16th NCB International Seminar on Cement, Concrete and Building Materials
03-06 December 2019, Manekshaw Centre, New Delhi, India

PROCEEDINGS
(Technical Sessions & Special Technical Sessions)

Tuesday, 03 December 2019

INAUGURAL SESSION	**Zorawar Auditorium**	**1000 h to 1100 h**
Inauguration of Technical Exhibition		**1100 h to 1130 h**
Welcome Get-together		**1130 h to 1200 h**
PANEL DISCUSSION-I		**1200 h to 1300 h**
PANEL DISCUSSION -II		**1300 h to 1400 h**
LUNCH		**1400 h to 1500 h**
TECHNICAL SESSION – I A	**Zorawar Auditorium**	**1500 h to 1615 h**

MINE PLANNING & RAW MATERIAL RESOURCE MANAGEMENT

1. Improvising Logistics and Supply Chain in Cement Industry (80)
   Ravindra Kumar Singh, *BEUMER India Pvt Ltd.*
2. Indian Cement Industry – A Perspective (72)
   Jagdeep Verma, *Holtec Consulting Private Limited*
3. Conservation and Maximization of Limestone Reserves by following Scientific Method of Mining (Case Studies) (432)
   Richa Mazumdar, Subrat Sahoo, A K Dubey and D K Panda, *National Council for Cement and Building Materials*
4. Efficient Grinding of Slurry Material Along with Limestone in Gebr. Pfeiffer VRM for Utilization of Grey Siliceous Limestone (35)
   Raghvendra Singh and Sudipta Mondal, *Gebr. Pfeiffer (India) Pvt. Ltd.*
   Piush Mishra, *Chaibasa Cement Works (A Unit of ACC Ltd.)*
5. Value Engineered Raw Material and Cement Grinding Plants (8)
   Stefan Diedenhofen and Franz-Josef Zurhove, *Thyssenkrupp Industrial Solutions AG,Cement Technologies, Beckum, Germany*
6. Investigations on development of Portland composite cements based on Flyash and limestone (427)
   B N Mohapatra, Varsha Liju, S Palla, S Vanguri, R Gupta, O P Sharma and S K Chaturvedi, *National Council for Cement and Building Materials*
7. Petcoke Additive Chemical for Improved Petcoke Burning in Cement Industry (95)
   Halim Tekkesin and Seyda Arikan, *Triple I Engineers*

TECHNICAL SESSION – I B	**Ashoka Convention Hall**	**1500 h to 1615 h**

PORTLAND, BLENDED AND SPECIAL CEMENTS – I

1. High Magnesia (MgO) Clinker for the Manufacture of PPC and PSC (428)
   B N Mohapatra, G Ahamed, G J Naidu, G Bhatnagar and S K Chaturvedi, *National Council for Cement and Building Materials*
2. Properties of Calcined Clay Based Geopolymer Mortars in Presence of Alccofine Powder and Polymer Fiber at Room Temperature (61)
   S K Saxena, Mukesh Kumar, S K Wali and N B Singh, *JK LAKSHMI CEMENT LTD*
3. Investigation on Utilization of Wollastonite in Manufacture of OPC Clinker (411)
   Varsha Liju,S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
   S Sridhar, *Wolkem India Ltd. Udaipur,*
   Mukesh Kumar, *J K Lakshmi Cement Ltd., Jajjar*
4. Inter-Grinding of Clinker, Flyash and GBFS for Composite Cement Preparation-their Grindability and Effect on Physical Properties Cement (415)
   Suresh Vanguri, G Prasad, A Sushmitha, V Ramaswamy, K V Kalyani, S K Chaturvedi and B N Mohapatra, *National Coucnil for Cement and Building Materials - Hyderabad*
5. Determination of Slag & Flyash Content in Composite Cement By X-Ray Diffraction Method (53)
   Vaibhav Dixit, Hemant Sahu, Asit Parui, S V Kadam, K Rajesh, *ACC Limited*
6. Increase Utilization of Fly Ash in PPC at Birla Cement Works Plant (108)
   Dinesh Kumar, D Banerjee, Narpat Anjana and G Palod, *Birla Corporation Limited*

Tea/Coffee	**1615 h to 1645 h**
TECHNICAL SESSION – II A **Zorawar Auditorium**	**1645 h to 1800 h**

