. When required for a project, it needs to be secured at dedicated fixing points on the jetty. A replacement screw is placed and fitted into the tower’s lowered screw-holding cradle, specifically matched to the dimensions of the screw. A winch raises the cradle and screw into an upright position. When in place, the new screw is locked into position and the outer diameter bearing wings are assembled. The same procedure is repeated with the next screw section. Removal and disassembly of the screws are achieved using the same equipment, but in reverse.

“Although specifically designed for screw replacements, it can also be built with additional levels to service and inspect other areas of the vertical conveyor,” notes Mr Ohlsson. “For any new or existing unloader, this is an extremely cost and time effective addition to any operator’s service portfolio.”

By using adaptors, the service tower can accommodate the various screw lengths and sizes of the Siwertell product range.

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A new milestone in the history of VDZ

Moving into its new premises, VDZ is well prepared for the future

For more than 60 years VDZ's research institute in Duesseldorf has been the home and focal point not only for many generations of its employees but also for the representatives of the cement industry. Now, in the first week of September this year, VDZ will move into new premises, a step which will provide a new, long-time perspective. It is the consequence of the development of VDZ over the past decades and of its mission to continually evolve the well-established. Deeply rooted in the cement industry and with a strong, open-minded belief in solidarity, VDZ is well prepared to support the cement industry on its way to a low-carbon future.

In recent years VDZ's existing building had begun to reach its limits. Infrastructure which needed to be renewed, insufficient space for laboratories, which prevented the optimisation of work flows, and finally not enough overall space for VDZ's growing activities: These were the reasons which prompted the decision to build completely new premises.

VDZ's new home is located close to its previous building, with excellent 15-minute connections to Duesseldorf's airport and main station. It goes without saying that concrete plays an important role in the new work, not only with regard to the building materials, but also with respect to the architectural design. Reinforced and pre-stressed concrete was used for the five floors of the new institute. Significant parts of the building exhibit exposed concrete, in particular the entrance hall and the stairways. Cost-awareness was of very high importance. The overall amount of space is almost the same as in the former building, but the space efficiency is much higher and there is still room for growth. In order to allow the highest possible flexibility, the laboratories can in a long-term perspective be converted into offices and vice-versa.

Already at an early stage of the planning VDZ was very closely involved with the construction of the building. Employees of VDZ developed in particular a work flow for the laboratories, and VDZ itself took an important role in the project and subsequently the construction management. Here, VDZ's expertise in cement and concrete was certainly of great help, but even more

important was its great team spirit and strong desire to develop a building of high quality, long-term flexibility and operational efficiency. From a sustainability point of view it was important to have a low-carbon heat supply, which comes from a remote heat network powered by excess heat from the local municipal waste incinerator plant. The average clinker factor of the cements used was 50%.

Moving into the new building goes hand-in-hand with a relaunch of VDZ's branding. A new, slightly adapted corporate design underlines the development of VDZ in recent years. A new claim – "evolving the well-established" – was developed in which not only VDZ member companies were involved, but also customers and further stakeholders. It reflects VDZ's vision to always rethink and further develop existing positions or even beliefs.

Already today the claim is developing a strong pull-effect: VDZ will continue to think ahead when it comes to the paramount challenge of decarbonising the cement industry.

VDZ has always further developed itself in the past decades. Today, with roughly 200 employees from 17 nations, its business model comprises three pillars:

As an integral part of the German cement industry since 1877, VDZ represents the industry as a trade association in relevant questions. This includes the roadmap towards a low-carbon industry, important policies such as those on energy or climate issues, the standardisation of cement and concrete with a recent focus in particular on low clinker cements, and the development of occupational and product aspects of health and safety – to name only a few of the areas in which VDZ is involved.

As a research organisation VDZ focuses on pre-competitive questions which help the industry to further develop its processes and products. This includes pre-normative research such as research on Portland limestone cements or the durability of concretes with clinker-efficient cements. It also includes environmental challenges such as the emissions

Evolving the well-established



"We provide our excellent services with pride: on-site, online or with online-support."

Martin Schneider, CEO VDZ

Our Services

Low carbon strategies

- Carbon capture concepts
- Clinker efficient cement and concretes
- Burning and characterisation concepts for calcined clay

Process optimisation

- Technical reviews
- Fuel concepts and improvement of burning conditions
- Process and environmental measurements

Maintenance

- Inspection and survey of rotary kilns and ball mills
- Kiln alignment and adjustment
- Tyre and roller grinding

Training and education

- Classroom training and customised courses
- Online courses
- Hands-on, practical training

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reduction of e.g. NO_x, mercury or organic compounds. In the 1990ties VDZ was the first body to provide a full set of dioxin measurements from its research to show that the combustion of alternative fuels in cement kilns is complete and does not lead to harmful emissions of persistent organic constituents. Special provisions for the emissions of carbon monoxide and organic components in the European legislation are based on VDZ's research, which showed that these emissions are raw material-based and not an indicator of the combustion efficiency. The substitution rate of alternative fuels in Germany would not be as high as it is without VDZ repeatedly illustrating under which circumstances these fuels can be used and which quality parameters must be met.

Most important, however, is VDZ's research with respect to the carbon footprint of cement. Already in 2003 VDZ together with 18 international cement companies founded ECRA, the European Cement Research Academy, which is the leading platform with respect to carbon capture in the cement industry. Having started seminars and workshops on relevant topics for the cement and concrete industry, ECRA very early addressed the need to understand carbon capture and make use of it in the cement industry. VDZ worked very closely with ECRA and today the industry is in the position of being able to build the first pilot plant based on the oxyfuel principle.

Finally, VDZ provides services along the full value chain of cement and concrete. This includes process measurements, technical audits, kiln alignments, technical due diligences, the optimisation of cement and concretes including the relevant performance tests on fresh and hardened concrete, and any type of chemical and mineralogical analysis. Environmental measurements are provided for customers in many countries, and the certification of construction products and management systems are an integral part of VDZ's service offer.

Training and education have been provided by VDZ for many decades. Master and foreman courses were offered first and were later followed by classroom training and customised courses on dedicated topics. Today, VDZ provides online courses in different languages, including hands-on training in cement plants, to a growing extent also with online support. Furthermore, VDZ congresses are highly regarded by representatives of the cement industry, equipment suppliers and academia. They provide a platform for state-of-the-art knowledge in cement and concrete technology and have always broadened the scope for new developments in the cement industry.

VDZ is proud of its continued development and of the fact that from time to time it has reinvented itself, but throughout it has always been cement that has been the central focus of VDZ's attention. For this reason, VDZ loves to tell the story of cement as a binder, an incredible millennium material without which modern societies are inconceivable. And as VDZ's training and seminars clearly show: Cement not only combines sand and gravel, but also people from different countries and cultures, all speaking the same language of cement and all inspired by this fascinating material.

Overall, VDZ wants to address the values which characterise a mature society. In this regard, VDZ is proud of its values, its predecessors and their work, because without past achievements VDZ would not have the foundation for its success today. VDZ has clear rules which provide guidance and security. VDZ is strong and successful in its business and cares about global and central issues. VDZ wants to authentically live up to these values. They are part of VDZ's narrative and an essential part of VDZ's identity, and provide the incentive to look ahead with confidence. The relocation of VDZ into its new premises is an important contribution to VDZ's story. With its competence and its roots in the cement industry, VDZ is well-positioned for the challenges the cement industry will face in the time to come. In its new building it will also provide an open and appreciative environment for the cement and concrete industry and all stakeholders interested in further developing the construction value chain.

Essential in the end are the people who make up VDZ: A strong management team which cooperates in a spirit of trust and friendship, and the employees who work in Duesseldorf and in VDZ's Berlin office. This strong sense of togetherness characterises VDZ, which will continue its work based on its traditions, but always evolving the well-established.

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Ceramica Piemme invests in cogeneration

Sacmi has installed a complete system for recovering heat from the fumes emitted by the turbine.

Ceramiche Piemme, a historic Italian tile brand, has commissioned Sacmi to build a complete plant for the recovery of heat produced by the turbine. This medium-large size turbine (installed power 4.5 MW) fully meets the electricity requirements of the factory located in Solignano (Modena).

The installed system is designed to handle 53,000 Nm³/hour of fumes at 500°C. The fumes are channelled into a large duct with a length of almost 140 metres and a diameter of 1,700 mm, then fed to the two spray dryers (ATM 036 and ATM 065, also from Sacmi), thereby reducing the factory's gas requirements by 6.7 million cubic metres per year (equivalent to 13.2 tons less CO₂ released into the atmosphere).

The project at Piemme was carried out with the aid of the latest generation software, programs for simulation and control of thermo-fluid dynamics inside the duct and systems for guaranteeing the stability of the structure in accordance with seismic standards.

Carried out in February, the installation will give Piemme a practical tool to tackle the issue of sustainable production and the recovery of waste heat, aspects that are particularly important as the industry reopens following lockdown.

These interventions can also be carried out using predictive programs where the energy requirements of the spray dryers or any other machine are predicted in advance.

With this plant solution, Sacmi demonstrates its ability to act as



a leading partner in the design of complex cogeneration projects, carrying through every stage of the project and providing certifications and guarantees for the end result.



TOP FINISHING & SUPERGLOSS



LUXURY is a mechanical technology between tools and ceramic support that creates a chemical-physical reaction by means of pressure and temperature, allowing the product to penetrate into the porosity of the glaze to ensure the high glossy and protection.

The main and unique features of LUXURY are to increase the bright between 20-30 points; to create deep effect on the products and to uniform the application of the product thanks to the independent double bridge solution.

Ancora's R&Ds and technicians have been working on many details, in order to offer a new product that can redefine the standard quality on the market and make technology more versatile and user friendly. Specifically, mechanical and electronic aspects were integrated to develop solutions aiming to offer important benefits in terms of finishing, effects and quality.



IN PRACTICAL TERMS

- For more flexibility we can offer two types of machines: LUXURY 12 single bridge and LUXURY 14 with double bridge.
- Double and independent bridges can work simultaneously or independently according to speed and size, to avoid the triangle waves in case of high speed on big formats or slabs. Motorization of bridges by double brushless motors for better control of the ramp.
- Heads equipped with proportional valves with the advantage to enable the variation of the working pressure on the tools according to the position of the head or planarity of the tiles/slab. This solution turns out to be particularly effective for reducing the pressure in the highest parts and uniform the application process of the product.
- Possibility to integrate mechanical screw jacks (optional) with proportional valves to fix the position of the tools and obtain two effects, supergloss (90-110 bright) and mat (20-30 bright)
- Two types of heads: D.520 for sizes up to 1200 mm and D.700 for slabs up to 1800 mm controlled by frequency variator.
- Product dosing system with automatic management up to two colors including recirculation and washing.

TECHNICAL INFORMATION ON A NEW ACCELERATED COMPRESSIVE STRENGTH TEST METHOD FOR CEMENT AND FRESH MIXED CONCRETE

By: CST Instruments Ltd., United Kingdom

Reduces the time to wait for important test results from days to just minutes

The challenges we face

Our Concept – An early warning of quality, practical, fast and cost effective solution for an accelerated testing of cementitious construction building materials.

Within the construction industry, Portland cement and concrete manufacturers and end users, have historically experienced long delays in finding out the strength of cementitious products by using the traditional crush test procedure which takes 28 days for the end result.

Cement prisms or concrete cubes samples need to be taken on site, cured in a temperature-controlled environment, and tested under the compression press; this is an expensive and a time-consuming process before the end results are known.

As concrete hardens in approximately one hour, this forces the end users have to pour practically untested concrete and rely solely on the quality control of the producer or suppliers.

Our concept will provide an early warning solution for manufacturers and their customers to ensure that the quality of the cementitious products are within their requirements.

Innovative conductivity method of testing, description and benefits

We have created new innovative algorithms and an accelerated method of testing cement and freshly mixed concrete on its compressive and flexural strength, results given within a 5 to 10 minute period.

Incorporating this with our specifically designed probe & instrument ‘ConcTest’ which measures the conductivity of the mixture with a pre-determined amount of cement or freshly mixed concrete mixed with 500 ml of deionised water.



By inputting essential parameters of the sample to calculate its compressive strength at key stages: 2, 3, 7, 14 & 28 days.

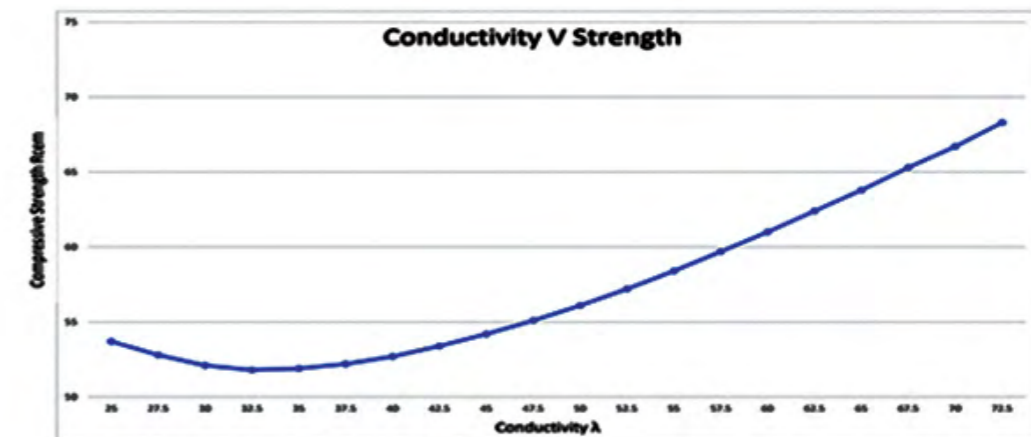
This is cost & time effective testing solution for material testing professionals on site with results giving a good indication of the quality of materials they have produced or to be used.

- Gives users an early warning and quality assurance.
- Gives a consistent and fast method of testing

The testing of the cementitious products by traditional compression crush test, can officially confirm the validity of the accelerated method test results. Our concept together with the traditional crush method will proved reassurance of the quality of the cementitious building materials.

The obstacles and problems to overcome (Chemical, Mineralogical and Electrical, electronics)

The theory to utilise conductivity-metrical characteristics to define cement and concrete strength was used by the inventor Mr Akaki Iromashvili, and he was granted a Soviet Union patent in 1982. After spending several years researching the theory, Mr Akaki found a specific relationship between the electrical conductivity of a water - cement solution, during the early stages of the hydration process, and cement compressive strength.





Since CST instruments Ltd was formed in the United Kingdom, Mr. A. Iromashvili (technical consultant) and our team have been developing the concept of an accelerated testing method, bringing it to a commercial reality.

We have tested this concept and developed a method that uses the electro-conductivity reading of a cement/fresh concrete - water mixture in certain proportions to determine their compressive strength indirectly.

The Electro-conductivity is measured with a specifically designed probe, attached to the instrument, that runs a small current of electricity through the mixture.

The Conductivity of the mixture is measured at the early stage of hydration (first 60 seconds). As the cement or concrete reacts with the water it results in the release of positive and negatively charged particles. These make the deionised non-conductive water – conductive.

The amount of released charged particles are relative of the specific conductivity of the mixture. It is accepted as the initial parameter for indicating the chemical composition of the product and is incorporated into the equation.

The strength of cement depends on key physical parameters.

- Density of cement
- Fineness of cement powder
- Consistence of normal paste
- The type and quantity of additive mineral constituents in the cement, according to standard mineral composition of cements (EN BS 197-1)

And then on the curing conditions.

- Curing temperature of samples according to standard laboratory conditions, 20 – 23 °C
- Curing time, can be varied according to the project requirements, pre designated time periods of 1, 2, 3, 7, 14 & 28 days

Testing of cement

The accelerated testing method itself becomes more precise as different characteristics of the cement are being introduced into the equation. For example: Fineness by Blain test, grinding aid and strength enhancement, mineral additive type, and its impact on strength.

The CemTest instrument has been designed for accelerated testing of cement groups (Portland CEM I and CEM II) with a single mineral additive; In accordance with EN 197 – 1 classification.

Other types of cement, such as: Normal, Rapid, Sulphate resistant and clinkers with a strength enhancement chemical additive can also be tested.

The testing procedure involves measuring the conductivity of a cement & water mixture (15 grams of cement in 500 ml. of deionised water – representing a 3% solution), at the approximate temperature of 20 °C.

Formula Rcem and description of key parameters:

$$R = A\rho\lambda^2\ln(1.77T+1)(1-(D/100)^v)e^{-\mu\sqrt{SH}\lambda - 0.0327\sqrt{t}e^{0.0327t} + 0.0002t^2 - 0.91\sqrt{T}3.52Z}$$

This formula involves the following parameters:

- ρ** - Density of cement – defined by Picnometer or Le Chatelier apparatus (**gr / cm³**)
- S** - Fineness of cement powder – defined by Blaine method, (**cm² / gr**)
- H** - Consistency of normal paste – defined by Vicat apparatus, (**%**)
- D** - Additive size (amount) - 0 to 35 % - according to standard mineral composition of cements (EN BS 197-1)
- v** - Influence of additive type impact on cement strength
- Z** - Water-cement ratio - %
- t** – Curing temperature – t °C
- T** – Curing time – 1 to 28 days

Our objective is to determine the strength of early stage cement. With modern industry demanding fast and rapid strength indications from 7, 3, 2 or even 1-day periods; we have enhanced, refined, and integrated this into our equation.

The calculation of the cement’s strength, at an early stage, is achieved with the following equation:

$$C = 0.6\ln\ln(4Ts^{0.125}e^{-0.004D}\sqrt{D} + 1)$$

Where:

- T** – Curing time days
- S** – Fineness of cement powder – defined by the Blaine method, (**cm² / gr**)
- D** – Additive size (amount) - 0 to 35 % - according to standard mineral composition of cements (EN BS 197-1)

Event	Date	Time	Cement	Tempera	Conductivi	Room	Density	Fineness S	Consistenc	Add.Size	Add.Type	W CemRatio	Hard.Tem	Hard.Tem	Hard.Tem	Cem Class	EN Result
1	18/05/20	13:07:09	Normal	18.1	35.33	57.81	3.1	4.25	27.5	0	1	0.48	20	28	28	CEM I	28
2	18/05/20	13:10:43	Normal	18.1	35.33	41.23	3.1	4.25	27.5	0	1	0.47	20	7	7		0
3	18/05/20	13:12:03	Normal	18.1	35.33	24.71	3.1	4.25	27.5	0	1	0.47	20	2	2		25
4	18/05/20	13:13:45	Normal	18.2	37.47	59.81	3.1	4.25	27.5	0	1	0.47	20	28	28		58
5	18/05/20	13:26:31	Normal	18.3	28.58	48.55	3	5.45	25.5	18	1.7	0.49	20	28	28	CEM II	47
6	18/05/20	13:28:49	Normal	18.3	28.58	45.87	3	5.45	25.5	18	1.5	0.5	20	28	28		47
7	18/05/20	13:31:45	RAPID	18.3	28.58	29.57	3	5.45	25.5	18	1.5	0.5	20	2	2		30
8	18/05/20	13:36:04	Normal	18.5	30.11	47.49	3	4.3	27	27.5	1.7	0.49	20	28	28	CEM II	48
10	18/05/20	13:39:42	Normal	18.5	30.11	32.77	3	4.3	27	27.5	1.7	0.49	20	7	7		32
12	18/05/20	13:41:00	Normal	18.5	30.11	19.64	3	4.3	27	27.5	1.7	0.49	20	2	2		20

.Example spreadsheet of the CemTest instrument results

Testing of freshly mixed concrete

To test freshly mixed concrete on its compressive strength currently takes 28 days. It is calculated according to the Classical formula:

$$R_{concr} = AR_{cem} \left[\sin^2 \left(0.45 \frac{Q}{W} \right) \right] C$$

Where:

- Q – Amount of cement in 1 m³ concrete mix
- W – Water consumption in 1 m³ concrete mix
- A – Correction coefficients
- C – Correction for curing temperature

Our formula allows us to calculate the compressive strength, water consumption, and the quantity of cement in freshly mixed concrete in under 10 minutes.

$$Q = 400 \left(\frac{\lambda_{concr} - \lambda 1}{\lambda 2 - \lambda 1} + 0.5 \right)$$

Where:

- Q - Amount of cement in 1 m³ concrete mix – Kg, calculated using formula:
- λ_{concr} – Concrete mixture conductivity - 24.0 grams/500 ml
- $\lambda 1$ – Conductivity of cement - 2 grams/500 ml
- $\lambda 2$ – Conductivity of cement - 6 grams/500ml

To calculate Q

To calculate the amount of cement in 1 m³ of concrete mix, first measure the conductivity of 2 grams of cement in 500 ml of a deionised water mixture. Add an additional 4 grams of cement into the same mixture after a pre-set period and measure the conductivity again, these are used as key reference parameters, representing 200kg and 600kg of cement in 1 m³ of concrete mix.

Next, prepare a freshly mixed concrete sample of 24 grams, sieve through a 10/11 mm (aperture) mesh 2 into 500 ml of deionised water. Mix for a pre-set time and measure the conductivity, this gives the percentage needed to calculate the amount of cement used in 1 m³ of concrete (with up to 10 kg discrepancy).



To calculate W

The water consumption in 1m³ tested concrete mix, requires key parameters of the sample:

- d** – Maximum size of coarse aggregate – mm
- M** – Sand grain module
- X** – Share of fine aggregate %
- L** – Slump test result – cm
- H** – Consistence of cement normal paste – mm
- A** – Aggregate quality and mineral composition
- q** – Impact of plasticiser on concrete strength
- t** – Curing temperature - 5 – 35 °C
- T** – Curing time - 28, 7, 3, 2 days

Ensuring the key parameters were entered accurately, this will determine the water consumption, and in turn will give a good indication of the compressive strength of the selected concrete mix.

Example spreadsheet of ConcTest instrument results

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Test	Date	Time	Rcem	Lambda1	Lambda2	LambdaC	d Coarse Agg.	M Fine Agg▶	X Fine Coarse	L Slump	q Plast.	A Aggreoat	HConsist.	t Temp.	T Time	Q Cem.	W Water▶	Rconc ₁	Rconc ₁ BS EN
	1/09/20	16:14:06	39.7	6.3	10.2	11.1	60	2	0.5	3	0.3	1.5	21	25	11	295	143.82	26.48	N/A
	1/09/20	19:58:16	40	5.6	10.6	14.3	56	2	0.45	19	0	2	40	24	17	396	163.38	55.62	
	1/09/20	15:14:08	40	11.8	16.6	14.4	16	3.5	0.4	14	0.14	14	28	20	28	418.67	191.5	38.54	



CST Corporation Ltd.

ConcTest





CemTest instrument: Testing Portland Cements CEM I and CEM II with 1/2 natural mineral additives



CHEMICAL ADDITIVES TO IMPROVE CEMENT QUALITY AND INCREASE PRODUCTION

By: Eng. Abbas Abdulkareem Abbas, Chemical Chief Engineer, Northern Cement State Company, Iraq

There are many types of chemical additives, which are added to cement production process to improve its quality. Grinding Additives are added to clinker in cement mills at different ratios, based on clinker quality and operation conditions for each mill, as mills vary in operation conditions with respect to production system and cement quality, even within the same production line. The ratio of this additive is about 0.04% of mill feed.

Benefits of additive chemicals for cement production:

1. Density varies from 1-1.1 gm/cm³
2. Prevents sticking and collating between steel balls and mill linings, which helps make grinding process easier and faster than normal cases (with no additive).
3. Keeps steel balls clean from cement accumulation and hence increases grinding efficiency.
4. Keeps mill lining, diaphragm and its openings clean.
5. Keeps centrifugal fan vanes, dynamic separator vanes and E.P. fan vanes from cement accumulation and hence prevents fans vibration.
6. Prevents clogging in cement silos and eases the flow of cement during packaging.
7. Eases cement flow through air slide conveyors and air pull lifters.
8. Prevents collating of cement particles, thus lowering the coarse particles rate return to the mill and increases the mill production rate.
9. Prevents cement adhesion on bag filters and increases the filter lifetime, and also increases mill production capacity.
10. This additive is suitable for all kinds of cement.

How much is the ratio of the chemical additive?

We can continue to raise the ratio of the chemical additives with materials input to produce cement until we get the perfect results with least ratio and best production rate through experiments.

Chemical additives that strengthen early cement solidification.

This additive is different in its quality when added to clinker and it depends on cement properties. In order to specify the type of this additive by the supplier a sample of produced cement should be sent to supplier to study its chemical and physical properties at the company laboratories and conduct experiments of the chemical materials and their ratios until the best results are reached with respect to chemical and physical properties and the optimum ratio. Then, the company would be able to have complete information on how to use this additive as regards quantity, properties and price.



STOP wasting money!



Give us one minute of your time and we give you full disclosure on how to save \$\$\$

On average 10% of the production output of a cement company can be found as spillages around or in a cement plant. Having valuable material laying around on the floor is basically the same as throwing money on the ground! Use a DISAB vacuum system to recover the spillages and put it back into production, hence saving more than USD 50,000 every year.

Contact us today and learn how to save money while keeping your cement plant clean and workers safe!



PRODUCTION OF ACTIVE BELITE CEMENT BY USING COLEMANITE BORON ORES

By: Serkan Türk, R&D Manager Turkish Cement Manufacturers' Association

INTRODUCTION

Global warming occurs due to the increase in concentration of greenhouse gases over the years. CO₂, one of the gases causing global warming, is released from the industries intensely into the atmosphere. Intense efforts are required to prevent CO₂ from entering the cycle⁽¹⁾. According to the Intergovernmental Panel on Climate Change (IPCC), it is stated that excessive CO₂ emissions are significantly associated with global climate change and thus can affect the global temperature. The CO₂ level in the atmosphere is approximately 401 ppm and it is known to be 70 % higher than 280 ppm compared to pre-industrial periods and is expected to reach 550 ppm levels in 2050⁽²⁾.

The cement industry produces about 6-8 % of the total global CO₂ emissions. Different studies are ongoing to reduce CO₂ emissions. These studies;

- use of alternative raw materials and fuel,
- carbon capture, utilization and storage,
- increasing energy efficiency.

With these emission reduction efforts, it is aimed to prevent the increase in the amount of carbon in the atmosphere.

The cement sector takes various measures and conducts research in different areas to contribute to sustainable development. One of these studies is the development of low energy belite clinker. Belite clinker is burned around 1300 °C, while Portland cement (PC) clinkers are burned around 1450 °C. One of the raw materials that can be used in Belite cement production is boron minerals. Turkey has 73 % of the world's boron reserves and is one of Turkey's most important mines⁽³⁾. In previous studies, Active Belite Cement (ABC) was produced by using boron mineral as a raw material of cement clinker⁽⁴⁾. ABC cement saves energy by lowering burning temperature. In this respect, it is considered as environmentally friendly cement. During clinker production, burning temperature in rotary kiln is around 1300 °C, thus reducing CO₂ emissions to the atmosphere by up to 25 %⁽⁵⁾.

Türk et al. (2005) conducted a study to examine heat of hydration and shrinkage properties of ABC. For the production of ABC clinker, burning was carried out at 1325 °C using 2.5 % B₂O₃ and LSF 90.5 raw meal. When the XRD analysis results were examined, it was seen that α and α' -C₂S forms of belite were formed. It is stated that it gives high strength as 37 MPa in 7 days and 75 MPa in 28 days and is classified as low temperature cement (<52.5 cal/g). Comparing shrinkage test results of cements of ABC and PC 42.5, ABC was less shrinkage than PC⁽⁶⁾.

In a study conducted by Kurdowski et al. (1997), low temperature belite was produced. They observed belite phase at 800 and 900 °C with other calcium silicate phases. It is stated that high surface area of belite phase reacts with water and this reaction was observed as a sharp peak in the microcalorimetric curve. High heat of hydration was observed with addition of barium silicate (10 %)⁽⁷⁾.

Sui et al. (2004) examined properties of high strength concretes produced by high-belite cements (HBC). Concrete produced with HBC and PC is compared according to their performance under different curing conditions, heat of hydration development and sulfate resistance. In addition, studies were carried out by preparing high performance concrete using HBC in the C50-C80 strength class. In addition, the processability, physical and mechanical properties and durability of HBC concrete were compared with PC concrete. Research results have shown that

although HBC concrete's early strength and hydration heat development is lower, its 28-days final strength is higher and sulfate resistance is better. In addition, HBC concrete has better workability, physical, mechanical and durability properties⁽⁸⁾.

EXPERIMENTAL STUDIES

Limestone, clay and iron ore are supplied from cement factory and different grades colemanite minerals are obtained from the world's largest boron mine producer Eti Mining Operations General Directorate to prepare ABC clinker raw meal. Colemanite minerals are coded as -3 mm Colemanite-H and -3 mm Colemanite-B.

Characterization Analyses

Chemical analyses and LoI were carried out for raw materials for characterization. Limestone, clay and iron ore samples were analyzed according to TS EN 196-2, XRF, ICP-OES, UV Spectrophotometer, Flame Photometer and ICP-MS. Chemical analysis results of samples are given in Table 1.

Parameters(%)	Limestone	Clay	Iron Ore	Method
LoI	41.89	18.78	9.55	TS EN 196-2
SiO ₂	1.80	43.17	32.55	TS EN 196-2 (XRF) / ICP-OES
Al ₂ O ₃	0.61	11.24	2.87	TS EN 196-2 (XRF) / ICP-OES
Fe ₂ O ₃	0.43	5.95	51.56	TS EN 196-2 (XRF) / ICP-OES
CaO	53.74	13.87	<0.01	TS EN 196-2 (XRF) / ICP-OES
MgO	0.49	3.92	0.32	TS EN 196-2 (XRF) / ICP-OES
SO ₃	<0.01	0.01	1.20	UV Spec./TS EN 196-2
Na ₂ O	0.24	0.33	0.26	Flame Photometer / ICP-OES
K ₂ O	0.14	1.79	0.49	Flame Photometer / ICP-OES
TiO ₂	-	0.70	0.33	ICP-OES

TS EN 196-2, ICP-OES and ICP-MS were used in analysis of colemanite products. Colemanite products have different compositions according to their chemical analysis. Titrimetric method was used for B₂O₃ determination. The results of colemanite ores are given in Table 2.

Table 2 Chemical Analyses–Colemanite Products

Parameters (%)	-3 mm Colemanite-H	-3 mm Colemanite-B	Method
LoI	22.33	26.81	In house Method
SiO ₂	9.47	11.93	ICP-OES
Al ₂ O ₃	1.81	0.85	ICP-OES
Fe ₂ O ₃	0.54	0.20	ICP-OES
CaO	23.23	30.25	ICP-OES
MgO	3.26	5.57	ICP-OES
SO ₃	0.10	0.08	UV Spec.
Na ₂ O	0.02	0.10	ICP-OES
K ₂ O	0.77	0.14	ICP-OES
TiO ₂	0.06	0.02	ICP-OES
B ₂ O ₃	32.06	21.30	Titrimetric method
TiO ₂	0.06	0.02	ICP-OES
B ₂ O ₃	32.06	21.30	Titrimetric method

The mineralogical structure of materials was analyzed with the Rigaku, XRD device in the TÇMB R&D Institute Laboratories. Results are given in Table 3.

Table 3 Mineralogical Analyses of Raw Materials

Raw Materials	Mineralogical Analyses
Limestone	Calcite
	Quartz
Clay	Calcite
	Quartz
	Montmorillonite
	Clinochlore
	Albite
	Illite
Iron ore	Quartz
	Goethite
	Hematite
	Kaolinite
-3 mm Colemanite-H	Colemanite
	Calcite
	Vermiculite
	Muscovite
	Calcium Strontium Aluminum Silicon Oxide
-3 mm Colemanite-B	Colemanite
	Calcite
	Vermiculite
	Ankerite
	Quartz
	Muscovite

Burning was carried out in time and temperature controlled high temperature furnace at temperature of 1325 °C containing 2.5 % B₂O₃ raw meal sample with LSF value of 93. High LSF values are not required due to lack of alite phase in clinker sample (~ 100). For that reason, raw meals with lower LSF values are prepared. Two different colemanite products and different amounts of raw materials are mixed physically and burned. Recipes of raw meal are given in Table 4 in percent.

Raw Material (%)	Raw Meal (Colemanite-H)	Raw Meal (Colemanite-B)
Calcite	65.09	62.31
Clay		25.62
Iron Ore	0.34	0.32
Colemanite	7.80	11.75

Chemical analyses of raw meal are given in Table 5.

Parameters (%)	Raw Meal (Colemanite-H)	-3 mm Colemanite-B	Method
LoI	34.56	34.63	TS EN 1962-
SiO ₂	13.61	13.80	XRF
Al ₂ O ₃	3.52	3.31	XRF
Fe ₂ O ₃	2.14	2.05	XRF
CaO	40.57	40.59	XRF
MgO	1.62	1.97	XRF
SO ₃	0.06	0.07	UV Spect.
Na ₂ O	0.17	0.17	ICP-OES
K ₂ O	0.66	0.56	ICP-OES
TiO ₂	0.23	0.21	ICP-OES
B ₂ O ₃	2.77	2.63	Titrimetric method

Clinker samples were ground with gypsum in a ball mill together. Chemical compositions of cements are given in Table 6 below.

Parameters (%)	Cement (Colemanite-H)	Cement Colemanite-B	Method
LoI	0.28	0.24	TS EN 196-2
SiO ₂	20.68	20.83	ICP-OES
Al ₂ O ₃	5.43	5.13	ICP-OES
Fe ₂ O ₃	3.21	3.07	ICP-OES
CaO	61.29	61.55	ICP-OES
MgO	2.43	2.99	ICP-OES
SO ₃	0.18	0.15	UV Spec.
Na ₂ O	0.21	0.20	ICP-OES
K ₂ O	0.85	0.75	ICP-OES
TiO ₂	0.35	0.32	ICP-OES
B ₂ O ₃	3.85	3.95	Titrimetric method

Amounts of free CaO were below 2 % and good burning process took place

	Free CaO (%)
Clinker (Colemanite-H)	0.60
Clinker (Colemanite-B)	0.80

When clinker diffractograms were examined, formation of the α-C₂S form showed that burning process was made successfully.

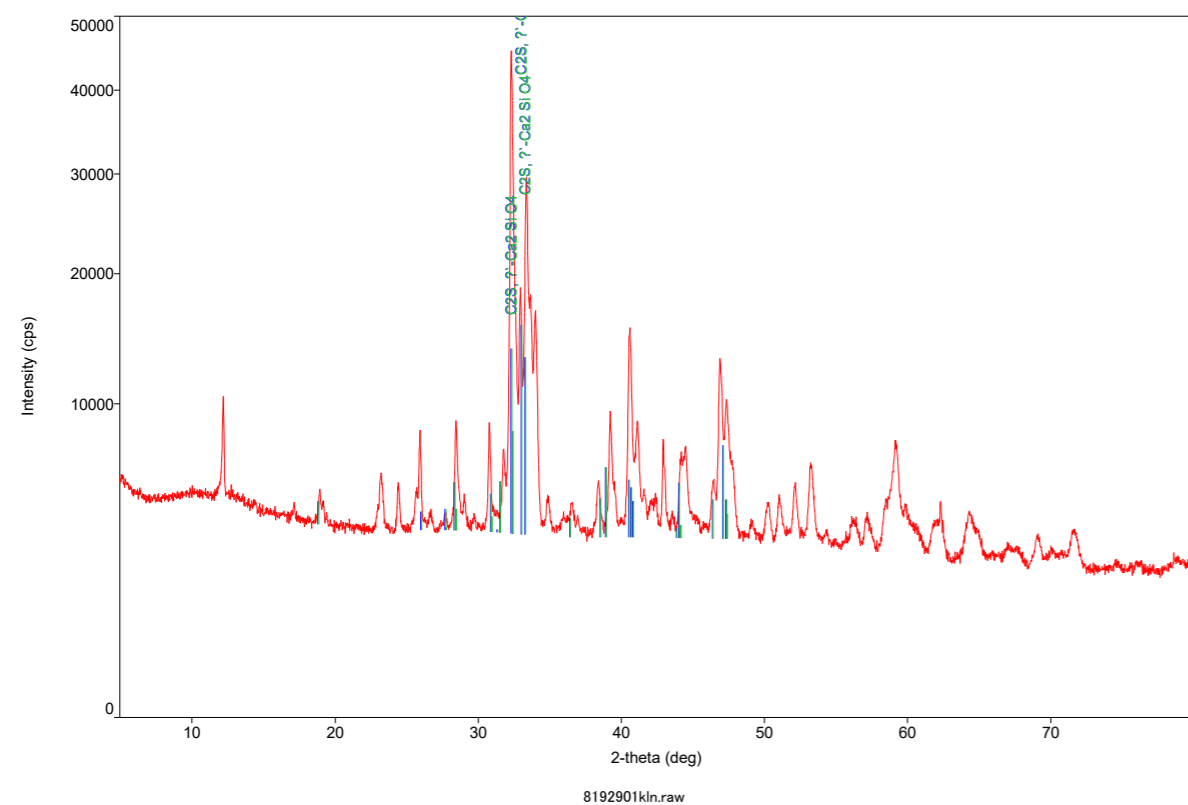


Figure 1 XRD Diffractogram / Clinker (Colemanite-H)

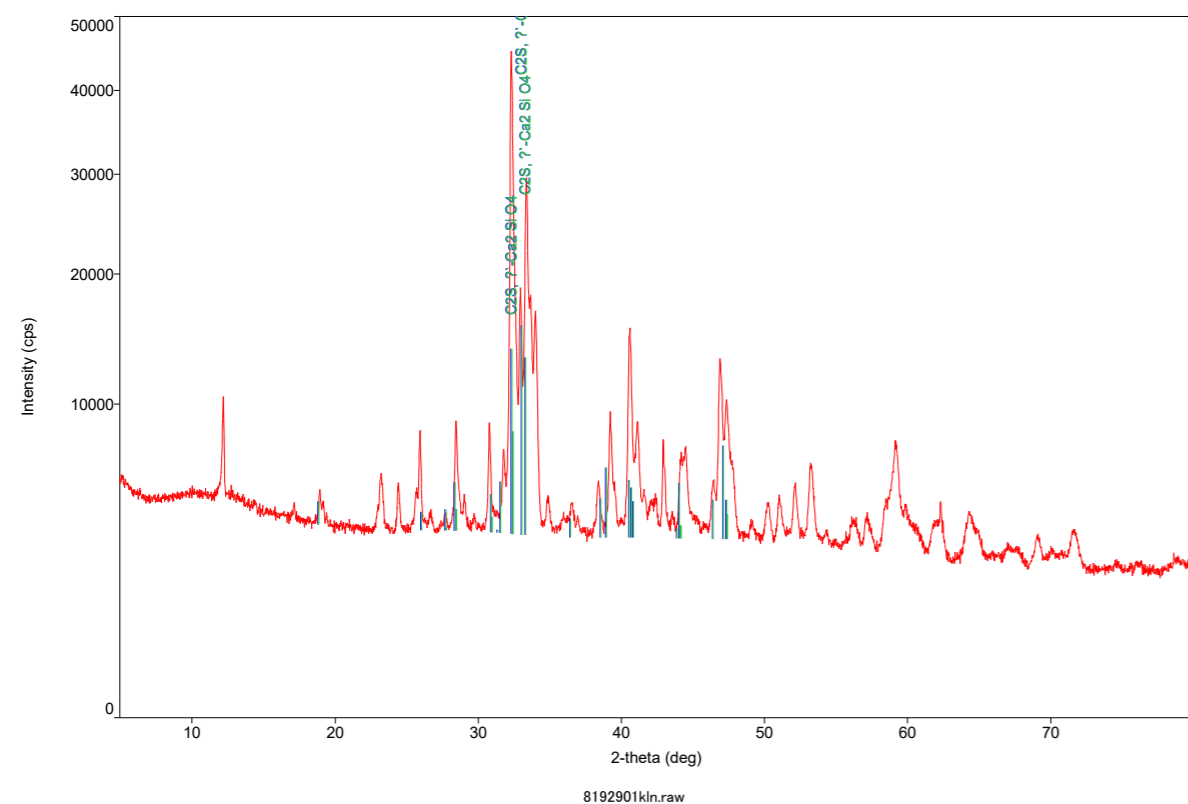


Figure 2 XRD Diffractogram / Clinker (Colemanite-B)

5 kg ABC with a 2.5% B₂O₃ were produced in laboratory conditions for conducting of physical and mechanical tests mixture. Test results are given in Table 8.