ALTERNATE / WASTE FUELS AND RAW MATERIALS

1. LD Slag Utilization for clinker Production (21)
   S K Gupta, Chandan Sengupta and Lokesh Bahety, *Dalmia Cement (Bharat) Ltd*
2. AFR Handling system (78)
   Michal Hrala, *BEUMER Maschinenfabrik GmbH & Co. KG*
3. Increase Usage of AFR and Waste Utilization (115)
   Dinesh Kumar, R K Sharma and R P Badoni, *Birla Corporation Limited*
4. Handling of Multi type Alternative Fuel : A Challenge and Opportunity for Cement Plant (403)
   Kapil Kukreja, Anupam, Prateek Sharma and Saurabh Bhatnagar, *National Council for Cement and Building Materials*
5. Utilization of Leather Sludge in Cement Manufacture (409)
   Devender Yadav, Suresh Palla, S Vanguri, Munish Kumar, S K Chaturvedi, B N Mohapatra, *National Council for Cement and Building Materials*
6. Fly Ash and Eggshell utilization in Portland cement (60)
   Mukesh Kumar,S K Saxena, S K Wali and N B Singh, *JK Lakshmi Cement Ltd*
7. Use of De-carbonated Material 'LD SLAG' in the Manufacture of Portland Clinker (417)
   S K Agarwal,Varsha Liju,S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
   Nabonita Das, A K Gupta, Subhdra Sen and R V Ramna, *Tata Steel Limited, Jamshedpur*

TECHNICAL SESSION – II B **Ashoka Convention Hall**	**1645 h to 1800 h**

PORTLAND, BLENDED AND SPECIAL CEMENTS – II

1. Use of High Phosphate Limestone in Cement Manufacture – A Case Study (76)
   M V Karandikar and Ashish Prasad, *ACC Limited*
2. Effect of LD Slag on the Physical Performance of Composite Cement (433)
   Giasuddin Ahamed, Varsha Liju, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
3. Cost Saving by Optimization/uses of Overburden Limestone of Mines in Clinkerization without affecting the Clinker quality (91)
   Pankaj Kejriwal, S P Shrimali, Y K Singh, S K Pandey and Sanjay Chaurasia, *Star Cement*
4. Investigations on Improving the Performance of Composite Cement by Separate Grinding of Constituents (410)
   Varsha Liju, Giasuddin Ahamed, P Pandey, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
5. Reduction in LSF of Lime Stone Pile at Chanderia Cement Works Plant (112)
   Dinesh Kumar, D Banerjee and K K Singh, *Birla Corporation Limited*
6. Investigation on Mechanical Properties of Portland Limestone Cements Prepared Using Different Grade Limestone (418)
   J P Vrati, K V Singh, A K Raykundalia and B C Pandey, *Ambuja Cements Limited*
   S K Agarwal, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
7. Increase Utilization of Fly Ash in PPC at Chanderia Cement Works Plant (109)
   Dinesh Kumar, D Banerjee, D C Jagetiya and Narpat Anjana, *Birla Corporation Limited*
8. Composite cement & its advantage (73)
   M. K. Kapoor, Vivek Agnihotri,

Wednesday, 04 December 2019

TECHNICAL SESSION – III A **Zorawar Auditorium**	**0900 h to 1045 h**

CEMENT PLANT MACHINERY AND PROJECT ENGINEERING

1. Technology up gradation & modernization for Inbound & Outbound vehicle (25)
   Manoranjan Sahoo and Santanu Giri, *Dalmia Cement (Bharat) Ltd*
2. Mechanized Solution For Hdpe Bags (Bag Feeding & Loading (42)
   Vikesh Singh, *FLSmidth Private Limited*
3. Sampling and Safe Unloading Procedure Of Carbon Black/Fly Ash (30)
   A V Nagaraja and Naresh Singh, *Dalmia Cement (Bharat) Ltd*
4. System Design - Optimization in Grinding and Pyro processing system (46)
   Sivakumar Natesan, *FLSmidth Private Limited*
5. Mitigating Effects of Harmonics on Power System in Cement Industry (38)
   S Peddanna and R P Singh, *ERCOM Engineers Pvt. Ltd*
6. Paper on Optimizing the Fan Power of Vertical Roller Mill (Raw Mill) through Modification in Louver Ring (118)

Rajpal singh Shekhawat, Pankaj Tiwari and Manish Vijay, *JK LAKSHMI CEMENT LTD.*

7. Technologies for Upgradation & Modernization of Pollution Control Equipment in Cement Plant (50)
   Henrik Vittrup Pedersen, Flemming Jensen and Unmesh Chandran, *FLSmidth Automation India*
8. KHD Cooling Lines: PFC2 & PSC2 Cooler (102)
   Andre Sybon, *KHD Humboldt Wedag, Cologne, Germany*
   Ravi Saksena and Anurag Johari, *Humboldt Wedag, India Pvt Ltd*
9. State of the Art Cooler replacement - flexible, quick, efficient (15)
   Ingmar Holst, *Claudius Peters*

TECHNICAL SESSION – III B	**Ashoka Convention Hall**	**0900 h to 1045 h**

EMERGING TRENDS- I

1. Uncoaler/Activator Feeder for Coal Extraction (82)
   K.S.Nalwaya and Jogesh Narula, *KSN Tech Ventures Pvt Ltd,*
   Yong Wei, *General Kinematics - Crystal Lake, Chicago Area, USA*
2. 3D Printable concrete : Designed by Local Materials (66)
   Shrivats singhania, S K Wali and Mukesh Kumar, *JK Lakshmi Cement Limited*
3. New Technologies by ATS-Group for Alternative Solid Fuels Handling (131)
   Luc Rieffel, *ATS Conveyors India Pvt. Ltd.*
4. Development of Belite Calcium Sulpho-Aluminate Cement using Low Grade Limestone and Industrial Waste (Jarosite). (412)
   G J Naidu, Suresh Palla, S Vanguri, Varsha Liju, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
5. India Advances in Concrete Paving Two-Layer Technology (133)
   R K Jain, **DCRUST**
6. Progressing on Low Carbon Transition Opportunities (27)
   Anupam Badola and Ashwani Pahuja, *Dalmia Cement (Bharat) Ltd*
7. New Development for time saving - Calde RDS-PRE-Cast-Pre-Fired-Solution (137)
8. Phase Equilibrium Studies on the Effect of Mineralizers on the Formation of High Temperature Ionic Liquid of Cao-Sio2-Al2o3-Fe2o3-Mgo System (67)
   Tazuddin and Amit Chatterjee, *Aditya Birla Science & Technology Pvt. Ltd.*
9. Improvement of Ash Quality Through Chemical/Mineral Doping in Coal During its Generation (413)
   Suresh Palla, G J Naidu, S Vanguri, Giasuddin Ahamed, S K Chaturvedi, *National Council for Cement and Building Materials*

Tea/Coffee	**1045 h to 1115 h**

TECHNICAL SESSION – IV A	**Zorawar Auditorium**	**1115 h to 1315 h**

ADVANCES IN GRINDING SYSTEMS-I

1. Grinding Process Optimization Levers to Pull (3)
   Caroline Woywadt and Bernd Henrich, *Gebr. Pfeiffer SE, Kaiserslautern, Germany*
2. Operations and Maintenance of HPGR Rolls A Case Study (7)
   Rahul Deshmukh, *Thyssenkrupp Industries India Pvt. Ltd.*
   Prashant Garg, *Diffusion Engineers Ltd*
3. Raw Mill Finish Mode Grinding (12)
   Swapnil S Kotpalliwar, *Dalmia Cement (Bharat) Ltd*
4. Guinness World Record's largest Grinding VRM: OK™ 81-6 MILL (45)
   A Janardhanan and John Terembula, *FLSmidth Private Limited*
5. Cement Mill Productivity Improvements by Process Optimisation (55)
   RBM Tripathi, Umashankar Choudhary and Rajakumaran Kandasamy, *JK Cement Ltd*
6. Optimization of Raw Grinding Roller Press at Chanderia Cement Works Plant (114)
   Narpat Anjana, R C Jain and Dinesh Badala, *Birla Corporation Limited*
7. Operation of Clinker Grinding at Penna Cement, Krishnapatnam (81)
   M S Marathe and Vinod Wadile, *Thyssenkrupp Industries India Pvt.Ltd*
8. Grinding Components – The New Wear Management (134)
   Dorival G. Tecco, ***Pronamic***
9. Innovation in Open Gear Lubrication (125)
   Satheesh Kumar, Joseph Robert and Pramod Almore, *Klüber Lubrication India Private Limited*