When the test results are examined, it is seen that the 7-days heat of hydration results are below 52 cal/g. Cements produced with these results is classified as very low temperature cement class. In this respect, it is suitable to be a cement type that can be used very easily in mass concrete applications. As it is known from previous studies and literature studies, the early strength of belite cements is low. The 2-days early strength result of cement sample made with colemanite-H was found to be better than other cement. In addition, 7 and 28 days compressive strength results are high. In order to increase the early strength of clinker (Colemanite-B) cement, it may be possible to grind a little more finely, and it is extremely important to pay attention not to increase the amount of water requirement.

Parameters	Unit	Cement Colemanite-H	Cement Colemanite-B	Method
7 days Heat of Hydration	cal/g (J/g)	50.9 (213.1)	49.0 (205.2)	TS EN 196-8
28 days Heat of Hydration	cal/g (J/g)	74.6 (312.3)	73.8 (309.0)	TS EN 196-8
2 days Compression Strength	MPa	10.7	6.6	TS EN 196-1
7 days Compression Strength	MPa	33.7	24.2	TS EN 196-1
28 days Compression Strength	MPa	63.5	60.7	TS EN 196-1
Initial Setting Time	min.	110	190	TS EN 196-3
Final setting Time	min.	150	215	TS EN 196-3
Normal Consistency	%	25.8	26.5	TS EN 196-3
Volume Expansion	mm	0.0	0.0	TS EN 196-3
Density	g/cm ³	3.17	3.17	In House Method
Specific Surface	cm ² /g	4513	4463	In House Method

CONCLUSION

The data on the trials related to use of colemanite products in boron cement production were compiled and the following results were reached.

- Raw material and product characterizations were made and chemical composition of the samples was removed. It has been observed that the minerals and chemical composition observed in colemanite products are suitable for the production of boron cement.
- Studies have been started by calculating the cooking recipes (raw meal mix ratios) according to the optimum LSF range in the literature (LSF; 93).
- When examine chemical composition of raw meals It is seen that amount of B_2O_3 is around 2.5 % and main phase was observed in clinkers observed and Free CaO values were below 2 %.
- Cement containing 2.5 % SO_3 was obtained by grinding clinkers with 5.0 % gypsum. In addition to chemical and physical analyses, heat of hydration analyses was also carried out on cement samples. When the produced ABCs are examined in terms of 7 days heat of hydration, they are considered as low temperature cement. It is thought to be suitable for use in mass concrete applications with its heat of hydration values.
- Looking at the completed 7, 28 days compressive strength results, it was observed that the best performance belongs to Cement (Colemanite-H). When examined in terms of compressive strength, it is thought that the values of cements can be equivalent to the normal PC 52.5 compressive strength class.
- During clinker production, burning temperature in rotary kiln is around 1300 °C, thus reducing CO_2 emissions to the atmosphere by up to 25 %

ACKNOWLEDGEMENT

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EFFECTS OF STORAGE DURATION AND SILO CONDITIONS ON FLOWABILITY AND TIME CONSOLIDATION OF ALTERNATIVE FUELS

By: Prof. Dr. Dominik Aufderheide, South Westphalia University of Applied Sciences, Germany and Dr.-Ing. Luigi Di Matteo, DI MATTEO Group, Germany

Abstract

The efficient utilisation of alternative fuels has become one of the major aspects of modern cement manufacturing especially if important success factors, such as sustainability and profitability are considered. In comparison to classical fuels, such as coal or gas, substitutive fuels are mostly derived by waste streams and therefore their properties are often volatile. Thus the handling of those bulk material streams within the cement plant require special measures and equipment. Especially the efficient storage and associated discharge of the alternative fuels is often difficult, due to the time consolidating effects. This article provides some insights about the typical problems during the storage of substitute fuels and provides an overview about the typical required equipment.

Keywords: *Alternative fuels, bulk material storage, time consolidation, discharge systems*

1. Introduction

Alternative fuels (AFs) have become one of the primary energy sources for the clinkering process within cement manufacturing during the last three decades. In most cases those substitutive fuels are mainly derived from waste streams which can differ immensely throughout different regions of the world and are also quite often not constant over time, as mentioned in [1]. In European markets the most commonly used AFs are derived either from industrial and/or municipal plastic waste (often referred to be as Refused Derived Fuel – RDF) or used tires (Tire Derived Fuel – TDF), while in other regions of the globe those fuels derived from renewable resources, such as biomass and or wood are more common.

One of the major aspects of an AF feeding installation within a cement plant is the implementation of a proper logistic strategy of the used material streams, which do often require a certain storage as an essential part of the installation. Since in most cases the material stream is mainly transported by

trucks, it is often essential to guarantee a proper buffer in order to maintain the feeding on weekend and/or holiday seasons. Therefore the minimum storage size $v_{min} [m^3]$ to be considered for an AF installation can be derived from the actual number of days n where the feeding shall be maintained from the buffer, the maximum feed rate (massflow) $\dot{m}_{max} [t/h]$ of the installation and the minimum bulk density of the fuel $\rho_{min} [t/m^3]$ using the following relationship:

$$v_{min} = \frac{24 \cdot n \cdot \dot{m}_{max}}{\rho_{min}} \quad (1)$$

So in case a typical weekend (2 days) would be the longest time period which shall be covered from the storage, the installation can be operated with a maximum massflow of 2 t/h and the smallest possible bulk density was determined to 0.1 t/m³, the necessary minimum storage size would be 960 m³ (app. 1000 m³). In cases trucks can be also received during the weekend the storage size would be smaller and in case longer periods shall be covered by the storage it needs to be much bigger. Therefore typical storage sizes differ enormously between different installations and need to be always designed according to the specific needs of the logistics and the process feeding. However, the necessity to include a certain type of storage within an AF feeding installation in order to maintain the feed for a certain buffer time is without a doubt an important decision to guarantee a high availability of the overall equipment. Besides that it is also often important to be able to receive materials in phases where the feeding line is not in operation, e.g. due to an unscheduled downtime.

From the theoretical design guideline mentioned above, the proper design of storages for AF is a quite challenging task in practice, due to the specific bulk material properties of the fuels. Therefore in section 2 of this article a short overview of typical aspects of AF storage properties are introduced. Based on these findings, section 3 introduces some typical possibilities to design a storage properly and integrate the optimal discharge elements. Finally section 4 concludes the whole report and provides an outlook to further relevant topics of AF feeding.

2. Storage effects on alternative fuels

Due to their inherited characteristics, the storage of AFs in a cement plant is fundamentally different from other typical bulk material streams, such as clinker, cement or raw materials. Therefore it is important to have a sound understanding regarding the physical and chemical effects of storing for each fuel. Besides that all aspects regarding possible safety issues need to be considered in detail, especially if the actual AF is classified to be able to build potentially explosive atmospheres within the storage area. This article provides a short discussion of the main physical effects, while further information regarding the chemical influences can be found in [2].

If bulk materials are stored it would be essential, that its flowing properties are not affected by the actual time it remains within the storage and/or in which type of piles/storage geometries it is stored. However, it is well known that all kind of bulk materials undergo a typical consolidation effect once they are not continuously moved and/or activated. Some bulk solids increase in strength if they are

stored for a period of time at rest under a compressive stress. This effect is typically called time consolidation. As shown in [3], the effect is a consequence of the increase of interparticle adhesive forces with time based on different mechanisms. If AF particles are moved relative to each other, these adhesive forces diminish and can build up again during further storage at rest. As shown in Figure 1 – (a), each AF element within a storage is influenced by a positive normal stress in vertical direction ($\sigma_v > 0$) in vertical direction. As a consequence a certain horizontal stress σ_h is exerted on the element. A typical measure in order to characterise this effects is the stress ratio K, which is defined as the quotient of the horizontal and vertical stress elements, as shown in Equation 1.

$$K = \frac{\sigma_h}{\sigma_v} \approx \{0.3 \dots 0.6\} \quad (2)$$

As shown in [4], the flowability of a bulk material can be determined by means of an uniaxial compression test, where a cylindrical container with the cross-section A is filled with the fuel (e.g. RDF) and then loaded by a uniaxial vertical stress σ_1 . As a consequence the volume of the material will be reduced due to compaction and consolidation. After a certain time the container will be removed and in a third step the material alone will again be loaded with a slowly increasing stress component. At one specific stress, the material pile will “break”. This stress is defined to be the unconfined yield strength. The different steps are illustrated in Figure 1 – (b).

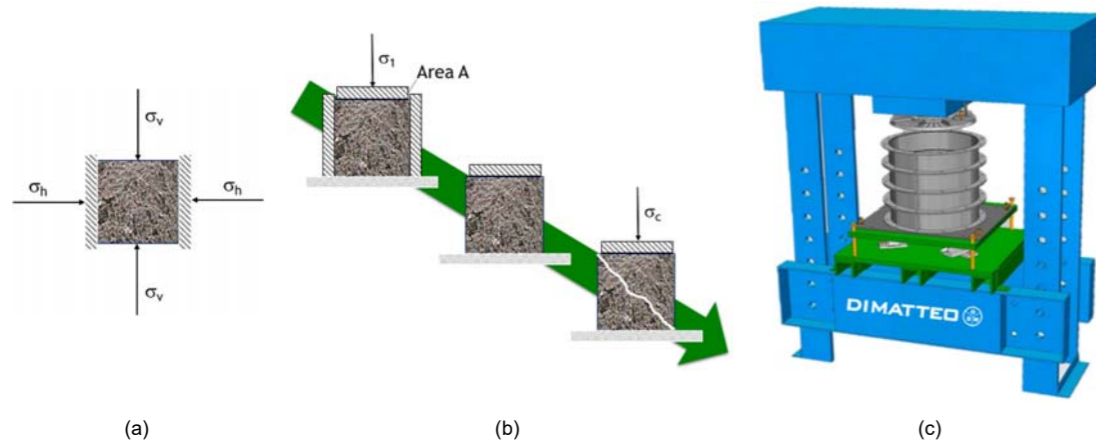


Figure 1- Stresses in bulk material elements within a storage – (a): Vertical and horizontal stress on a bulk material element; (b): Three stages of the uniaxial compression test; (c): DI MATTEO test equipment for measuring consolidation effects

DI MATTEO developed adequate testing equipment in order to characterise the flowability properties of alternative fuels, as shown in Figure 1 – (c), and for each project the typical characteristics of the materials are determined within the company’s test centre in Germany. In Figure 2 some typical results are illustrated in qualitative measure, where on the left side (Fig. 2 – (a)) the variation of the bulk density for different consolidation stresses during storing are shown. The actual consolidation effect can be easily seen and for RDF and biomass the bulk densities can increase up to ten, respectively seven, times the initial bulk density. As defined by [2], the ratio of the consolidation stress σ_1 and the unconfined yield strength σ_c is often interpreted as a flow function ff_c , as shown in Figure 2 – (b). Based on this function it is possible to differentiate different classes of the flowability of the bulk material.

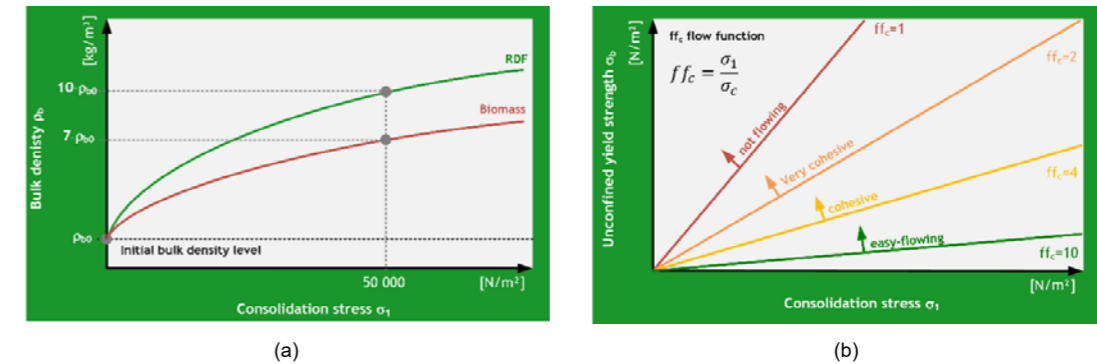


Figure 2- Stresses in bulk material elements within a storage – (a): Vertical and horizontal stress on a bulk material element; (b): Three stages of the uniaxial compression test; (c): DI MATTEO test equipment for measuring consolidation effects

As a logical consequence from the consolidation effects and especially the negative influences on the flowability of the material over time, it is highly recommended to design all storages according to a First-In-First-Out (FIFO) principle (see also [5]). Within the next section different types of storages and associated discharge and reclaiming systems are classified and described and their adequacy in terms of the FIFO principle will be discussed.

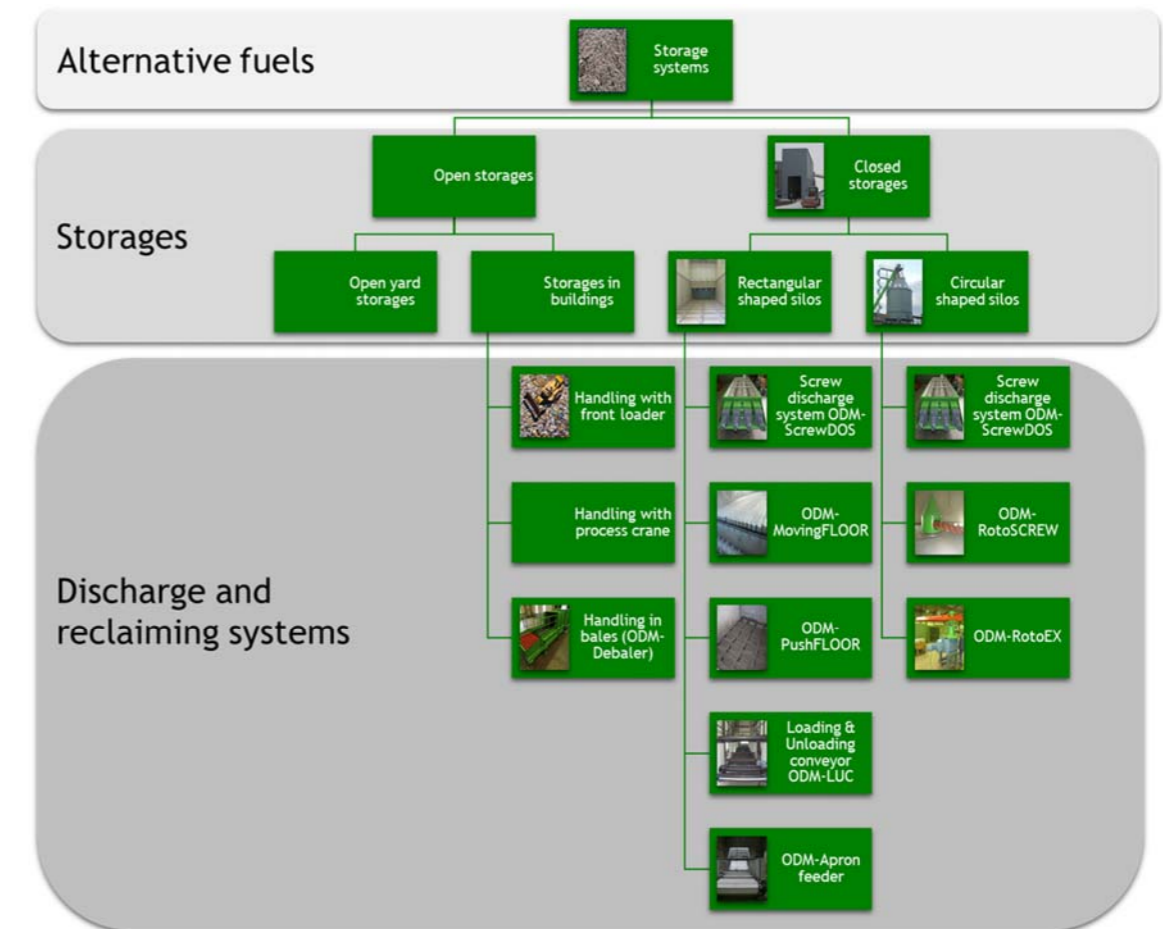


Figure 3- Classification of storage systems and associated discharge and reclaiming elements

3. Storage systems and associated discharge and reclaiming systems

Of course it is generally possible to use all classical types of storages as also used for classical bulk materials and besides the specific needs of the AF materials, as they were introduced above, the typical requirements are also quite similar, such as

- (i). high availability
- (ii). low maintenance and operational costs
- (iii). flexibility regarding the bulk material specifications
- (iv). homogenisation properties
- (v). low investment
- (vi). ideally a defined volume outflow per time unit.

A typical classification of storage systems and associated reclaiming devices can be found in Figure 3, where within this article mainly the closed storages are considered. For this it is first of all essential to distinguish circular and rectangular shaped storages. In this context it shall be mentioned, that the usage of typical circular shaped silos is quite limited for alternative fuels. Typically storage sizes of more than 1200-1500m³ are not recommendable due to the necessity to realise a quite big height of the silo, which would lead to a quick variation of the flow function towards values <2 over time due to the immense consolidation stress. However, silos within the defined capacity range (see Figure 4 - (a)) are quite efficient storage possibilities. Nevertheless, for bigger storages rectangular shaped storage halls, as shown in Figure 4 - (b), are the more reasonable choice, because due to its shape general rectangular footprint the actual material height can be limited to 5-10m and the necessary storage capacity can be easily designed by adapting the width and length of the storage buffer.



Figure 4- Typical shapes of storages: (a) – Classical circular shaped silo; (b) – Rectangular storage hall

As shown in Figure 3, depending on the shape of the storage, there are different typical discharge and reclaiming systems available. Since it is not possible to present all possible options here, just some typical best-practice applications shall be discussed and evaluated due to the aforementioned six main

criteria. However, it shall be mentioned that DI MATTEO has to offer all possible combinations shown in Figure 3.

3.1 Example I: Circular silo with integrated gravimetric dosing

In almost each feeding line it is also necessary to include a gravimetric dosing device, such as the famous ODM-WeighTUBE[®] (see [6]), in order to guarantee a precise dosing of the AF to the burning process. For this reason, DI MATTEO expanded its ODM-WeighTUBE[®] family in order to provide also a possible setup, where two or more dosing units are directly placed below a circular shaped silo, as shown in Figure 5 - (a). Thus it is possible to feed directly multiple dosing lines from a single storage silo without any further pieces of equipment. A homogenous discharge from the silo is guaranteed by means of the inclusion of an ODM-RotoEX discharge system. The ODM-RotoEX is fitted with one or several rotating, robust sweeping arms, which undercut the material stack and discharge the material reliably and continuously. Even sticky, poor-flowing materials can be brought to an opening without any problems in a first-in-first-out manner. The RotoEX silo discharge system avoids the creation of sedentary zones and material caking during discharge in order to guarantee a continuous material flow to the dosing units. Such an installation is very cost effective and typically quite robust against any changes of the material properties.



Figure 5- Combination of storage and dosing units; (a) – Two ODM-WeighTUBE[®] directly mounted below a circular silo; (b) – ODM-RotoEX silo discharge system for a robust homogenous discharge

3.2 Example II: Rectangular silos with ODM-PushFLOOR discharge

As mentioned above, the capacity of a circular silo is always limited, therefore for large storages a rectangular storage hall is the method of choice. Here it is easily possible to realise also storage capacities above 2000m³. However, due to the rectangular geometry of such storage halls, it is not possible to utilise classical discharge elements, such as the ODM-RotoEX and/or silo discharge screws (ODM-RotoSCREW). Therefore DI MATTEO offers also discharge systems, such as the typical reclaimers (ODM-Loading and Unloading conveyor (LUC)), the ODM-MovingFLOOR and the ODM-PushFLOOR. If these systems are compared it needs to be mentioned, that the material flow is not optimal, since the discharge is always realised from the top of the material pile. As shown in Figure 6 - (a), the LUC leads to a scenario where the material which was actually fed to the storage first, is discharged last.

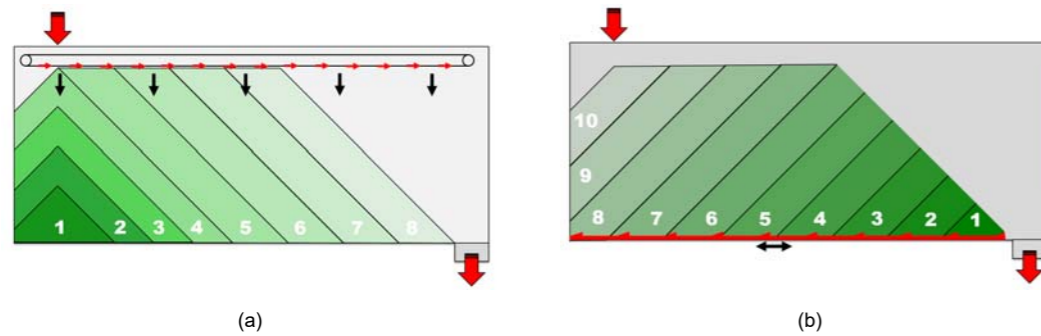


Figure 6- Typical shapes of storages: (a) – Classical circular shaped silo; (b) – Rectangular storage hall

Therefore it does not follow the FIFO principle and it is likely that the material on the bottom will be affected by time consolidation effects. In comparison to that situation the ODM-MovingFLOOR and ODM-PushFLOOR systems will discharge the material from the bottom and will either scratch the material with the rams of the PushFLOOR from the bottom and/or move the complete pile of material towards the outlet. Therefore the material which was fed first will also leave the buffer first. Therefore, if the FIFO-principle shall be followed, it is always reasonable to prefer ODM-MovingFLOORs/ODM-PushFLOORs instead of LUC solutions.



4. Conclusion

The design and selection of adequate storage systems for alternative fuels are important tasks which are often underestimated during the conceptual stages of feeding projects. This article provided some main considerations regarding the time consolidation effects which lead to a variation of AF material properties during the storage time and derived some typical criteria for the selection of storage systems and their associated discharge and reclaiming elements. Based on two examples best-case scenarios were developed by DI MATTEO during the last decades, where within this article two examples are shown: one for a circular silo with integrated ODM-WeighTUBE for gravimetric dosing and a second one for rectangular shaped storage halls with ODM-MovingFLOOR/ODM-PushFLOOR systems. However, the design is always subject to the material properties, the exact plant layout and the demands of the plant in terms of logistics, etc. Therefore DI MATTEO offers tailor-made solutions for all cases.

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REMOTE PLANT OPTIMISATION

By: JAMCEM Consulting, United Kingdom

Introduction

JAMCEM Consulting is renowned for its hands-on plant audits – be they process, energy efficiency or maintenance focused. However, the arrival of COVID has limited the potential for JAMCEM resources to travel to the plants of its customers. For this reason, JAMCEM has developed several new, remote/desktop services which will allow the JAMCEM customers to continue their optimisation processes even without the presence of JAMCEM personnel on site.

The services are highly cost effective, without the need for travel and make the most of modern technology by combining the JAMCEM web portal for certain services along with video-conferencing for progress reports and a close-out meeting at the end of each assignment.

Each of the services are described in more detail below and can be provided for clients as either single, one-off assignments or as a package of services covering different aspects of the overall cement manufacturing process.

PADS

PADS stands for “Performance Analysis and Diagnostics System” and is unique to JAMCEM – no other consultancy has developed such a system. It was the first desktop/remote system that JAMCEM developed in 2014 and has been used as the starting point of any optimisation project for cement producers. It has been used at plants in the UK, Saudi Arabia, UAE, Vietnam, Thailand, Cambodia and Sri Lanka.

The system is based on international best practice and a benchmarking database that has been developed by JAMCEM with over 100 plants. However, the tool isn’t simply a benchmarking report that tells you how your performance compares to many different plants around the world – which is pretty worthless information if you don’t know how to close the gap between them and you. Or even if the comparison between them and you is valid – do they have the same process type, fuels, raw materials, clinker and cement quality targets?

What PADS does is compare your performance with what would be optimum performance with the process type that you have, the specific equipment, the fuel type, the raw materials used, the types of clinker and cement that you produce etc. – to give specific targets for your plant.

But more than this – PADS digs into your plant information to identify the causes of the gaps between actual and benchmark performance through the concept of secondary benchmarking. This is where the targets for the technical parameters that relate to the primary benchmarks are assessed – so for example the secondary benchmarks for fuel consumption include preheater exit temperature, cooler efficiency, kiln and preheater radiation, kiln stops etc.

The completion of the gap analysis and the secondary benchmarking will then allow JAMCEM to provide recommendation for further investigation to reduce the gap. Areas covered in the PADS assessment are mill and kiln throughput, fuel and power consumption, quality, reliability, manpower and environment.

Power Audit

The JAMCEM power audit is one of the three new tools that has been developed recently but is based on the principles of power auditing that have been in the company for some time. Whilst PADS investigates the power consumption by process section and then in more detail, breaking the power down to more individual drives and compares them to the benchmark, the power audit is focusing on the efficiency of the power drawn by motors compared to that which should be the theoretical power that is drawn by that motor.

So taking the example of a preheater fan, we can calculate what the theoretical power drawn should be from the pressure and flow and this theoretical power can then be compared to the actual power drawn by the motor. The efficiency (obviously taking into consideration the drive and fan losses) can then be compared to the expected efficiency to identify which motors (and the equipment that they are associated with) are operating efficiently and which need investigating.

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Evaluation of the causes for lower than expected power generation

3

QUALITY ASSESSMENT

Covering raw materials, kiln feed, clinker and cement properties

4

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The same can be done for all items that have motors – so for pumps, elevators, conveyors, compressors – as well as the main drives for kiln, mill etc.

The process – like all the remote services – relies on the accurate data collection and measurement from the plant personnel. This involves the electrical department checking the voltage and amps of the equipment as well as the individual cos phi value as well as the process department for physical measurements on the plant. As with any study like this, the quality of the input into the assessment will dictate the accuracy and value of the output.

Waste Heat Recovery

The third service – and one that has been combined with the Power Audit for recent clients – is the waste heat recovery (WHR) assessment. It is common for the performance for waste heat recovery system performance to decrease once the equipment suppliers have created the correct combination of flow and temperature from the preheater and cooler to ensure that they manage to pass the performance guarantee tests. Therefore the understanding of the causes of the drop off in performance from the system is important – especially as the capital investment in these systems is high and the returns in terms of power saving are high.

JAMCEM has a methodology of assessing the three areas of the WHR – these being the preheater boiler, the cooler exhaust boiler and the turbine. The theoretical (from the system design and the performance guarantee tests) performance can then be compared with the actual performance in terms of power generation as well as the secondary parameters such as flow and temperature of process gas and generated steam being reviewed.

We have found that there are often changes in the process that have happened that have had the consequence of reducing the output of the WHR system and this is where we also incorporate a video-conference with the process team so that we can ensure that we fully understand everything that is happening with the process and the plant before we make out conclusions.

The outcome of the study is a summary of what can be considered to be recoverable power and what is irrecoverable, which normally means that which cannot be recovered due to process changes that have been made by the operator to the plant since the installation of the WHR system.

Quality

The final service that has been developed to provide remote support is that of the quality assessment. The assessment provides a review of the raw materials that are currently in use (which may well be different to those in the original design of the plant or in the geological study) and how these go to making up the raw mix for the mill. Blending and homogenisation equipment upstream of the mill is reviewed along with the arrangements for the reduction of variability before the mill in order to minimise the use of corrector materials at the mill.

Assessment of the chemical and physical properties of the raw mill product are made including target setting for the correct burnability in the kiln as well as the different cement qualities that are being produced. A similar assessment is made of the properties of the clinker that is produced as well as focusing on any variability that could indicate kiln instability; properties of the clinker such as the alkali to sulphate ratio which can have an effect on the concrete performance are also assessed.

Finally, the cements that are produced are assessed considering their performance in relation to the specific standards in the particular country and any optimisation that could be proposed to improve cement performance and reduce cost of production.

JAMCEM has a unique database of different cement types from many producers and therefore can assess the 28-day strength performance for any cement compared to the blaine/residue at which it is produced. This tool can highlight problems in either the clinker or cement production stage which will then allow changes to be made and therefore either an increase in strength or a reduction in fineness and resultant cost savings.

Summary

As can be seen from the descriptions, JAMCEM has developed an extensive range of services which will allow cement producers to continue their optimisation despite the travel restrictions. The services are highly cost effective and result in the plant personnel having an action plan to provide direction in improving performance in multiple areas of cement manufacturing performance.

VPInstruments supplies VP74 Flow Sensor to emergency ventilator prototypes of OperationAIR

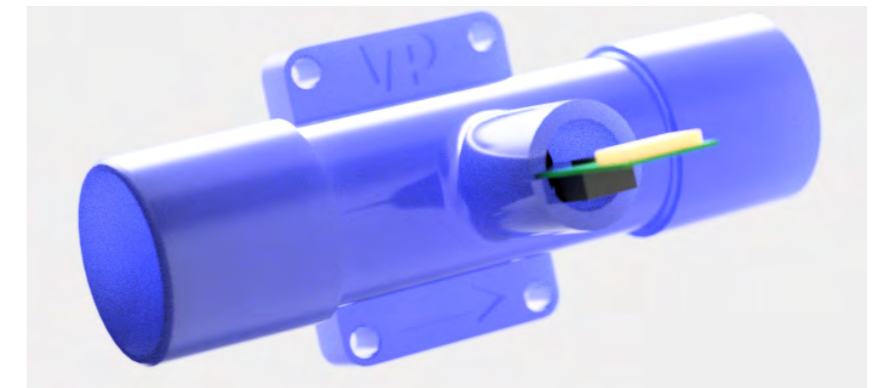
VPInstruments has proudly supplied the VP74 Flow Sensor to the OperationAIR initiative to support worldwide the need for ventilators due to COVID-19.

OperationAIR is a student team of Delft University of Technology that developed an emergency ventilator for COVID-19 patients: the AIRone. The initiative started on March 16, 2020, with the aim to develop a simple and relatively easy producible ventilator. Shortly after, VPInstruments came into contact with the OperationAIR team and supported with the supply of the flow sensors.

Each AIRone ventilator features a VP74 Flow Sensor; the sensor measures the flow going out of the patient. The flow meter consists of VPInstruments' proprietary silicon Thermabridge™ flow sensor and an integrated microcontroller. The design of the flow sensor's Wheatstone bridge enables both flow and direction measurement and is combined with a heater. The flow sensor's housing was designed and executed in matter of weeks for the AIRone ventilator and features a 22 mm process connection (in compliance with ISO 5356).

VP74 Flow Sensor features:

- Measurement of (bi-directional) flow, total flow, and temperature
- Flowrange: -200...+200 SLPM
- Temperature range of gas: 0..50°C
- Original Thermabridge™ technology as invented in 1974 by VPInstruments
- Response time: <0.5 sec
- Dynamic range: 1:100



At present stage, VPInstruments has supplied multiple VP74 flow sensors for the prototypes of the AIRone. The AIRone has been extensively tested on functionality, electrical and mechanical safety, and usability. Currently the design of the AIRone, including the use of the VP74 Flow Sensor, is available on the website of OperationAIR free to use for the entire world.

More information:

www.vpsensors.com
www.vpinstruments.com
www.operationair.org

About VPInstruments

VPInstruments 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. VPInstruments' 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.

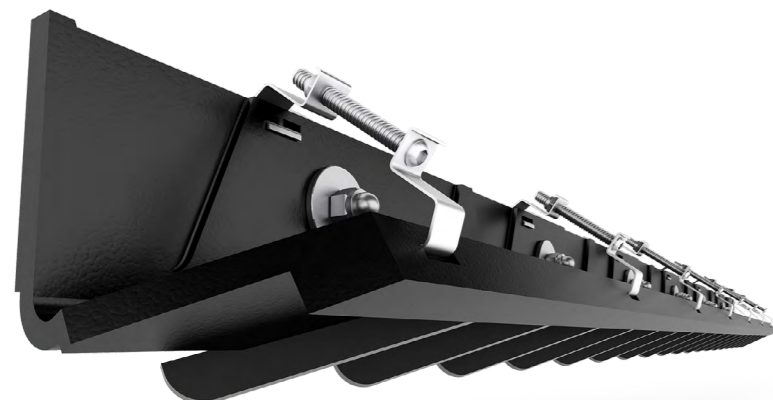
VPInstruments' products are recommended by leading energy professionals worldwide and offer the most complete measurement

solution for compressed air flow, gas flow and electric energy consumption. Our monitoring software, VPVision, 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.

For more information, contact:

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 Buitenwatersloot 335, 2614 GS Delft
 Tel. +31 (0)15 213 1580
 Website: www.vpinstruments.com

New innovative Seal Skirting Concept makes "the" change!



New is the contact-free AirScrape® conveyor belt skirting system, which significantly reduces material spill, dust formation and explosion hazards at transfer points and other critical sections in the conveyor chain.

Because this system hovers freely above the conveyor belt, skirt friction and belt damage is eliminated and service life is extended.

“The AirScrape system – which encompasses inward facing, hardened-steel diagonal blades – operates according to a new principle where it hovers 1-2 mm, on the left and right side above the conveyor belt. These blades deflect larger particles inwards, while using the air-flow of the conveyor belt and conveyed material to create an inward suction, flowing any dust and fine particles back into the product flow,” explains Thorsten Koth, sales director, Scrapetec-Trading. “Through these diagonally

fitted blades and the speed of the running belt, air is drawn from the outside inwards. As a result, neither the dust nor material can escape.

“Conventional skirting is pressed against a conveyor belt to keep dust and material in the middle of the belt, but after a period, wear of the skirting and belt can be so severe, that material and dust escapes. Material spillage at transfer points needs to be removed and regular maintenance of belt skirting and transfer points is necessary.

“With the AirScrape dust-free and contact-free, side sealing system for belt conveyors, there is no skirt contact and therefore no belt wear or damage. Motor power requirements are reduced as there is no belt-skirt friction and because there is continuous skirting with no gaps, product loss is minimal.

“Studies show, that even three years after installation and with continuous use in harsh conditions,

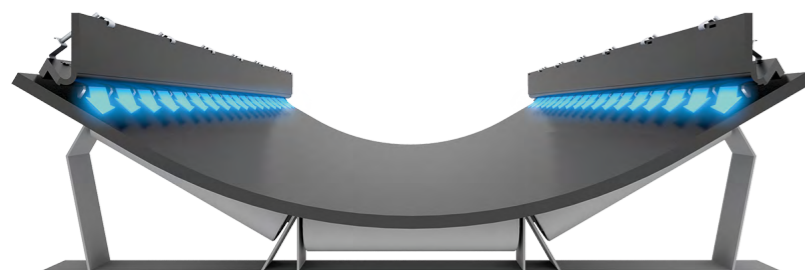
the AirScrape system hardly shows any signs of wear. Operational costs are also reduced because there is no need for spillage collection, regular maintenance, or replacement parts.”

This system is available in pairs of left and right hand 2 m, inter-connectable pieces, to form any required length and is available in three different base widths of 100 mm and 55 mm, to suit various belt widths and chute sizes. For flexibility on site, this system is completely extendable.

AirScrape is fitted using spacers, floating the blades just above the belt and is attached to the outside of the chute by utilising existing skirt clamps or a simple bolt and nut system. It is longitudinally adjustable to follow the contours of conveyor belt rollers and the belt trough angle.

This durable system consists of non-flammable and anti-static Polyurethane materials and blades made from Hardox/ Stainless Steel. FDA-approved materials are also available for specific conveyor handling applications.

This system – designed and manufactured in Germany by ScrapeTec Trading, to the highest quality standards – is available from BLTWORLD throughout Africa and the Indian Ocean Islands. From Grupo-ISC throughout South America and from Scrapetec-Trading for the rest of the world. Our team provides an assessment and solutions service for planning and implementing each project. Correct installation of suitable equipment, ensures cost efficiency, optimum performance and safety, reduced risk of breakdown and extended service life of the conveyor system.



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Reduce errors with iPick: VAR BMS Smart Logistics enhances Intelligam pro-tile's efficiency

Fewer errors with iPick: VAR BMS Smart Logistics enhances Intelligam pro-tile's efficiency

In the day-to-day operation of a ceramic warehouse, goods that have been prepared for shipment are often not placed in the correct location and therefore cannot be identified immediately. As a result, carriers arrive at the warehouse to pick up quickly the goods, but the process to identify the correct pallet is lengthy, poorly organized and complex for the operators. The placement's procedures of the goods have not been followed with care, and that's the consequence.

combination that exploits the potential offered by artificial intelligence and augmented reality to guide the operator during the picking of materials prepared for the shipment.

This innovative technology uses the computer vision (i.e. the ability to recognize images), in this case augmented reality markers, or symbols associated with the location or the individual object which are recognized by the AI.

webcam. The pallets are analyzed in real time by the application based on the images transmitted by the video cameras, and immediately flagged when the active markers are recognized.

Infolog's CEO Giorgio Tesorieri announced the acquisition of 51% of the company by Var Group, an Organisation with a 340-million-euro turnover wholly owned by the Sesa Group (SES.MI). "Infolog was already recognized as one of the



Identification at a glance

The most important question then is : Is it possible to certify and at the same time simplify the pallet identification process and the shipment procedures ? The answer is yes, thanks to the use of Artificial Intelligence (AI) and Augmented Reality (AR) to assist the operator.

When the pallet leaves the controlled warehouse environment and is deposited in the external shipment area, it is easy to lose track of it. And if the operator has to check the pallets one by one to determine their contents, this can clearly become a very time-consuming operation.

At the moment of identification, search operations can be simplified using Infolog's Intelligam pro-tile software together with the iPick solution from Var BMS, a

Once the material has been prepared for shipment, the operator, guided by the Regia Attiva automatic scheduler from Intelligam pro-tile, puts a code to the customer's pallet, which is subsequently positioned together with other materials ready for shipment. iPick identifies the goods immediately upon the carrier's arrival.

By using AI and AR, iPick is able to eliminate errors during picking. Each marker is recognised and flagged, then displayed on the screen in the colour green or red depending on whether or not the pallet is intended for shipment.

The solution can be installed on smart glasses to allow greater ease of movement for operators, or on a rugged-forklift-PC connected to a

leading WMS software developers in Italy, and after becoming part of the Var Group will have the opportunity to further develop its solutions," he said. This operation has led to the introduction of new technological applications such as iPick which complement the advantages offered by the Infolog software.

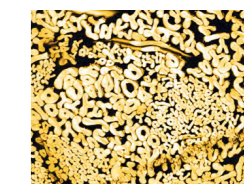
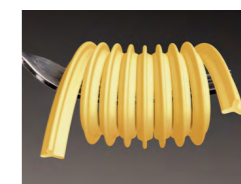
Thanks to the application of this new technology, Intelligam pro-tile will be able to guarantee even more complete management of the logistics flow. By simplifying the loading operations in the final phase prior to shipment, iPick completes Intelligam pro-tile, the most widely used system in the ceramic sector, known for its efficiency, precision and reliability.

What can pasta teach us about filtration?



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Remote Product Development **A smart solution to overcome distances!**

MProject is launching a new Industry 4.0 project to enable tile manufacturers and glaze suppliers to speed up remote product development.

Travel restrictions preventing technical staff from visiting international customers are delaying tile manufacturers' activities in terms of product development and the start-up of industrial-scale production. This is a highly delicate and strategic operation in which the on-site presence of the suppliers' personnel has until now been essential.

MProject's Remote Product Development (RPD) program overcomes the problem of physical distance and offers an opportunity to revolutionise the ceramic industry's approach to R&D.

It is a new tool available to tile manufacturers and glaze suppliers that will allow them to take a further step towards a Smart Manufacturing model.

The product development process is also using innovative digital technologies to adopt Industry 4.0 criteria, resulting in a number of benefits. The first is a faster product development process even without the on-site presence of technicians while guaranteeing very high levels of performance.

Other benefits include product standardisation, lower production costs and constant support from a team of professionals.

Contact us to learn more about the features of RPD. The MProject staff will help you find the best solution to your needs.