TECHNICAL SESSION – IV B	**Ashoka Convention Hall**	**1115 h to 1300 h**

EMERGING TRENDS - II

1. Characterizing the Effect of Specialty Materials on the Rheology of free form Concrete Used for 3d Printing (92)
   A Rajendran, K Suresh, Raju Goyal, *UltraTech Cement Limited*
2. Vegetal Concrete: A Foundation for Carbon Neutral Built Environment (106)
   Tarun Jami, L P Singh and S R Karade, *CSIR-Central Building Research Institute, Roorkee*

3. White Topping: Cement Concrete Overlay on Bituminous Roads (124)
Binod Kumar, *CSIR-Central Road Research Institute, New Delhi,*
4. Partially Calcined Lime Sludge in Cement Mortar: An Environmental Friendly Approach (129)
Prabhat Vashistha and S K Singh, *CSIR-Central Building Research Institute, Roorkee*
5. Experimental Investigation of Ferrochrome Slag as Aggregate in Concrete (439)
P N Ojha, Nikhil Kaushik, Vaibhav Chawla, *National Council for Cement and Building Materials*
6. Utilization & Impact of Wet Flyash (28)
V J Mitra, Naresh Singh and K Karunakara Rao, *Dalmia Cement (Bharat) Ltd*
7. Separation of Different Type of Slag by Magnetic Pulley (29)
A Chandilyan, V J Mitra, K Karunakar Rao, N V Prasad and Anil Bajaj, *Dalmia Cement (Bharat) Ltd*
8. KHD Pyro Process: Approach for Low Carbon Roadmap (98)
Jens Breidenbach and Andreas Hand, *KHD Humboldt Wedag, Cologne, Germany*
Anurag Johari, *Humboldt Wedag India Pvt. Ltd.*

LUNCH	**1315 h to 1400 h**

TECHNICAL SESSION – V A	**Zorawar Auditorium**	**1400 h to 1545 h**

ADVANCES IN GRINDING SYSTEMS-II

1. Product Optimization by Using Grinding Aid at Prism Johnson Limited (86)
Pravesh Kumar Sharma, Ghanshyam Mishra, Raghvendra Pandey, Rajendra Kumar Jha, Dinesh Agrawal, Manish Kumar Singh and Manoj Kumar Jha, *PRISM JOHNSON LIMITED (Cement Division)*
2. Energy Efficient VRM Technology for Cement and Slag Grinding (68)
Y Shigemoto and T Hinauchi, *UBE Machinery Corporation Ltd.*
R K Sharma, *AMCL Machinery Ltd.*
3. HEXADUR® in Cement Industry - 25 years of Operation with HEXADUR® Protected HPGR Rollers (96)
4. Single Roller Press Circuits: Stepping into Large Capacity Plants (99)
York Reichardt, *KHD Humboldt Wedag, Cologne, Germany*
A K Dembla and Vanam Venkatesh, *Humboldt Wedag India Pvt. Ltd.*
5. Consolidated Journey of More than 100 Roller Presses in India (100)
Balesh Singh, PVR Murthy, Atul Johri and Vimal Singh, *Humboldt Wedag India Pvt. Ltd.*
6. Roller Press in Finish Mode for Composite Cements: Fresh Cement Experiences in Bangladesh (101)
A K Singh, Balesh Singh, Saida Shaik and Akshay Singh, *Humboldt Wedag India Pvt. Ltd.*
7. JSW Green Foot Prints: Experiences with KHD Roller Presses (104)
G Veera Babu, *JSW Cement Limited, India*
A K Dembla, Prakash Patil and Deepti Varshney, *Humboldt Wedag India Pvt. Ltd.*
8. Increase Throughput of Cement Mills at Chanderia Cement Works Plant (110)
Dinesh Kumar, D C Jagetiya and Narpat Anjana, *Birla Corporation Limited*