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SACMI success with new digital modelling solution

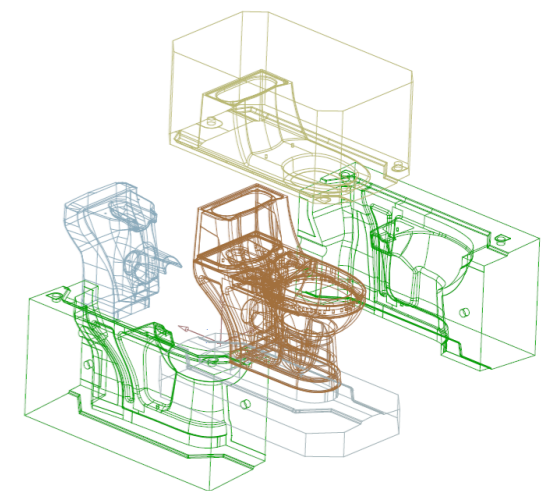
From the first trials with two-part moulds, SACMI is today able to create moulds with up to 7 parts through the innovative "by tooling" technique. Several examples have already been installed at top factories around the world. This new solution ensures drastic reduction in time and costs of product development whilst improving quality at the same time.

In 2018 SACMI presented its new Sanitaryware pilot plant demonstrating rapid progress towards the new frontiers of digitalization. In less than 7 years from the arrival of the first 3D scanner model at the company, SACMI can now offer the sanitaryware market DPD (digital product development), the new system which starts from a drawing and virtual engineering of the prototype and is completed with the 3D digital modelling of the mould.

Several important steps forward have been taken over the last 12-24 months in the development of the by tooling solution; the technique which creates the mould by direct machining of porous resin blocks without the use of a case-mould. From the first trials carried out on 2-part moulds, SACMI has now sold and installed, with proven success, solutions capable of creating moulds having up to 7 parts for the production of complex WCs entirely by tooling. To give an example of the advantages, which have been tried and tested with positive results at the plants of some of the leading sanitaryware manufacturers on the market, the greatest of all is the reduced product development time which, thanks to the "by tooling" technique, is cut from several months to just a few weeks (as in the case of a recent supply for the mould of a complex washbasin).

Furthermore, as well as the benefits of reduced development time and costs, it is important to underline the improvements to quality achieved by the "by tooling" solution. In fact, fewer stages in the work process and the possibility to integrate the creation of the prototype mould with advanced simulation software (tension mapping of the unfired product, fluid-dynamic analysis etc.) are just some of the positives to which we can also add the ability to set a totally automatic production flow, thanks to the SACMI numeric control CNC machine provided with 5 work axes and 50 tools which can operate 24hrs without the presence of an operator.

The challenge to offer the market a "mature" technology for the development of moulds by tooling is being met by SACMI, which sold more than 60 moulds developed with the new system in 2019 to the full satisfaction of its customers. It is a true revolution in the way mould development is conceived – and in the entire production process of sanitaryware from the design to the warehouse – and this is just the start since it opens up many new opportunities as a technology which can be applied to create more and more complex pieces with high added value for the customer.



Analyze MyDrives V1.0 available as standard in Mindsphere Store and Sinamics Connect 300 with new intelligent features

Siemens presented its latest solutions for smart and networked drive technology. By networking entire drive systems, machine and plant builders as well as users can simulate machines and plant more accurately using digital twins, perform commissioning, reduce downtimes and therefore increase productivity.

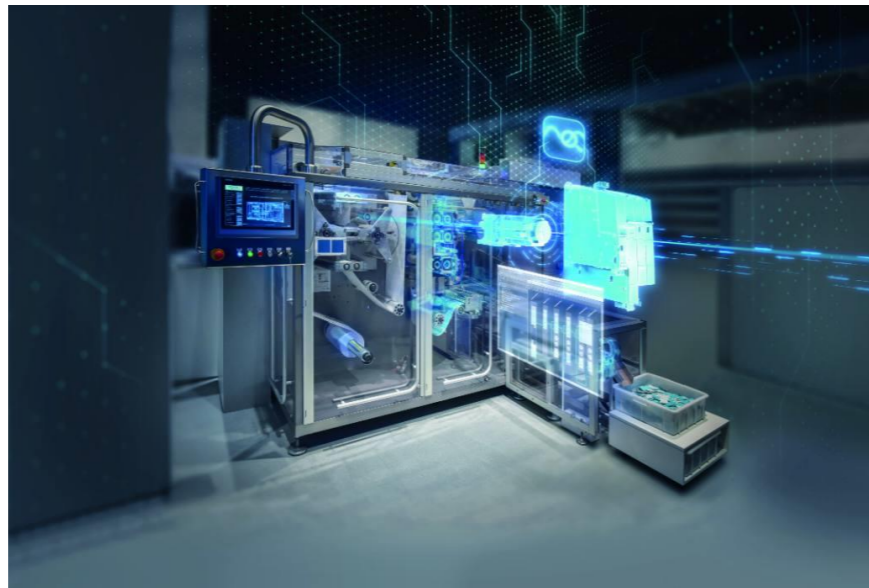
Analyze MyDrives V1.0

With the new version V1.0 of the Analyze MyDrives MindSphere app, Siemens is providing this proven app as standard in the MindSphere Store. The new version offers users new powerful diagram libraries for faster visualization. The new "Pan & Scan" function enables users to specify a precise time frame for monitoring. The new version also features an improved e-mail notification service, which is based on a simple IFTTT control mechanism. In addition, users can freely configure trend analytics, for example for time series and scatter diagrams to support even more powerful bivariate graphical correlation analysis. A new dashboard provides the key status information for all relevant drive components at a glance. If necessary, users have an overview of the integrated variables per drive train component, including the last transmitted value, time of last update, unit of measurement and link to the diagram used. Diagrams can be exported with a single click. Statistical aggregate functions are integrated into all diagram types.

New functions for Sinamics Connect 300

With Sinamics Connect 300, Siemens introduced a simple plug and play solution for integrating Sinamics converters into the IT world in 2018. The solution is designed for low-voltage converters and supports cloud-based digitalization solutions. At SPS, Siemens presents the solution with new features and improved usability. One new feature is expert mode, where on request the user can individually differentiate the Siemens AG Communications Head: Clarissa Haller Werner-von-Siemens-Straße 1

parameters of the Sinamics drive which are to be stored in Mindsphere, the open, cloud based IoT operating system. The new Sinamics Connect 300 device includes comprehensive commissioning and service management with integrated web server, which simplifies configuration even with very specific requirements. The web server enables comprehensive management of the device, e.g. CA certificates, license management and firmware updates. On the web server homepage, users can also view the MindSphere connection status directly and therefore



immediately check cloud connectivity. To ensure that data is not lost even in the event of network failures, a data buffer of up to 500 MB is provided. For secure data transfer, the transfer protocol has been changed from HTTP to HTTPS and the security guidelines have been updated to prevent unauthorized manipulation of the device. Sinamics Connect 300 adds to the existing Standard MindConnect portfolio and gives users the opportunity to connect Sinamics converters that do not communicate via Profinet directly to MindSphere. In addition, Sinamics Connect 300 enables the connection of Sinamics drives in existing plants without the need for expensive and time-consuming hardware or software modifications. Sinamics Connect 300 does not use a proprietary data model, which means that uploaded converter data can be provided to all Mindsphere apps without problems.

Simatic Micro-Drive F-TM Servodrive adds protective extra-low voltage range to the drive portfolio

- Easy connection to Simatic controllers using plug-in connectors
- Integration in TIA Portal supports quick commissioning

Simatic Micro-Drive F-TM Servodrive is the newest member of the Simatic Micro-Drive family. The servo drive system comprises a Simatic Micro-Drive F-TM Servodrive drive controller module, the Simatic ET 200SP and universal motors and plug-in cables. It adds to the Simatic Micro-Drive PDC (ProfiDriveControl) and completes the drive portfolio in the protective extra-low voltage range for EC motors from 24 to 48 volts. The drive controller module supports dynamic and accurate positioning in a small amount of space in the performance range up to 280 watts.

Simatic Micro-Drive F-TM Servodrive is integrated into the TIA Portal just like Simatic Micro-Drive PDC. Easy connection with plug-in connections to Simatic controllers and integration into the automation platform shortens engineering time for the Simatic Micro-Drive family and simplifies commissioning and servicing. Communication is via Profinet.

The Simatic Micro-Drive servo drive system is ideal for use in positioning tasks, in production machines, in shuttles for stacker cranes and in automated guided vehicle systems (AGVs). In order to meet customer requirements with maximum flexibility, Siemens uses products from the Siemens product partner program for Simatic Micro-Drive for the motors (Dunkermotoren, ebm-papst) and plug-in cables (Harting, KnorrTec).



Simatic Micro-Drive F-TM Servodrive is the newest member of the Simatic Micro-Drive family.

Simatic Drive Controller – the new motion controller with integrated drive control

- Simatic S7-1500 controller with expanded motion control functionality and Sinamics S120 drive control in one device – thus saving space
- Powerful for high-end applications, with integrated safety functionality for the controller and drive
- Extensive communication interfaces, technology I/Os, as well as cross-PLC synchronous operation for an easy implementation of modular machine concepts
- Proven engineering in the TIA Portal

Siemens is expanding its product portfolio of technology CPUs with the Simatic Drive Controller. The new controller combines a Simatic S7-1500 controller with motion control, technology and safety functionality with a Sinamics S120 drive control in one device, thus saving space. This makes it easy to implement requirements for powerful, compact and flexible automation solutions. The high performance of the new controller is particularly beneficial for applications with many axes where a multi-axis drive system is used – for example in packaging, printing and textile machines.

The controller is available in the two performance classes CPU 1504D TF and CPU 1507D TF. Thanks to integrated safety functionality for the controller and drive, even demanding requirements regarding operator and machine safety can be met.

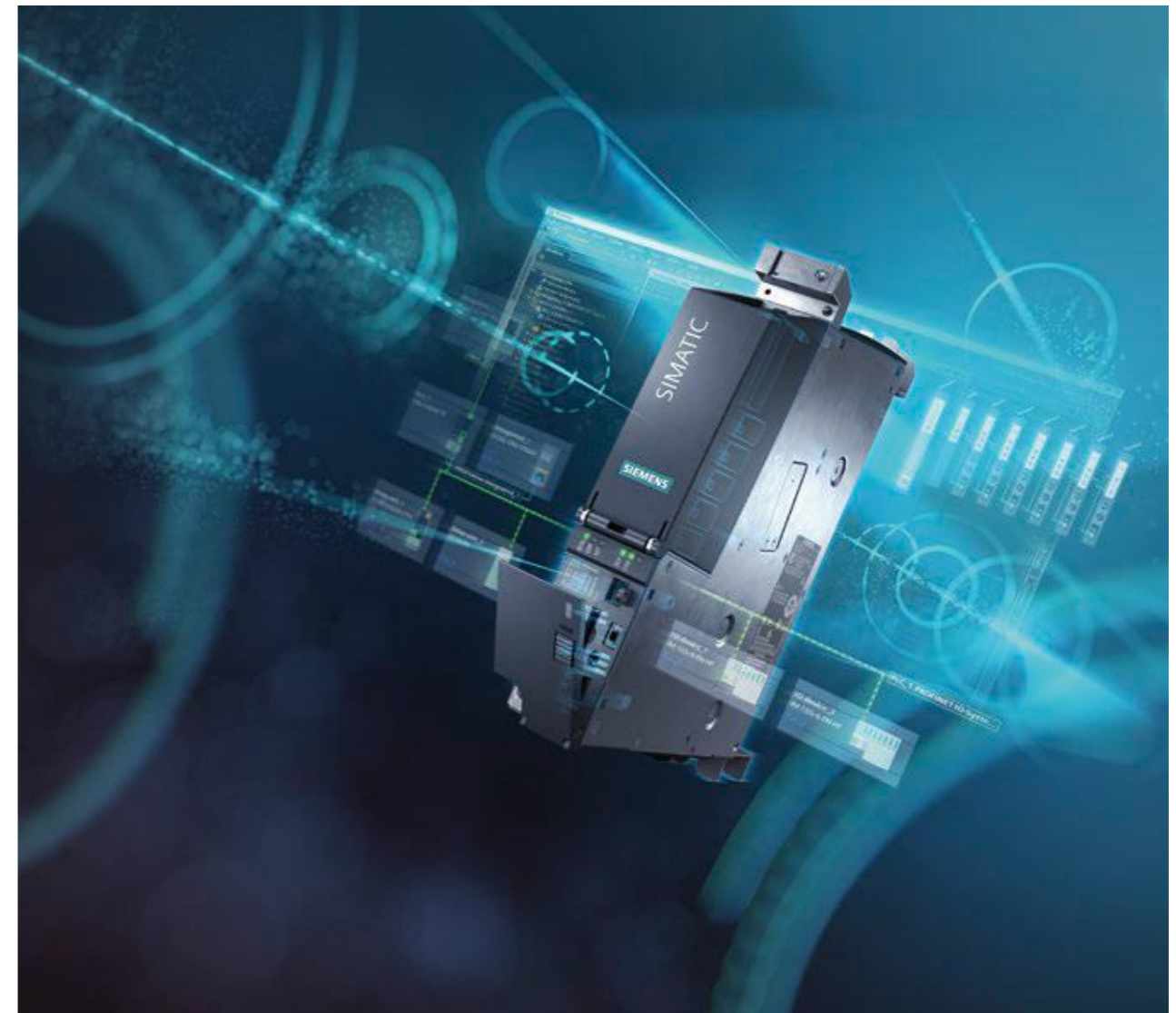
The Simatic Drive Controller is equipped with extensive interfaces, including three Profinet interfaces and one Profibus interface for communication with, for example, HMI, I/O and other drive systems as well as on-board technology I/Os. This permits the efficient implementation of dynamic motion control applications.

With the "Cross-PLC synchronous operation" function, which is now available in all technology CPUs, it is also possible to implement gearing and camming across CPUs, so that there are virtually no limits to axis quantity structures. In addition to the performance distribution among several CPUs, modular automation concepts can also be easily implemented with cross-PLC synchronous operation.

The engineering of the Simatic Drive Controller is carried out conveniently and efficiently in the TIA Portal Engineering Framework.

Background information:

Individual products require machines and production lines that can be quickly and easily adapted to different formats, sizes, product types, and production processes. Especially in production, maximum flexibility, efficiency, precision and availability are required. The reliable monitoring of all movements in producing machines also plays an essential role. Siemens offers suitable technological solutions based on the Simatic Advanced, Distributed and Drive Controllers.



Siemens is expanding its product portfolio of technology CPUs with Simatic Drive Controllers. The new controller combines a Simatic S7-1500 controller with motion control, technology and safety functionality with a Sinamics S120 drive control in one device, thus saving space.

Additional Information about Simatic Drive Controller can be found at www.siemens.com/drive-controller

Sinamics Startdrive V16 brings new hardware and new functions to the TIA Portal

- Sinamics Startdrive V16 brings a single-axis version of Sinamics S120 to the TIA Portal.
- Innovative functions simplify safety approval, reduce commissioning times and increase user-friendliness.

Sinamics Startdrive commissioning software is the perfect tool for integrating drive hardware into the TIA Portal engineering framework. With the latest version Sinamics Startdrive V16, Siemens is expanding the hardware portfolio available on the automation platform. Following on from the integration of the Sinamics S120 multi-axis system, the single-axis version of this high-end servo drive system can now also be engineered in the TIA Portal. The drive control of the recently introduced Simatic Drive Controller is now also integrated in the commissioning tool. Drive-CliQ hubs, which increase the number of interfaces in the Sinamics S120 multi-axis group, as well as other add-on components, are now integrated in the TIA Portal, perfectly completing this hardware update.

Sinamics Startdrive V16 also features innovative functions. With the introduction of expertise protection for Sinamics S120, the parameterization of drives can be protected from unauthorized changes and read attempts. When it comes to safety technology, a wide range of safety functions is available thanks to Sinamics Safety Integrated. With Sinamics Startdrive, these functions can be parameterized and validated in a simple, user-friendly process. The safety approval test integrated in Startdrive leads users through the approval process step by step and then creates a standard-compliant test record.

The Sinamics Startdrive commissioning tool is a key component for the automation of machines. Convenient interaction between the drive and controller makes it easy to complete the project engineering and commissioning of Motion Control applications with Simatic controllers and Sinamics drives. Sinamics Startdrive V16 takes drives in automation to the next level in terms of seamless operation, flexibility and user-friendliness.



Sinamics Startdrive commissioning software is the perfect tool for integrating drive hardware into the TIA Portal engineering framework. With version V16, Siemens is bringing new hardware and new functions to the automation platform.

For further information regarding Sinamics Startdrive, please see [siemens.com/startdrive](https://www.siemens.com/startdrive) ([siemens.com/startdrive](https://www.siemens.com/startdrive))

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Simotics HV M slipring motor provides fast return on investment in Cement and Mining industries

- New Simotics HV M slipring motors provide range of power up to 4.5 MW
- Easy integration into SIDRIVE IQ applications for highest availability, serviceability, productivity and efficiency
- Easy plant integration due to 3-D Motor models to speed up complete plant integration processes
- Certified and proven Siemens MICALASTIC® VPI insulation system with extreme long lifetime

Building on more than a century of experience in manufacturing slipring motors, Siemens today announces the new Simotics HV M slipring motor. Designed and engineered for applications mainly in the cement and mining industries, the newest slipring motor is implemented in a wide range of applications including but not limited to mills, crushers, conveyors and fans. The new platform motor with its power range up to 4.5 MW completes the Siemens slipring motor family which covers now the power range from 0.5 to 8.2 MW.

The quality and durability of the newest slipring motor stand up to the toughest environments and applications. These motors are designed and dimensioned for applications with high load inertia and low starting current requirements, typically relevant in the Cement and Mining industries.

Especially in high torque applications the Simotics HV M slipring motors reduce the mechanical stress on the complete installed equipment. In that way the plant availability is increased, wear and tear is reduced, and the lifetime of the plant is increased.

“The motors can easily be integrated into SIDRIVE IQ applications to improve plant availability, serviceability, productivity and efficiency for our customers. Plant

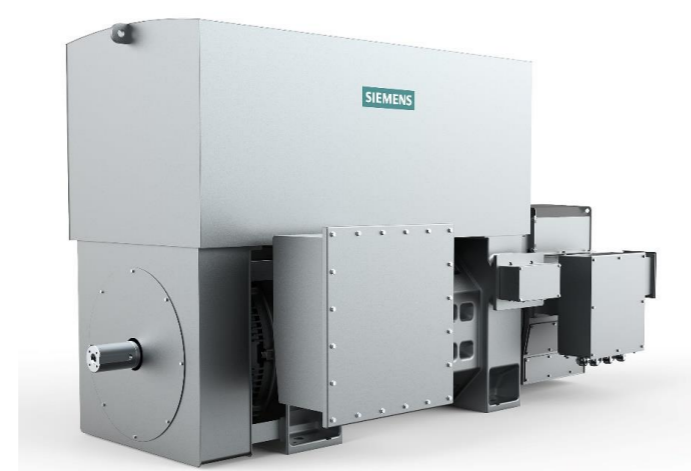
planning and plant upgrades can be realized faster and more precise by using the 3D-model data of the motor,” so Hermann Kleinod, CEO Siemens Large Drives Applications.

The Simotics HV M slipring motor’s design is based on a modular platform concept, with lower weight but increased housing rigidity. Due to its modularity it can be flexibly and efficiently adjusted to individual business requirements.

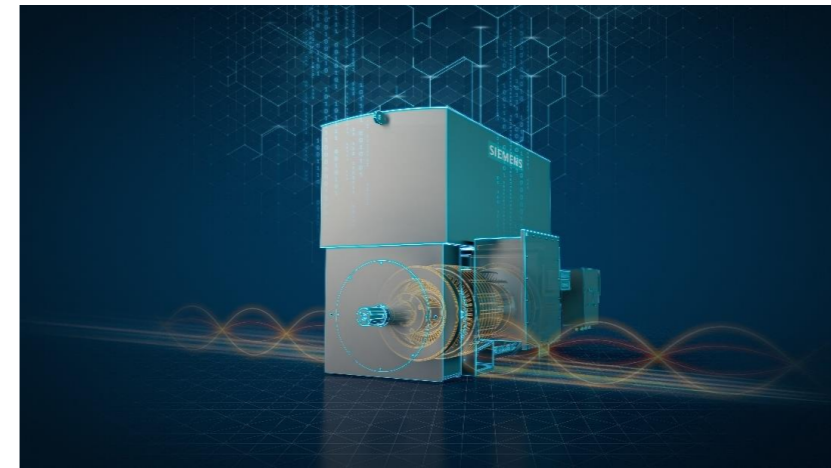
Critical for cement plants and mining operations, the high grades of standardization in the Simotics HV M slipring makes it easy to find spare parts to reduce operating costs and simplify service, avoiding plant downtimes to save time and costs. Ease of serviceability also help increase uptime. Machine covers can be lifted easily and service openings all around allow easy access to the interior.