TECHNICAL SESSION – V B	**Ashoka Convention Hall**	**1400 h to 1545 h**

PERFORMANCE BASED DESIGN OF CONCRETE STRUCTURES

1. Smart Concrete (4) **KEYNOTE**
Dhanada K Mishra, Jing Yu, Christopher K Y Leung, *Hong Kong University of Science And Technology*
2. Experimental shear study on reinforced high strength concrete beams. (419)
V V Arora, Brijesh Singh, Vikas Patel, Amit Trivedi, Lalit Kumar, *National Council for Cement and building Materials*
3. Stress strain characteristics of high strength concrete with steel fibers using blended cements. (420)
Brijesh Singh, V V Arora, Vikas Patel, Amit Trivedi, Ms. Megha Kalra, *National Council for Cement and building Materials*
4. Role of packing density, mixing efficiency and curing regime on development of UHPC. (437)
P N Ojha, Abhishek Singh, Piyush Mittal, Brijesh Singh, V V Arora, *National Council for Cement and Building Materials*
5. Evolution Of Concrete Mixture Design Methods And Ignored Issues (31)
Subrata Chowdhury, *Conmat Technologies*, *India*
6. Ultra-High Performance Environment-Friendly Concrete (132)
Kumar Shaswat, *Bennett University, India*

Tea/Coffee	**1545 h to 1615 h**

TECHNICAL SESSION – VI A	**Zorawar Auditorium**	**1615 h to 1800 h**

PRODUCTIVITY ENHANCEMENT AND PROCESS OPTIMIZATION-I

1. Producing Cement in sustainable way for better tomorrow (6)
Santosh Kumar Sharma, *Orient Cement*
Vaideesh Narayanan, *FlSmidth Private Limited*
2. Modification of Cement Mill Bag House Purging Sequence& Increased The PPC Output By 10% (14)
M Narsi Reddy, *Dalmia Cement (Bharat) Ltd*

3. Increased Usage of Alternate Fuels & Raw Materials by In-House Modification (17)
   G Sakthivel, *Dalmia Cement (Bharat) Ltd*
4. Increase of Kiln-2 Throughput By 300 Tpd (20)
   Lokesh Bahety and Rakesh Nayak, *Dalmia Cement (Bharat) Ltd*
5. Optimization to enhance productivity, Quality & operation performance for Composite Cement. (26)
   Manoranjan Sahoo, *Dalmia Cement (Bharat) Ltd*
   Sougata Mahanti, *Bengal Cement Works*
6. Reduction of Raw Mill - 2 Spc By Increasing the Feed (32)
   Lokesh Bahety and Debi Prasad Das, *Dalmia Cement (Bharat) Ltd*
7. Improving the electrical energy consumption of clinker production – recent design improvements for the polysius preheater system and the polysiuspolytrack® clinker cooler (41)
   Sebastian Frie, *ThyssenKrupp Industrial Solutions AG, Germany*
8. Optimization of Raw Gridning Roller Press at Chanderia Cement Works Plant (111)
   Dinesh Kumar, Narpat Anjana, R C Jain and Dinesh Badala, *Birla Corporation Limited*

TECHNICAL SESSION – VI B	**Ashoka Convention Hall**	**1615 h to 1800 h**

TOTAL QUALITY MANAGEMENT

1. Total Quality Management (TQM) (TEI - A Key to its Implementation & Success)
   O P Agrawal, *Qualman* *Consultancy Services*
2. Excellence in Quality Management System through PDCA Model-An Enabler of business growth (24)
   R Rajamohan, K Vinayagamurthi and R A Krishnakumar, *Dalmia Cement (Bharat) Ltd*
3. How to achieve stability in Quality and Process using advance predictive lab techniques (49)
   Roger Meier and S. Sankaralingam, *FLSmidth Automation Denmark*
4. Market Study - Approach and Methodology for Cement Industry (39)
   Rahul Kumar Sadhu and Sharad Prahlad Aggarwal, *ERCOM Engineers Pvt. Ltd*
5. Role of a Project Management Consultant (PMC) (71)
   S K Gupta, *Holtec Consulting Private Limited*
6. Customer Partnering through Reliable & Resourceful Services & Product Offerings (103)
   Sitaram Sharma and K Vikram, *Humboldt Wedag India Pvt. Ltd.*
7. Quality Management System in Construction Projects (120)
   Raksha Rajani D Souza, Lavanya A R and Umesh R, *N.M.A.M. Institute of Technology*
8. Importance of ISO: 17020 Implementation for Quality Assurance System in Construction Industry (422)
   Vikas Patel, B Pandu Ranga Rao, Brijesh Singh, V V Arora, *National Council for Cement and Building Materials*
9. Role of Calibration in Managing Measurement Risk and Decision Rule (447)
   P Srikanth, R P Vijayvergia and P N Ojha, *National Council for Cement and Building Materials*
10. Role of Proficiency Testing (PT) in the Field of Cement and Building Materials (448)
    V Naga Kumar, Suresh Kumar Shaw, Abhishek Agnihotri and P N Ojha, *National Council for Cement and Building Materials*