Certified and proven Siemens MICALASTIC® VPI insulation system developed by Siemens uses Global Vacuum Pressure Impregnation technology to provide electrical, mechanical and thermal properties for high reliability and long lifetime.

The Simotics HV M slipring motor is now available.



The new Simotics HV M slipring motors provide a range of power up to 4.5 MW.



The new Simotics HV M slipring motors can be easily integrated into SIDRIVE IQ applications for highest availability, serviceability, productivity and efficiency.



The new Simotics HV M slipring motor allows easy plant integration due to 3-D Motor models to speed up complete plant integration processes.

For further information, please see <https://new.siemens.com/global/en/products/drives/electric-motors/high-voltage-motors/simotics-hv-m-slipring.html>

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Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. The company is active around the globe, focusing on the areas of power generation and distribution, intelligent infrastructure for buildings and distributed energy systems, and automation and digitalization in the process and manufacturing

industries. Through the separately managed company Siemens Mobility, a leading supplier of smart mobility solutions for rail and road transport, Siemens is shaping the world market for passenger and freight services. Due to its majority stakes in the publicly listed companies Siemens Healthineers AG and Siemens Gamesa Renewable Energy, Siemens is also a world-leading supplier of medical technology and digital healthcare services as well as environmentally friendly solutions for onshore and offshore wind power generation. In fiscal 2018, which ended on September 30, 2018, Siemens generated revenue of €83.0 billion and net income of €6.1 billion. At the end of September 2018, the company had around 379,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

Oil well cement demand to grow through 2024; premium pricing to slowly recover

Global oil well cement consumption is poised to increase through 2024, with key markets such as the US and Saudi Arabia forecast to experience robust average growth rates above 50 percent, according to CW Research's World Oil Well Cement Market Forecast 2024.

"We're seeing a more pronounced trend of ordinary Portland cement (close to grade A API) used instead of oil well cement in onshore and shale drilling as a means for drillers to cut costs. However, API certification remains the golden standard, and not using oil well cement can have risky and often dangerous consequences", observes Raluca Cercel, CW Group's Associate.

Similarly, the demand for oil well cement consumption in large-sized markets of above 100 thousand tons per year is expected to improve after 2018. Additionally, most markets which registered negative growth rates in terms of oil well cement consumption between the years of 2008 and 2018 are expected to begin to recover in the forecast period after oil prices are estimated to start closing distance from previous price peaks.

A shrinking premium

In 2018, global oil well cement consumption is estimated to have improved by over 30 percent to 5,460 thousand tons from 4,136 thousand tons in 2017. Traditionally traded at a premium to the ordinary Portland cement, the previous decline in oil well cement demand has led to a contraction of the premium, with the drastic decrease in drilling activity in 2015/2016, following the oil price crash, also exerting a negative effect.

"Bargaining power lies with the buyers, and oil well producers have had no chance but to adapt to the point that oil well cement has lost its premium pricing to ordinary Portland cement in many geographies", notes Cercel.

Between 2012 and 2016, all the big oil well cement markets registered a decrease in their premium price, much due to the reduced drilling activity provoked by oil prices. Oil well cement prices in US have fell approximately 14.4 percent between 2012 and 2016, but are estimated to recover to USD 110 per ton in 2018. With the exception of Russia and the US, the price of oil well cement is still expected to register lower levels in 2018 in comparison with 2016.

US leading global consumption

The North American market contributed to about 80 percent of the global demand in 2014, at around nine thousand tons. Consumption has since declined to approximately four thousand tons in 2018.

In 2016, despite the globally rapid decrease in oil well cement consumption, the MENA (Middle East and North Africa) region only registered a 7.5 percent decline year on year. From 2018 to 2024, oil well cement demand in MENA is forecast to increase at a strong, double-digit annual growth rate.

For more information, placing an order, or interview inquiries, please contact Mihnea Manea, Media and Market Services Executive, CW Group, by phone at +40 723 281 704, or e-mail at mm@cwgrp.com.

About the Report

CW Research's World Oil Well Cement Market Forecast 2024 provides an in-depth forecast analysis of the worldwide oil well cement market, including regional market shares, demand, imports, exports and types of oil well cement used by geography, as well as price trends.

The report highlights detailed and specific demand by main types (including Class G & H) of oil well cement for key countries, and trends in the oil well segment. The World Oil Well Cement Market Forecast 2024 presents the role of extenders and onshore, offshore, and shale well counts with trajectory, depth, and well type to help ascertain oil well cement usage.

Bringing together CW Group's principal research team, this business intelligence tool addresses important market dynamics about API-certified oil well cements, including a global capacity overview (market and major producers), regional market shares, demand, imports, exports, the types of oil well cement, and pricing trends.

The scope of the report is further extended to include key operations of the main oil well cement producers, such as Dyckerhoff, HeidelbergCement, LafargeHolcim, Cemex, and of the most important well drillers, namely Halliburton, Baker Hughes and Schlumberger.

The information is provided in a data-rich format that combines qualitative insights with extensive facts and data series to allow readers to make critical business decisions. By leveraging CW Research's recognized and proven research capabilities in a highly accurate and precise format, the World Oil Well Cement Market Forecast 2024 is an indispensable tool to all professionals who wish to effortlessly navigate the complexities of the oil well cement industry.

More information about the report can be found here: <https://www.cwgrp.com/cemweek-reports/product/281-world-oilwell-cement-market-forecast-2024>

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

Cement production capacity in Oman to reach 19 million tons by 2023

According to CW Research's 2018 update of the Oman Cement Market Report, cement apparent consumption in the country is forecast to increase to almost eleven million tons in 2023, encouraged by growing construction activity both due to private and public investments. Production capacity is also projected to rise within the next five years, underpinned by capacity expansions of existing plants and the entry of new market participants.

"The improving trend forecast for both consumption and production contrasts with the evolution of the construction sector in the last couple of years. The country's construction activity declined in 2016 and in 2017 due to the shocks the decline of oil prices had over the sector. However, in 2018, private investments in construction are likely to offset the cut in public investments the government decided on for the 2018 budget. Furthermore, private investors are attracted by the ease of doing business and by the low construction costs in Oman", assesses Raluca Cercel, CW Group's Associate.

A small and consolidated market

The Omani cement industry is fairly consolidated, with four cement plants, and another one starting operating by the end of the year. Two of the cement plants are integrated, whereas the other are grinding ones.

Currently, cement plants only exist in the North and South of the country, and mostly supply their respective regions. Nevertheless, all of the new plants scheduled to start operations after the start of 2019 are located in the Duqm SEZ, in the central part of the country.

Oman's cement market is split among very few players, among them Oman Cement Company, and Raysut Cement Company.

For more information, placing an order, or interview inquiries, please contact Mihnea Manea, Media and Market Services Executive, CW Group, by phone at +40 723 281 704, or e-mail at mm@cwgrp.com.

About the Report

The Oman Cement Market Report, part of CW Research's Cement Industry Country Report series, meets the country-level cement market research needs of small and large businesses, analysts and governments. The reports cover cement volume trends in detail, analyzing trade flows, cement demand and production (historical and a five-year outlook), per capita consumption, and the competitive landscape, including company profiles, cement production facility details, including past and announced brownfield production increases and greenfield projects. Cement Industry

Country Reports also cover demand drivers, including macro-economic and construction sector dynamics, for the specific country. Industry reports are presented in an objective, easy-to-understand format, providing hard-to-find answers to top market research questions.

More information about the report can be found here: <https://www.cwgrp.com/cemweek-reports/product/280-oman-cement-market-report-forecast-through-2023>

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- **Market research:** high-quality research reports, including detailed market studies, competitive assessments, cement trade flows, and export opportunity assessments. Custom research available upon request
- **Data services:** statistical and data research tools offering industry practitioners a wealth of cement supply and demand data



Diary Dates

CEMENT

CemTech 2020 Virtual Event Decarbonising the cement industry Pathways to a sustainable future

Date : 21 - 24 September 2020
Venue: Online / Free Registration
For more information, please visit:
www.Cemtech.com/2020

Virtual Global CemFuels Alternative fuels seminar for cement and lime

Date : 22nd September 2020
Venue: Your device / Free Registration
For more information, please contact:
Dr. Robert McCaffrey, Global Boards
Conference convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
www.cemfuels.com

CEMENTTECH 2020

Date : 16 - 18 September 2020
Venue: Anhui International Conference & Exhibition Center, China
For more information, please contact:
Ms. Joanna Long
CCPIT Building Materials Sub Council (CCPITBM)
Tel: +8610 88083329
Fax: +8610 88083329
Mobile: +8613436446121 (same as wechat)
Email: joannalong@ccpitbm.org
Web: www.cementtech.org

Argus Petcoke Live - Virtual Conference

Date : 22 - 24 September 2020
Venue: Your device
For more information, please contact:
Anita Agyeman
Email: anita.agyeman@argusmedia.com
<http://www.argusmedia.com>

Slag and AshTrade Europe

Date : 01 - 02 October 2020
Venue: Dorint Hotel An der Messe Köln,
Cologne, Germany
For more information, please contact:
Mr. Ali Assad, Business Development
Executive
Email: aga@gmiforum.com
Mobile: +40-754-023-330
<https://www.gmiforum.com>

Virtual Global CementQC Maintaining quality control from the quarry to the factory gate

Date : 6th October 2020
Venue: Your device / Free Registration
For more information, please contact:
Dr. Robert McCaffrey, Global Boards
Conference convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
www.cementQC.com

Oleofuels 2020

Date : 06 - 07 October 2020
Venue: Marseille, France
For more information, please contact
Mr. Marcin Janecki
Tel: +48616467047
Email: mjanecki@acieu.net

WEBINAR: 4th Mortar Convention

Date : 20 October 2020, from 9:00 to 15:00
Dubai time
Venue: Your Desktop
For more information please contact:
Mr. Ferdinand Leopolder
Email: info@drymix.info
<http://www.drymix.info>



CEMENTTECH 2020

21st China International Cement Industry Exhibition

SEPTEMBER 16-18, 2020 ANHUI, CHINA



Partial List of Previous Exhibition delegations:



Organizer

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

Contact details:

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

Virtual INTERCEM Americas

Date : 26 - 28 October 2020
Venue: online
Tel.: +44 2086695222
Email: info@intercem.com
[Http://www.intercem.com](http://www.intercem.com)

The European E-Fuels 2020

Date : 04 - 05 November 2020
Venue: Hamburg, Germany
For more information, please contact:
Email: mjanecki@acieu.net

Alternative Fuels & Raw Materials (AFRAM) Asia 2020

Sustainable and optimal use of biomass for energy beyond 2030
Date : 05 - 06 November 2020
Venue: Bangkok, Thailand
For more information, please contact
Ms. Magda Kwapisiewicz
Conference Producer
Email: mk@gmiforum.com
mobile +351 939 114-543

XXII INTERNATIONAL CONSTRUCTION FORUM

Cement. Concrete. Dry mixtures
Date : 10 - 12 November 2020
Venue: Expocentre, Moscow, Russia
Email: info@alitinform.ru
Tel.: +7 812 335 09 92
For more information, please visit:
www.infocem.info

15th Global Slag

Date : 11 - 12 November 2020
Venue: Vienna, Austria
For more information, please contact:
Dr. Robert McCaffrey, Global Boards
Conference convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
www.globalslag.com

15th Annual SEADMA Conference

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

MEDMA Drymix Mortar Showcase on Sustainable Technology

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

**Virtual Global CemEnergy
Conventional fuels for cement production & Electrical energy production and efficiency**

Date : 24th November 2020
Venue: Your device / Free Registration
For more information, please contact:
Dr. Robert McCaffrey, Global Boards
Conference convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: info@propubs.com
www.cementenergy.com

**The 2020 European Base Oils & Lubricants Summit
Market Activity, The Future of Mobility, Better Fuel Economy, Sustainability & Pioneering Tribology**

Date : 25 - 26 November 2020
Venue: Rotterdam, The Netherland
For more information, please contact:
Mr. Chris Taylor
Tel : +4402031410602
Email: ctaylor@acieu.net

INTERNATIONAL CEMENT CONFERENCE

Cemtech

PRODUCTION EXPERTISE - MANAGEMENT SKILLS

Decarbonising the cement industry Pathways to a sustainable future



**21-24
September
2020**

**Virtual Event
Meet Everywhere
www.Cemtech.com/2020**

27th Concrete Days 2020

Date : 26 - 27 November 2020
 Venue: KC ALDIS, Hradec Králové, Czech Republic
 For more information, please contact:
 Mgr. Jiří Vích
 Email: johova@cbsbeton.eu
<http://www.cbsbeton.eu>

fib ICCS20 - International Conference on Concrete Sustainability, Concrete

Date : 02 - 03 December 2020
 Venue: Aquapalace hotel, Prague, Czech Republic
 For more information, please visit: <http://www.cbsbeton.eu/en/seminars/oborne-akce/27th-concrete-days-2020>

CW Summit Europe, Middle East and North Africa (EMENA) 2020

Cement Strategy, Finance & Trade
 Date : 03 - 04 December 2020
 Venue: Madrid, Spain
 For more information, please visit: <https://www.qmiforum.com/>

Virtual Middle Eastern Cement Conference

Date : 08 - 09 December 2020
 Venue: Your device / Free Registration
 For more information, please contact:
 Dr. Robert McCaffrey, Global Boards Conference convener
 Tel: +44 (0) 1372 743837
 Fax: +44 (0) 1372 743838
 Email: info@propubs.com / rob@propubs.com
www.MiddleEasternCement.com

Virtual Global Ash

Ash beneficiation and use in the cement and concrete industries
 Date : 15th December 2020

Venue: Your device / Free Registration
 For more information, please contact:
 Dr. Robert McCaffrey, Global Boards Conference convener
 Tel: +44 (0) 1372 743837
 Fax: +44 (0) 1372 743838
 Email: info@propubs.com
www.globalash.com

Virtual Global CemProducer 3: Refractories, wear, lubrication & cement plant maintenance

Date : 19th January 2021
 Venue: Your device / Free Registration
 For more information, please contact:
 Dr. Robert McCaffrey, Global Boards Conference convener
 Tel: +44 (0) 1372 743837
 Fax: +44 (0) 1372 743838
 Email: info@propubs.com
<http://www.cemproducer.com>

3rd Future Cement Conference and Exhibition 2021 - Virtual

Date : 16 March 2021
 Venue: Your device / Free Registration
 For more information, please contact:
 Dr. Robert McCaffrey, Global Boards Conference convener
 Tel: +44 (0) 1372 743837
 Fax: +44 (0) 1372 743838
 Email: info@propubs.com

8th International Drymix Mortar Conference idmmc8

Date : 22 March 2021
 Venue: Nürnberg, Germany
 Email: info@drymix.info
 For more information, please visit: www.drymix.info

Global Cement Events 2020-2021

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



Alternative fuels seminar for cement and lime

22 September Online
cemfuels.com



Maintaining quality control from the quarry to the factory gate

6 October Online
cementQC.com



Slag production and optimisation for beneficial use and profit

11-12 November Vienna, Austria
globalslag.com



Conventional fuels for cement production & Electrical energy production and efficiency

24 November Online
cementenergy.com



Middle Eastern cement industry trends and technology - Co-organised with the AUCBM

8-9 December Online
MiddleEasternCement.com



Ash beneficiation and use in the cement and concrete industries

15 December 2020 Online
globalash.com



Cement plant maintenance during and after the coronavirus pandemic

19 January 2021 Online
cemproducer.com



Lignofuels 2021

Date : 10 - 11 February 2021
Venue: Helsinki, Finland
For more information, please contact:
Mr. Dimitri Pavlyk
Tel: +44 2031410610
Email: dpavlyk@acievents.eu

Alternative Fuels & Raw Materials (AFARM) Americas 2021

Date : 18 - 19 February 2021
Venue: Cancun, Mexico
For more information and group rates, please contact:
Mr. Ali Assad, Business Development Executive
Email: aga@gmiforum.com
Mobile: +40-754-023-330
www.gmiforum.com

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

Date : 24 - 25 February 2021
Venue: Lisbon, Portugal
For more information, please contact:
Dr. Robert McCaffrey, Global Boards Conference convenor
Tel: +44 (0) 1372 743837
Fax: +44 (0) 1372 743838
Email: rob@propubs.com

8th international Drymix Mortar Conference idmmc8

Date : 22 March 2021
Venue: Nürnberg, Germany
Email: info@drymix.info
For more information, please visit:
www.drymix.info

Argus Solid Fuels Asia Conference

Date : 31st March 2021
Venue: Mumbai, India

Tel: +65 6496 9899
Email: asiaconferences@argusmedia.com
For more information, please visit:
www.argusmedia.com

CBI – Cement Business & Industry Africa 2021

Date : 15 - 16 April 2021
Venue: Johannesburg, South Africa
For more information, please contact:
Mr. Ali Assad, Business Development Executive
Email: aga@gmiforum.com
Tel.: +40-754-023-330

11th International PetroCem Conference

Date : 25 - 27 April 2021
Venue: Astoria Hotel, St. Petersburg, Russia
Tel: +7 812 2421124 / 7645612
Fax: +7 812 7123683
Email: info@jcement.ru
<http://www.petrocem.ru>

CBI – Cement Business & Industry Brazil and Latin America 2021

Date : 19 - 20 May 2021
Venue: São Paulo, Brazil
For more information, please contact:
Email: sales@gmiforum.com
<https://www.gmiforum.com>

7th Alternative Fuels Symposium

Date : Autumn 2021
Venue: Germany
Tel: +49 0 203 34 65 16 0
Fax: +49 0 203 34 65 16 50
Email: workshop@lechtenberg-partner.de
www.lechtenberg-partner.de

XXII INTERNATIONAL CONSTRUCTION FORUM

CEMENT • CONCRETE DRY MIXTURES

NOVEMBER 10-12, 2020. EXPOCENTRE, MOSCOW.



XXII INTERNATIONAL CONSTRUCTION EXHIBITION
«Cement. Concrete. Dry mixtures»

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«Precast Housing: Production, Design, Construction»

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18 countries



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info@alitinform.ru // www.infocem.info // +7 812 335 09 92

CERAMIC

Ceramics Expo Connect (Virtual Event)

Date : 21 - 25 September 2020

Venue: Virtual

For more information, please visit:

www.ceramicsexpousa.com

Coverings 2021 - The global tile & stone experience

Date : 13 - 16 April 2021

Venue: Orlando, Florida, USA

For more information, please visit:

<https://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:

<https://www.cersaie.it/en/>

27th Tecnargilla 2021

Date : 27 September - 1 October 2021

Venue: Rimini Expo Centre, Italy

Tel: +39 0541 744111

Fax: +39 0541 744200

Email: segreteria@tecnargilla.it

GENERAL

Biogas PowerON 2020

Date : 22 - 23 September 2020

Venue: Copenhagen, Denmark

For more information, please visit:

www.fortesmedia.com/biogas-poweron-2020

5th Future of Surfactants Summit North America

Date : 23 - 24 September 2020

Venue: Boston, MA-US

For more information, please contact:

Adamantia (Mado) Lampropoulou

Tel: +44 (0) 203141 0607

Email: MLampropoulou@acieu.net

Gasification 2020 - 9th Annual Gasification Summit

Date : 23 - 24 September 2020

Venue: Lyon, France

Tel: +44 0203 141 0606

Email: mahsan@acieu.net

International Virtual Trade Expo for West Africa

NIGERIA TRADE SHOW 2020

Date : 25 - 27 September 2020

For more information, please contact:

Email: carol@afro.link

8th European Bulk Liquid Storage Summit

Date : 30 September - 01 October 2020

Venue: Cartagena, Spain

For more information, please contact:

Cheryl Williams

Tel: +440 203 141 0623

Email: cwilliams@acieu.net

US Biostimulants Summit 2020

Date : 01 - 02 October 2020

Venue: Raleigh, North Carolina, USA

For more information, please contact:

Email: rafael@acievents.us

Virtual BUILDDEXPO Asia 2020

Date : 01 - 03 October 2020

Venue: online

For more information, please contact:

Email: carol@tradeafrica.co

PetroCem

ELEVENTH INTERNATIONAL CEMENT CONFERENCE

NEW DATES

25-27
APRIL 2021
St.Petersburg
Astoria Hotel

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

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

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

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

See you at PetroCem-2020!

Organiser:
journal
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и его применение

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www.jcement.ru

www.petrocem.ru

Gulf Construction

Date : 05 - 07 October 2020
Venue: Bahrain Intl. Exhibitions Centre,
Manama, Bahrain
Tel: +966 13 867 2738
Mobile: + 966 505851383
Email: s.alkhaldi@tradedearabia.net
www.alhilalgroup.com

Decarbonisation in Shipping: Europe 2020

Date : 07 - 08 October 2020
Venue: Hamburg, Germany
For more information, please contact:
ACI (Europe) - Active Communications
International Ltd
Tel: +44 203 1410627
Email: skanwar@acievents.eu

7th World Elastomer Summit 2020

Date : 19 - 20 October 2020
Venue: Lyon, France
For more information, please contact:
Mr. Rafael Krupa
Tel: +48616467040
Email: rafael@acieu.net

10th Annual European Algae Industry Summit

Date : 20 - 21 October 2020
Venue: Reykjavik, Iceland
For more information, please contact:
Adamantia (Mado) Lampropoulou
ACI (Europe)
Tel.: +44 0203 141 0607
Fax: +44 (0)207 593 0071
Email: MLampropoulou@acieu.net

17th Carbon Dioxide Utilisation Summit

Date : 21 - 22 October 2020
Venue: Brussels, Belgium
For more information, please contact:
Mr. Rohan Baryah

Tel: +48616467022
Email: rbaryah@acieu.net

23rd Arab-German Business Forum

Date : 27 - 29 October 2020
Venue: Hotel Ritz-Carlton, Berlin, Germany
Tel.: +49 30 27 89 07 0
Fax: +49 30 27 89 07 49
For more information, please visit: www.ghorfa.de

Premier European Carbon Black Summit

Date : 28 - 29 October 2020
Venue: Frankfurt, Germany
For more information, please contact:
Mr. Rohan Baryah
Tel: +48616467022
Email: rbaryah@acieu.net

2nd session of Digital Refining & Petrochemicals Summit 2020
Focusing on Asset Performance Management against a Backdrop of Digital Transformation

Date : 04 - 05 November 2020
Venue: London, UK
For more information, please contact:
Mr. Rafael Krupa
Tel: 0048616467040
Email: rafael@acieu.net

European Biomass to Power 2020

Date : 04 - 05 November 2020
Venue: Manchester, UK
For more information, please contact:
Mr. Mateo Wiegold
Tel: +440 203 141 0649
Email: mwiegold@acieu.net / dpavlyk@acievents.eu

European Environmental Port Conference

Date : 04 - 05 November 2020



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www.simankhabar.ir



www.cmtevents.com

UAE CEMENT PORTAL WEB SITE

www.UAECEMENT.com
info@uaecement.com

Venue: Rotterdam, The Netherlands
 For more information, please contact:
 Cheryl Williams
 Tel.: +44 (0) 203 141 0605
 Email: cwilliams@acieu.co.uk

2nd US Microalgae Industry Summit
 Date : 10 - 11 November 2020
 Venue: Orlando, Florida, USA
 For more information, please contact:
 Adamantia (Mado) Lampropoulou
 ACI (Europe)
 Tel.: +44 0203 141 0607
 Fax: +44 (0)207 593 0071
 Email: MLampropoulou@acieu.net

3rd Annual Digital Transformation
 Date : 18 - 19 November 2020
 Venue: Hotel Equarius, Penang, Malaysia
 For more information, please contact:
 Tel.: +603 - 2775 0067
 Email:
tedl@internationalresourceevents.com

3rd Annual Industry 4.0 Physical & Virtual Summit
 Date : 18 - 19 November 2020
 Venue: Hotel Equarius, Penang, Malaysia
 For more information, please contact:
 Mr. John Karras
 Tel.: +603 2775 0067
 Email: johnk@trueventus.com /
tedl@internationalresourceevents.com

4th Biostimulants Europe Conference
 Date : 18 - 19 November 2020
 Venue: Granada, Spain
 Tel: +48 616 467 022
 Email: rbaryah@acieu.net

Recy & DepoTech 2020
 Date : 18 - 20 November 2020
 Venue: Leoben, Austria

For more information, please visit:
www.recydepotech.at

Innovation and Valorisation in Civil Engineering and Construction Materials INVACO'2020
 Date : 19 - 21 November 2020
 Venue: Hammamet, Tunisia
 Tel: (+216) 74 431 425 / 493
 Fax: (+216) 74 431 386
 For more information, please visit:
<http://www.ait.org.tn/evenements/detail/3-INVACO'2020>

Batimatec Expo
 Date : 22 - 26 November 2020
 Venue: Algiers, Algeria
 For more information, please visit:
www.batimatecexpo.com

2020 European Base Oils & Lubricants Summit
 Date : 25 - 26 November 2020
 Venue: Rotterdam, The Netherlands
 For more information, please contact:
 Mr. Mohammad Ahsan
 Tel: +44 (0) 203 141 0606
 Email: mahsan@acieu.net
 Web: www.acieu.net

Biobased Coatings Europe 2020
 Date : 25 - 26 November 2020
 Venue: Amsterdam, The Netherlands
 For more information, please contact:
 Mr. Dimitri Pavlyk
 Tel: +44 203 141 0610
 Email: dpavlyk@acieu.net
 Web: www.acieu.net

ACI's 7th Global Geothermal Energy Summit
 Date : 27 - 28 November 2020
 Venue: Florence, Italy

For more information, please contact:
 Mr. Rohan Baryah
 Tel: +48616467022
 Email: rbaryah@acieu.net

5th Digital Utilities Europe
 Date : 02 - 03 December 2020
 Venue: Amsterdam, The Netherlands
 For more information, please contact:
 Mr. Dimitri Pavlyk
 Tel.: +44 203 141 0610
 Email: dpavlyk@acieu.co.uk
<http://acieu.co.uk>

The European Electric Vehicle Batteries Summit 2020
 Date : 09 - 10 December 2020
 Venue: Rotterdam, The Netherlands
 For more information, please contact:
 Mr. Nitin Bharmal, Delegate Sales
 Tel: +91 2048523161 / +91 721 949 7838
 Email: nitin@acieu.net /
mjanecki@acievents.eu
www.wplgroup.com/aci/event/evcharging-summit

17th Edition SteelFab 2021 Machinery, Technology, Equipment
 Date : 11 - 14 January 2021
 Venue: Expo Center Sharjah, UAE
 For more information, please contact:
 Tel: +971 6 5770000
 Email: steel@expo-centre.ae
 For more information please visit:
www.steelfabme.com

9th Edition of the Future of Polyolefins Summit
 Date : 20 - 21 January 2021
 Venue: Düsseldorf, Germany
 For more information please Contact:
 Mr. Mohammad Ahsan:

Tel: +4402031410606
 Email: mahsan@acieu.co.uk
www.wplgroup.com/aci/cfpe8-agenda_mkt/

Project Cost Engineering Summit
 Date : 27 - 28 January 2021
 Venue: Kuala Lumpur, Malaysia
 For more information please Contact:
 Mr. Ian Rawlings
 Tel: +603 2775 0067
 Email: ianrl@asiabusinesssummit.com

8th European Biopolymer Summit
 Date : 04 - 03 February 2021
 Venue: London, UK
 For more information, please contact:
 Mr. Mohammad Ahsan
 Email: mahsan@acieu.co.uk
 Tel: +44 2031410606
www.wplgroup.com

interpack Düsseldorf
 Date : 25 February - 3 March 2021
 Venue: Düsseldorf, Germany
 For more information, please visit:
www.interpack.com

4th Weimar Gypsum Conference
 Date : 09 - 10 March 2021
 Venue: Weimar, Germany
 For more information, please visit:
www.uni-weimar.de

SOLIDS Dortmund 2020
 Date : 17 - 18 March 2021
 Venue: Dortmund, Germany
 For more information, please visit:
www.easyfairs.com

5th Hydrogen & Fuel Cells Energy Summit
Maximizing commercial opportunities and partnerships in the renewable hydrogen & fuel cells industry
 Date : 17 - 18 March 2021
 Venue: Porto, Portugal
For more information, please contact:
 Mr. Mohammad Ahsan
 Tel: +44 203 141 0606
 Email: mahsan@acieu.net / mahsan@acieu.co.uk

Innovation and Valorisation in Civil Engineering and Construction Materials INVACO'2021
 Date : 17 - 19 March 2021
 Venue: Hammamet, Tunisia
 Tel: (+216) 74 431 425 / 493
 Fax: (+216) 74 431 386
For more information, please visit:
<http://www.ait.org.tn/evenements/detail/3-INVACO'2021>

European Coatings Show 2021
 Date : 23 - 25 March 2021
 Venue: Nürnberg, Germany
For more information, please visit:
www.european-coatings.com/Events/European-Coatings-Show-2021

4th Annual Digital Transformation
 Date : 24 - 25 March 2021
 Venue: Kuching, Malaysia
For more information, please contact:
 Tel.: +603 - 2775 0067
 Email: tedl@internationalresourcevents.com

MosBuild 2021
 Date : 30 March - 2 April 2021
 Venue: Crocus Expo, Moscow, Russia

For more information, please visit:
www.mosbuild.com

1st Construction Technology Forum
 Date : 06 - 07 April 2021
 Venue: Intercontinental Riyadh, KSA
For more information, please visit:
www.ctf-ksa.com

Hannover Fair
 Date : 12 - 16 April 2021
 Venue: Hannover, Germany
For more information, please visit:
<https://www.hannovermesse.de/en/>

International Powder & Bulk Solids
 Date : 27 - 29 April 2021
 Venue: Donald E. Stephens Convention Center
 Rosemont, IL, USA
For more information, please visit:
<https://powderandbulkshow.com/>

3rd Annual Digital Marketing and Customer Experience
 Date : 19 - 20 May 2021
 Venue: Bangkok, Thailand
 Tel: +603 2775 0067
 Email: sama@internationalbusinesscongress.com

Digital CFO Summit
 Date : 19 - 20 May 2021
 Venue: Bangkok, Thailand
For more information, please contact:
 Mr. Phil Slater
 Email: phils@globalprgramrunner.com

Chief Data Scientist
 Date : 19 - 20 May 2021
 Venue: The Berkeley Hotel Pratunam, Bangkok, Thailand
For more information, please contact:

Mr. Sam Ward
 Tel: +603 2775 0067
 Email: samw@runbestevents.com

13th ERBIL BUILDING
 Date : 26 - 29 May 2021
 Venue: Erbil, Iraq
For more information, please contact:
 Mr. Tarek Alamer, International Sales Manager
 Pyramids Group Fair Inc.
 Tel: +90 216 575 28 28 ext. 223
 Mob: +90 507 064 78 23
 E-mail: tarek.alamer@pyramidsfair.com

Hillhead 2021
 Date : 22 - 24 June 2021
 Venue: Hillhead Quarry, Buxton, Derbyshire, UK
For more information, please visit:
www.hillhead.com

Data Analytics in Construction Summit
 Date : 07- 08 July 2021
 Venue: Equarius Hotel, Resort World, Sentosa, Singapore
For more information, please contact:
 John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

9th Annual Modular & Prefabrication Construction
 Date : 07- 08 July 2021
 Venue: Equarius Hotel, Resort World, Sentosa, Singapore
For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

MBOD Summit
 Date : 07- 08 July 2021
 Venue: Equarius Hotel, Resort World, Sentosa, Singapore

For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

2nd Annual BIM Summit
 Date : 07- 08 July 2021
 Venue: Equarius Hotel, Resort World, Sentosa, Singapore
For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

Digital Shutdown & Turnaround Conference
 Date : 18 - 19 August 2021
 Venue: Bangkok, Thailand
For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

2nd Annual World Digital Engineering Summit
 Date : 18 - 19 August 2021
 Venue: The Berkeley Hotel Pratunam, Bangkok, Thailand
For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

2nd Annual Sensor Tech in Engineering Summit
 Date : 18 - 19 August 2021
 Venue: The Berkeley Hotel Pratunam, Bangkok, Thailand
For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

2nd Annual Digital Predictive Maintenance Summit

Date : 18 - 19 August 2021
 Venue: The Berkeley Hotel Pratunam, Bangkok, Thailand
 For more information, please contact:
 Mr. John Karras
 Tel: +603 2775 0067
 Email: johnk@trueventus.com

NAMUR Annual Conference China 2021 “Enhanced Connectivity for Smart Production”

Date : August 2021
 Venue: China
Contact in China
 Dai Xiaolong
 BASF-YPC Co. Ltd.
 Phone: +86 25 5856 9383
daixl@basf-ypc.com.cn

Du Feng
 Phoenix contact China
 Phone: +86 25 5212 1888
Dufeng@phoenixcontact.com.cn

The Big 5 Solar

Date : 12 - 15 September 2021
 Venue: Dubai World Trade Centre, Dubai, UAE
 For more event please visit:
www.thebig5solar.ae

Breakwaters 2021

Date : 13 - 15 September 2021
 Venue: Portsmouth, UK
 Email: breakwaters@ice.org.uk

10th International Drilling and Blasting Symposium & Exhibition
9th International Aggregate Symposium & Exhibition

Date : Postponed!
 Venue: Antalya, Turkey
 Tel: (+216) 74 431 425 / 493
 Fax: (+216) 74 431 386
 For more information, please contact:
 E-mail: bilgi@delmepatlatma.org.tr / madenmuhodasi@maden.org.tr
 Web: www.delmepatlatma.org.tr

Powtech 2022

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

11th International PetroCem Conference

Date : 18 - 20 October 2020
 Venue: Astoria Hotel, St. Petersburg, Russia
 Tel: +7(812) 2421124 / 7645612
 Fax: +7(812) 712-3683
 Email: info@jcement.ru
<http://www.petrocem.ru> / www.jcement.ru

11th International PetroCem Conference

Date : 18 - 20 October 2020
 Venue: Astoria Hotel, St. Petersburg, Russia
 Tel: +7(812) 2421124 / 7645612
 Fax: +7(812) 712-3683
 Email: info@jcement.ru
<http://www.petrocem.ru> / www.jcement.ru

ADVERTISERS: September Edition # 81, 2020

AUCBM Cement and Building Materials Review	5	www.aucbm.net
ALIT, group of companies CEMENT. CONCRETE. DRY MIXTURES	85	www.infocem.info
CEMENTTECH 2020	79	www.cementtech.org
CEMENT INTERNATIONAL	17	www.verlagbt.de/cementinternational.htm
CemWeek	77	www.Cemweek.com
DISAB	37	www.disab.com
DURAG Group	10	www.durag.com
Evonik Fibres GmbH	63	www.P84.com
Gebr. Pfeiffer SE	11	www.gebr-pfeiffer.com
Global Cement Global Cement Events 2020 - 2021	83	www.GlobalCement.com
IBAU Hamburg	6 + 7	www.ibauhamburg.com
Industrial Angles	61	www.industrialangles.com
International Cement Review CemTech 2020	81	www.Cemtech.com/2020
JAMCEM Consulting	57	www.jamcem.com
LTD PetroCem	87	www.petrocem.ru / www.jcement.ru
Schenck Process Europe	OFC	www.schenckprocess.com
Siman News – Iran Cement News Agency	13 AR	www.simankhabar.ir
Turkish Cement Manufacturers’ Association	47	www.tcma.org.tr
UAE Cement Portal Website	89	www.uaecement.com
VDZ	21	www.vdz-online.de
World Cement	71	www.worldcement.com/subscribe
ZKG INTERNATIONAL	5 AR	www.zkg.de/newsletter



عالم الإسمنت ومواد البناء

تصدر عن : الاتحاد العربي للإسمنت ومواد البناء العدد 81 سبتمبر / أيلول 2020

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



المحتويات

أخبار عربية
أخبار عالمية
منتجات جديدة

الموضوعات:

- المواد الكيماوية المضافة لزيادة وتحسين نوعية الإسمنت إعداد: م. عباس عبد الكريم عباس / الشركة العامة للإسمنت الشمالية - جمهورية العراق
- معلومات فنية حول طريقة اختبار جديدة لمقاومة الضغط للإسمنت والخرسانة الجاهزة حديثاً إعداد: CST Instruments Ltd - المملكة المتحدة
- إنتاج إسمنت البيليت النشط باستخدام خامات البورون الكوليمانية إعداد: Serkan Türk / جمعية منتجي الإسمنت التركية - تركيا
- تأثيرات مدة التخزين وظروف الصومعة على قابلية التدفق وتوحيد الوقت لأنواع الوقود البديل إعداد: الأستاذ الدكتور Dominik Aufderheide / جامعة جنوب ويستفاليا للعلوم التطبيقية - ألمانيا والدكتور المهندس Luigi Di Matteo / DI MATTEO Group - ألمانيا
- تحسين أداء المصنع عن بعد إعداد: JAMCEM Consulting - المملكة المتحدة

مؤتمرات ومعارض

المراسلات

توجه كافة المراسلات بإسم 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

مؤتمرات ومعارض

منتجات جديدة

موضوعات تقنية

أخبار عالمية

العلم العربي

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

المساهمات

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

توجه كافة طلبات الإعلان بإسم رئيس التحرير

الإعلان

الإشتراكات السنوية

150 دولار أمريكي

الشركات والمؤسسات

65 دولار أمريكي

الجامعات ومراكز البحوث

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مجلة عالم الإسمنت ومواد البناء

جدول موضوعات المجلة لعام 2020

العدد	الموضوعات	المناسبات
ديسمبر/كانون الأول 2020	* أنظمة التشغيل * الصيانة في مصانع الإسمنت * تقنيات الإصلاح واللحام * إدارة قطع الغيار * الطواحين العمودية * الكسارات * المبردات * تكنولوجيا الحراقات * الحراقات وفحص الحراقات * مقابلة صحفية	

آخر موعد لاستلام المقالات أو النصوص الصحفية أو الإعلانات لعدد ديسمبر / كانون الأول هو 4 ديسمبر / كانون أول 2020

أسعار الإعلانات

(بالدولار الأمريكي)

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

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

الإعلان بانتر (JPG) على موقع الاتحاد WWW.AUCBM.NET

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



المملكة الأردنية الهاشمية

مصانع الإسمنت الأردنية تتقدم لقانون الإعسار تجنباً للتصفية

تقدمت شركة مصانع الإسمنت الأردنية (لافارج) لقانون الإعسار تجنباً للتصفية وذلك بسبب الأوضاع المالية الصعبة التي فاقمتها جانحة كورونا بحسب الشركة ، وأعلنت الإسمنت الأردنية أنها أصبحت غير قادرة على الوفاء بالتزاماتها تجاه موظفيها والمتقاعدين والداننين .

المصدر: www.albayan.ae

الجمهورية التونسية

شركة اسمنت قرطاج تقوم بأول عملية تصدير إلى إيطاليا

قامت شركة إسمنت قرطاج في يونيو / حزيران الماضي بأول عملية تصدير لها لكمية تقدر ب 4100 طن إسمنت نحو إيطاليا . وأوضحت الشركة أن الصفقة هي جزء من استكمال عقد تصدير 250 ألف طن بين الإسمنت والكلنكر إلى أوروبا. وقال الرئيس المدير العام لشركة إسمنت قرطاج، إبراهيم الصانع، " لقد حصلت شركتنا على شهادة المنتج وفقاً لمتطلبات المعايير الأوروبية ، والتي مكنتنا من أن نكون أول من يدخل السوق الأوروبية وننوي البقاء فيها".