Cultural Programme	**1900 h to 2030 h**
Dinner	**2030 h**

Thursday, 05 December 2019

TECHNICAL SESSION – VII A	**Zorawar Auditorium**	**0900 h to 1045 h**

PRODUCTIVITY ENHANCEMENT AND PROCESS OPTIMIZATION – II

1. Modern Solutions in Refractory Castables for Critical Areas in Cement Kilns (58)
   Sumanta Mukhopadhyay and Manoranjan Nayak, *Dalmia Refractories Ltd*
2. Superior performance of JETFLEX Burner (43)
   Ram Kumar Sridharan, *FLSmidth Private Limited,*
3. Causes of Unwanted Coatings/ Buildups in Kilns of Meghalaya-Cement Plants and its Remedial Measures (47)
   Satyendra Katiyar, Sudesh Sharma and Pramod Kumar Pandey, *Gold Stone Cement Plant*
4. Detailed Cfd Model for Predicting combustion, Calcination and Pollutant Formation in Calciner (56)
   Shital Mone,B. S. Gawali, M. S. Joshi and Vivek Vitankar, *FluiDimensions*
5. A cooler for the future (57)
   F Lichomski and M. Rasiraju, *IKN GmbH, Germany*
6. Total Productivity Enhancement and Cost Reduction Techniques (70)
   Shivam Agarwal, Subham Agarwal and Avijit Dhole, *JBS Associates*
7. Computational Fluid Dynamics in Cement Industry (105)
   Sayali Bidkar and Mehul Shah, *Mechwell Industries Ltd*
8. High Performance Precast Solution for Cement Plant Critical Zones (83)
   Purushottam Bedare, Parthasarathi Mukhopadhyay and Stephen Woodcock, *VESUVIUS India Ltd*
9. New Lining Concept by Using Alumina Bricks in place of Basic Refractories in Cement Rotary Kiln (85)

J P Nayak, B Ghosh, R Adhikari, R Dey, A Tripathy, S Sengupta and P B Panda, *TRL Krosaki Refractories Limited*

TECHNICAL SESSION – VII B **Ashoka Convention Hall** **0900 h to 1045 h**

ANALYTICAL METHODS AND LAB AUTOMATION

1. Importance of calibration standard, sample preparation and evaluation of analysis results in XRF analysis in cement production (63)
   Hisashi Inoue, *I R TECHNOLOGY SERVICES PVT LTD*
   Yasushi Kusakabe, Kosuke Kawakyu Einoshin Kamota, Yasujiro Yamada, *Rigaku Corporation*
2. Mineralogical and Microscopy Techniques as Effective Diagnostic Tool for Process Control and Quality Monitoring in Cement Manufacturing Process (74)
   S B Sarase, D D Kulkarni, A. Shah, A Morajkar, V Sagvekar, M V Karandikar, *ACC Limited*
3. Comprehensive Methodology For Guiding The Process Dynamics Based On Mineralogical Assessment Of OPC Clinker by Microscopy & XRD (90)
   Jai Prakash Vrati, Kamal Virendra Singh, Ashwin K Raykundaliya, B C Pandey, *Ambuja Cements Ltd*
4. The Influence of Chemical and Mineralogical Variability on the Grinding Behaviour of Limestone (93)
   A Sadangi, M Kuchya, A K Singh, K Suresh Raju Goyal, *UltraTech Cement Limited*
5. Chemical Composition and Bond Work Index of Limestone – Correlation (416)
   Suresh Vanguri, T Mohan Rao, M Balaraju, G Jayaramudu, V Rama, P Janardhan and S K Chaturvedi, *National Council for Cement and Building Materials*
6. Development of BND – Indian Certified Reference Materials for Cement and Cementitious Materials to Support National Traceability (446)
   Suresh Kumar Shaw, V Naga Kumar, Abhishek Agnihotri and P N Ojha, *National Council for Cement and Building Materials*
7. Mineralogical and Microscopy Techniques as Effective Diagnostic Tool for Process Control and Quality Monitoring in Cement Manufacturing Process (75)
   Bjiu Mathew and M.V Karandikar, *ACC Ltd.*
8. Deployment of Cold Fog Systems & Other Technologies for Fugitive Dust Control in Cement Plants: A Case Study. (123)
   S Chakravarti and U S Chakravorti, *Ecodea Projects & Control Pvt. Ltd, Kolkata, India*
9. Determination of fly ash parameters to develop a simple and effective blending technique to reduce the variation in fly ash concretes. (138)
   Satya Medepalli, Shashank Bishnoi, *Indian Institute of Technology Delhi*