المصدر: www.babnet.net

الحكومة التونسية تسمح باستخدام أكياس البولي بروبيلين للإسمنت

وافقت الحكومة التونسية على استخدام البولي بروبيلين لتعبئة الإسمنت ودعمت الغرفة الوطنية لمنتجي الإسمنت (CNPC) قرار الحكومة . وسيقلل استخدام عبوات البولي بروبيلين بشكل كبير من تكسر الأكياس وما يترتب على ذلك من فقد للمنتج ، بالإضافة إلى توفير حماية محسنة ضد الرطوبة ، وفقاً لـ CNPC . ويأتي ذلك وسط خطوات تتخذها الحكومة التونسية لحظر الأكياس البلاستيكية اعتباراً من 2021 على المنتجين والموردين والمستخدمين .

المصدر: <https://news.tn>

المملكة العربية السعودية

إسمنت المدينة تناقش خفض رأس المال 26%

ناقشت الجمعية العمومية لشركة إسمنت المدينة تخفيض رأس مال الشركة من 1.892 مليار ريال إلى 1.4 مليار ريال بعد التخفيض بنسبة تخفيض قدرها 26% من رأس مال الشركة . وسيكون معدل التخفيض سهماً واحداً لكل 3.85 سهم، وقيمة تخفيض رأس المال 492 مليون ريال .



ويجري العمل على زيادة الطاقة الإنتاجية لوحدة إنتاج البوك نظراً لتحقيقها ريعية اقتصادية جيدة للشركة إضافة إلى البدء ببيع المواد الحصوية المنتجة في الشركة ، حيث تعمل الشركة على تحسين المواصفات الفنية للمنتج وتحديث وتطوير الآلات لمواكبة التطورات الفنية والتكنولوجية في مجالات الصناعة وإنتاج أنواع جديدة من الإسمنت وزيادة الحصص السوقية للشركة .

ولن يكون هناك أثر جوهري لتخفيض رأس المال على التزامات وعمليات أو أداء الشركة المالي أو التشغيلي . بينما تتوقع الإدارة أن يكون للتخفيض أثر إيجابي على نسب مؤشرات الأداء والربحية للشركة .

المصدر: www.alarabiya.net

الجمهورية العربية السورية

شركة إسمنت حماة تزيد إنتاجها خلال النصف الأول من العام الحالي وتوقع عقود بيع جديدة لمنتجاتها

جهود كبيرة بذلتها كوادر الشركة العامة لصناعة الإسمنت ومواد البناء بحماة بهدف ردف السوق المحلية بمواد الإسمنت والبوك وأطاريق الطرق بعد ازدياد الطلب على منتجاتها نتيجة انخفاض أسعارها مقارنة بالقطاع الخاص .

وقد حققت الشركة زيادة في كمية الإنتاج خلال النصف الأول حيث أنتجت معاميل الشركة نحو 376 ألف طن من الكلنكر إضافة إلى إنتاج 482 ألف طن إسمنت مقارنة بإنتاج 255 ألف طن كلنكر و340 ألف طن إسمنت خلال الفترة ذاتها من العام .

وهناك صعوبات كبيرة تواجه الشركة في تأمين مستلزمات الإنتاج المستوردة نتيجة الإجراءات الاقتصادية والمصرفية المفروضة على سورية إضافة إلى الانقطاعات المتكررة للتيار الكهربائي والذي يؤدي إلى خسارة كبيرة في المعدات والإنتاج وصعوبة تأمين مادة المازوت اللازمة لأقسام الشركة وخاصة مقالع الحجر الكلسي .

وحققت الشركة إنجازات مهمة من الناحية الإنتاجية والتسويقية تتلخص بالاستفادة من الطاقة الحرارية المنبعثة من مبرد الكلنكر في تسخين الفيول عبر المبادلات الحرارية وإنتاج الإسمنت المقاوم للكبريتات بالطريقة الجافة ما أدى إلى وفورات مالية كبيرة وإنتاج الإسمنت الأباري بالطريقة الجافة لتلبية حاجة آبار النفط من هذه المادة التي كانت تستورد من الخارج ما وفر مبالغ كبيرة من القطع الأجنبي إضافة لقيام كوادر الشركة بتصنيع بعض المعدات بكلفة بسيطة تغني عن استيرادها .

كما تعمل الشركة بالتعاون مع الجهات الوصائية على تطوير الواقع التسويقي من خلال إبرام عقود لبيع الإسمنت والكلنكر ومنها عقد لبيع كمية 240 ألف طن سنوياً من الإسمنت البورتلاندي البوزولاني وعقد لبيع كمية 250 ألف طن سنوياً من الإسمنت البورتلاندي والإعلان عن بيع كمية مليون طن من الكلنكر ، حيث تتم الاستفادة من مخلفات الإنتاج في الشركة في إنتاج وبيع عدد من المنتجات والتي تعود بريعية اقتصادية كإنتاج البوك بمقاسات مختلفة .

كما تم إنتاج 400 ألف طوبة خلال النصف الأول من هذا العام

يذكر أن شركة إسمنت حماة بدأت في مايو / أيار الماضي بإنتاج أطاريق الطرق وبيعها للقطاع العام والخاص .

الجمهورية العراقية

ترجع صادرات تركيا من الإسمنت إلى العراق

انخفضت صادرات الإسمنت من تركيا إلى العراق بنسبة 11.60% خلال الفترة من يناير / كانون الثاني يناير حتى مايو / أيار 2020 مقارنة بالفترة ذاتها من عام 2019 والبالغة 37.3 مليون دولار . وتراجعت صادرات تركيا من الإسمنت إلى العراق بنسبة 5.79% خلال شهر مايو / أيار 2020 مقارنة بشهر مايو / أيار 2019 وبلغت 9.7 مليون دولار .

تشغيل معمل سمنت صقر الكيطان بطاقة مليون طن سنوياً

تم في شهر يونيو / حزيران الماضي تشغيل معمل سمنت صقر الكيطان بكلفة تتجاوز 43 مليون و 700 ألف دولار لينتج مادة الإسمنت بطاقة مليون طن سنوياً .

وسيساهم المعمل في سد حاجة السوق المحلية وتصدير الفائض إلى المحافظات العراقية الأخرى ، حيث يعد من أهم المعامل في صناعة الإسمنت وركيزة أساسية في رفع الواقع الاقتصادي سواء للمحافظة أو البلاد ، خصوصاً وأن الإسمنت المنتج وفق أعلى المواصفات و المعايير العالمية .

وقد أقيم المعمل بالشراكة مع شركة أتوك Attock الباكستانية لإنتاج الإسمنت المقاوم والعادي بصيغتين الغير مكبس (فل) ليسوق عن طريق الناقلات الحوضية أو من خلال تعبئته بأكياس ليسوق إلى البصرة بالإضافة إلى المحافظات الجنوبية الأخرى .

المصدر: <https://iraqkhbar.com>

الشركة العامة للإسمنت العراقية تعلن عن استمرار أعمال الصيانة والتأهيل في طواحين السمنت بمعمل سمنت الكوفة

أعلنت الشركة العامة للإسمنت العراقية عن وضع وتنفيذ خطط صيانة وقائية لمعاملها ، وذلك بجهود ذاتية واستثنائية خلال استغلال فترة التوقف عن العمل بسبب تداعيات جائحة كورونا ، حيث تم البدء

المواد الكيميائية المضافة لزيادة وتحسين نوعية السمنت

إعداد: م. عباس عبد الكريم عباس / رئيس مهندسين كيمياء أقدام

الشركة العامة للسمنت الشمالية، معاونة السمنت الشمالية / معمل سمنت بادوش الجديد / جمهورية العراق

هناك أنواع عديدة من المواد الكيميائية التي تضاف إلى صناعة السمنت لغرض زيادة الطاقة الإنتاجية وتحسين نوعيتها. ومنها مادتان، فيما يلي شرح مبسط لكل واحدة منها:

أولاً: المادة الكيميائية التي تحسن الظروف التشغيلية وزيادة الإنتاج Grinding Additives. هذه المادة تضاف إلى مادة الكلنكر لطاحونة السمنت بنسب مختلفة، وهذا يعتمد على نوعية الكلنكر والظروف التشغيلية لكل طاحونة لأن الطواحين تختلف ظروفها التشغيلية من طاحونة إلى أخرى وحسب الإنتاج ونوعية السمنت، حتى وإن كانت ضمن المعمل الواحد. ونسبة الإضافة من هذه المادة مع الكلنكر والجبس لإنتاج السمنت حوالي 0.04% من تغذية الطاحونة.

مميزات المادة الكيميائية المضافة لإنتاج السمنت:

- 1- الكثافة تتراوح من (1 – 1.1) غم/سم³
- 2- منع التجاذب والتلاصق بين الكرات الفولاذية وبطانة الطاحونة وهذه الخاصية تساعد في تسهيل عملية الطحن بسرعة أكبر من الحالة الاعتيادية عندما تكون بدون إضافة.
- 3- الحفاظ على نظافة الكرات الفولاذية من التراكمات الإسمنتية وبالتالي تزداد كفاءة الطحن.
- 4- المحافظة على نظافة بطانة الطاحونة والدايفرام وفتحاتها.
- 5- المحافظة على نظافة ريش المراوح من تراكمات السمنت ونظافة الفاصلة الميكانيكية وريش مروحة المرسب وبالتالي منع حصول اهتزاز ميكانيكي للمراوح.
- 6- منع حصول تكتلات للسمنت في السائلوات وتسهيل انسيابية السمنت عند التعبئة.
- 7- تسهيل انسيابية مرور السمنت عبر النواقل وخاصة الأيرسلايدات والأيربول .
- 8- منع تلامس ذرات السمنت مع بعضها وبالتالي ستكون نسبة الراجع من السمنت من الفاصلة الميكانيكية أقل وفي النهاية زيادة الطاقة الإنتاجية للطاحونة.
- 9- منع تلامس السمنت على مسامات أكياس الفلاتر وزيادة عمر الكيس و زيادة الطاقة الإنتاجية للطاحونة.
- 10- هذه المادة تضاف لكافة أنواع السمنت.

ماهي النسبة المضافة؟

بالإمكان الاستمرار في زيادة نسبة المواد الكيميائية المضافة مع المواد الداخلة إلى الطاحونة لإنتاج السمنت لحين الحصول على نتائج مثالية بأقل نسبة إضافة مع أحسن طاقة إنتاجية وذلك من خلال التجارب.

ثانياً: المواد الكيميائية التي تزيد من قوة السمنت المبكر Strength Increase

هذه المادة تختلف في نوعيتها عند الإضافة مع الكلنكر وتعتمد على مواصفات السمنت المنتج ، ولغرض تحديد نوعية هذه المادة من الشركة المنتجة يجب إرسال نموذج من السمنت المعروف مواصفاته الفيزيائية والكيميائية إلى الشركة المنتجة ويتم دراسة الموضوع في مختبرات الشركة الأخيرة من حيث إجراء مجموعة من التجارب للمواد الكيميائية ونسبها لحين الوصول على أحسن نتيجة من حيث مواصفات المادة الكيميائية المضافة ونسبة الإضافة وعندها يكون للشركة المنتجة للسمنت معلومات كاملة عن كيفية استخدام هذه المادة كما ونوعاً وكذلك سعر المادة .



دولة ليبيا

من قبل الكادر الهندسي والفني في قسم طواحين السمنت وبإسناد من الأقسام الأخرى بتأهيل الطاحونة الثالثة والتخطيط للصيانة الوقائية للدايفرام الوسطي للغرفتين الأولى والثانية ، مشيراً إلى أن هناك برنامج صيانة ميرمج متكامل للطاحونة ولكافة الأجزاء، إضافة إلى برنامج صيانة كهربائية متقدم وصيانة للمرسبات وخطوط نقل الإسمنت إلى السائلوات رغم صعوبة الظروف وتطاول الأثرية والغبار .

ميناء طبرقة يستقبل 3000 طن إسمنت

وصلت إلى ميناء طبرقة عدد من السفن التجارية محملة ببضائع متنوعة من بينها إسمنت . و استقبل الرصيف التجاري رقم 9 الباخرة "سمية"، وعلى متنها 3000 طن من الإسمنت السائب . وأظهرت بيانات الميناء الحديثة قرب وصول الباخرة "صافي" وعلى متنها أكثر من 3500 طن إسمنت .

المصدر: www.218tv.net

جمهورية مصر العربية

الإسكندرية لإسمنت بورتلاند تتقدم بطلب لشطب قيد أسهمها

أعلنت البورصة المصرية عن تقدم الممثل القانوني لشركة الإسكندرية لإسمنت بورتلاند بطلب لشطب قيد أسهم الشركة بعدد 458,02 مليون سهم ، بقيمة إسمية قدرها 6.3 جنيه للسهم الواحد من جداول البورصة اختياريًا .

المصدر: www.cnbcArabia.com

صناعة الإسمنت تحتاج دعم الحكومة وليس دعم الصادرات

تواجه صناعة الإسمنت في مصر عدة تحديات أهمها وجود فائض كبير في الإنتاج يزيد على 30 مليون طن سنوياً ، وفي الوقت نفسه ، كان هناك انخفاض متتالي في الطلب على الإسمنت في السوق على مدى السنوات الأربع الماضية منذ عام 2016 ، حيث انخفض الطلب على الإسمنت منذ بداية العام الحالي وحتى الآن بنسبة 4.1 % مقارنة بالعام الماضي ، في الوقت نفسه الذي شهد دخول المزيد من الطاقات الإنتاجية إلى السوق .

كما أن أسعار الإسمنت غير قادرة على تغطية تكاليف الإنتاج ، وهو ما أدى إلى تكبد الكثير من الشركات خسائر مالية كبيرة، وأصعب التحديات التي تواجه صناعة الإسمنت في مصر هي الزيادة الكبيرة في حجم المعروض من الإسمنت في السوق .

وترافق ذلك مع تراجع كبير في الطلب على الإسمنت خلال السنوات الأربع الماضية ، ولذلك ، فهناك ارتفاع مفرط في العرض للغاية من أجل البيع بغض النظر عن التكلفة ، وحجم الطلب لا يتناسب مع تكاليف الإنتاج المرتفعة ، وبالتالي ، يتنافس الجميع ضد بعضهم البعض على سوق حجم طلبه أقل بكثير .

المصدر: <https://alborsaanews.com>

افتتاح خط لإنتاج الإسمنت في نينوى بطاقة 1000 طن يومياً

افتتح وزير الصناعة والمعادن العراقي يوم 3 سبتمبر / أيلول خطأ لإنتاج السمنت في معمل بادوش الجديد ضمن مجمع إسمنت بادوش في محافظة نينوى التابع للشركة العامة السمنت العراقية بعد أن كان متوقفاً منذ 15 عاماً . حيث تم إعادة تأهيله وتشغيله بجهود وإمكانات ذاتية في غضون خمسة أشهر وبطاقة 1000 طن يومياً لتصبح الطاقة الإجمالية لمجمع سمنت بادوش بحدود 5,500 إلى 6,000 طن يومياً .

وسيعزز هذا الخط إمكانيات وطاقات الشركة والمعمل من مادة السمنت بجودة ونوعية عالية لرشد مشاريع البناء والإعمار في المحافظة ، وسوف تستمر الجهود لمعالجة وتأهيل جميع الخطوط الموجودة لرفع مستوى الإنتاج لمادة الإسمنت في العراق .

سلطنة عُمان

شركة ريسوت للإسمنت تستهدف إنتاج 26 مليون طن سنوياً

تخطط شركة ريسوت للإسمنت العمانية لزيادة الطاقة الإنتاجية بمقدار خمسة أضعاف لتنمية أعمالها داخل وخارج السلطنة. حيث تهدف الشركة إلى زيادة طاقتها الإنتاجية البالغة أكثر من 5 ملايين طن سنوياً إلى 26 مليون طن سنوياً من خلال مزيج من المشاريع المشتركة وعمليات الاستحواذ والمشاريع الجديدة .

وتخطط الشركة لإضافة 16 مليون طن سنوياً في شرق أفريقيا و 1 مليون طن سنوياً في اليمن . وتمتلك ريسوت للإسمنت حالياً مصنعاً بطاقة إنتاجية قدرها 1.4 مليون طن سنوياً في الإمارات العربية المتحدة من خلال شركتها الفرعية بابونير للإسمنت ومصنعاً بطاقة 4 مليون طن سنوياً في عُمان .

كما استحوذت الشركة على نسبة 75 % من محطة للإسمنت في Thilafushi ، جزر المالديف ، ووحدة طحن بطاقة 1 مليون طن سنوياً ومحطة خدمة في الدقم ، ومصنع إسمنت متكامل بطاقة 1.2 مليون طن سنوياً في جورجيا ووحدة لطحن الإسمنت في بربرة في الصومال .

نشاطات عربية

ورشة العمل العربية حول (تعريف المخاطر وتقييم مخاطر الأعمال والاستعداد لحالة الطوارئ وإدارة الأزمات في المنشآت والمؤسسات الصناعية)

المكان: عن طريق الإنترنت (Online) عبر تطبيق Microsoft Team
التاريخ: 15 - 16 سبتمبر / أيلول 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين - المكتب الإقليمي

للحصول على كافة التفاصيل يرجى التواصل عبر:
هاتف: (+202) 23807565 / (+202) 23583990
فاكس: (+202) 23803880

بريد إلكتروني: aidmoroc@yahoo.com
موقع الكتروني: www.aidmo.org/roc
(رسم الاشتراك 100 دولار أمريكي للمشاركة من الدول العربية)

ورشة العمل العربية حول (إرشادات أنشطة المراجعات على نظم الإدارة المختلفة بالمؤسسات والشركات الصناعية طبقاً لإرشادات المواصفة القياسية الدولية: ISO 19011: 2018)

المكان: عن طريق الإنترنت (online) عبر تطبيق Microsoft Team
التاريخ: 11 - 12 أكتوبر / تشرين أول 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين - المكتب الإقليمي

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ورشة العمل العربية حول (نظام إدارة استمرارية الأعمال في الشركات والمؤسسات الصناعية طبقاً لمتطلبات المواصفة القياسية الدولية 2019: ISO 22301)

المكان: عن طريق الإنترنت (Online) عبر تطبيق Microsoft Team
التاريخ: 16 - 17 نوفمبر / تشرين الثاني 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين - المكتب الإقليمي

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المؤتمر العربي الدولي السادس عشر للثروة المعدنية والمعرض المصاحب له

المكان: إمارة الفجيرة، الإمارات العربية المتحدة
التاريخ: 16 - 18 نوفمبر / تشرين الثاني 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين
للحصول على كافة التفاصيل يرجى التواصل عبر:
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بريد إلكتروني: aidmo@aidmo.org
موقع الكتروني: www.aidmo.org

ورشة العمل العربية حول (إدارة المخاطر وفقاً لمتطلبات اعتماد المختبرات وللصدار الجديد (ISO/IEC17025: 2017)

المكان: عن طريق الإنترنت (Online) عبر تطبيق Microsoft Team
التاريخ: 01 - 02 ديسمبر / كانون أول 2020
الجهة المنظمة: المنظمة العربية للتنمية الصناعية والتعدين - المكتب الإقليمي

للحصول على كافة التفاصيل يرجى التواصل عبر:
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دورات تدريبية

إدارة المشتريات والمخازن

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 04 - 08 أكتوبر / تشرين الأول 2020
الجهة المنظمة: معهد التنمية الإدارية
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الاستراتيجيات الحديثة للتطوير المؤسسي

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 04 - 08 أكتوبر / تشرين الأول 2020
الجهة المنظمة: معهد التنمية الإدارية
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إعداد وتأهيل القادة والمديرين

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 11 - 15 أكتوبر / تشرين الأول 2020
الجهة المنظمة: معهد التنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

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السكرتارية الحديثة وإدارة المكاتب

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 11 - 15 أكتوبر / تشرين الأول 2020
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تطبيقات مفاهيم الجودة في التطوير الإداري

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 11 - 15 أكتوبر / تشرين أول 2020
الجهة المنظمة: المؤسسة العامة للتدريب المهني
للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

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إدارة أمن المعلومات

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 18 - 22 أكتوبر / تشرين الأول 2020
الجهة المنظمة: معهد التنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

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إدارة العلاقات العامة

المكان: شرم الشيخ، جمهورية مصر العربية
التاريخ: 18 - 22 أكتوبر / تشرين الأول 2020
الجهة المنظمة: معهد التنمية الإدارية
للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب:

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