Tea/Coffee **1045 h to 1115 h**

TECHNICAL SESSION – VIII A **Zorawar Auditorium** **1115 h to 1315 h**

ENERGY CONSERVATION SYSTEMS-I

1. False Air Reduction- The Method of Reducing Carbon Footprint in Cement Plants (01)
   K K Sharma, *Invotech Industrial Solutions Private Limited*
2. IMPROVED ENERGY EFFICIENCY IN CPP (18)
   K A Mathew and Narendra Prasad Barik, *Dalmia Cement (Bharat) Ltd*
3. COOLER ESP EFFICIENCY EHNHANCEMENT (19)
   K A Mathew, Rajesh Chandravanshi, *Dalmia Cement (Bharat) Ltd*
4. Energy Conservation by adapting & Incorporating Energy efficient Technologies and operations (23)
   B Madhu, D Kumaresan and R Rajamohan, *Dalmia Cement (Bharat) Ltd*
5. Eco-Friendly Transportation of Cement for Construction of Amaravati Capital – Case Study (64)
   G V K Prasad, *The KCP Limited*
6. Reduction in Thermal Energy Consumption at Chanderia Cement Works Plant (113)
   Dinesh Kumar, D Banerjee, D C Jagetiya, Narpat Anjana, R K Dwivedi, *Birla Corporation Limited*
7. Role of Captive Power Plants in Achieving P A T Energy Targets for Indian Cement Industry (407)
   Prateek Shrama, MV Ramachandra Roa, V. Venkatesh, Ashutosh Saxena, Dr. B N Mohapatra, *National Council for Cement and Building Materials*
8. Study of empirical relation between proximate analysis data and gross calorific value of coal (135)
   Jishnu Devan Sankaran, *Century Textiles & Industries Ltd. (Cement Division)*
9. Energy Audit of Waste Heat Recovery Systems of Cement Plants in India: Case studies (408)
   Prateek Shrama, Ankur Mittal, MV Ramachandra Roa, KPK Reddy, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials*

TECHNICAL SESSION – VIII B **Ashoka Convention Hall** **1115 h to 1315 h**

DURABILITY OF CONCRETE

1. Performance Evaluation of Ternary Blended Cements for Masonry Application (65)
   S Divya Rani, Thangadurai Raja, Sasidharan Thillai and Manu Santhanam, *Indian Intitute of Technology, Madras*

2. A Sustainable Mix Proportioning Method for Coal Bottom Ash Concrete Based on Minimum Paste Theory. (126)
   S K Kirthika and S K Singh, *CSIR-Central Building Research Institute, Roorkee*
3. Synergy of micro slag in high volume flyash concrete (16)
   Praveen Kumar, *Rajasthan Technical University*,
   Zafar Ahmed Sultani, *NHAI Godhra Gujrat.*
4. Mechanical and Durability Properties of Concrete Made with Low OPC Content and High SCM's. (423)
   V V Arora, Puneet Kaura and Piyush Mittal, *National Council for Cement and Building Materials*
5. Evaluation of Durability Features of Concrete Composed With Low Carbon Cements (34)
   V H Choudary and P Anantham, *My Home Industries Private Limited,*
   Subrata Chowdhury, ***Conmat Technologies India***
6. Investigations on Portland Limestone Cement Compositions and their Performance Characteristics (441)
   Pinky Pandey, D Yadav, K Sharma, S K Chaturvedi and B N Mohapatra, *National Council for Cement and Building Materials*
7. The Influence of Temperature on The Hydration and Strength Development in Slag-Fly Ash Composite Cements (127)
   Sreejith Krishnan, Meenakshi Sharma and Shashank Bishnoi, *Indian Institute of Technology, Delhi*

LUNCH	**1315 h to 1400 h**

TECHNICAL SESSION – IX A	**Zorawar Auditorium**	**1400 h to 1545 h**

ENERGY CONSERVATION SYSTEMS-II

1. Green Energy for Cement Plants (5)
   Anmol Mudholkar, *Thyssenkrupp Industries India Pvt. Ltd.*
2. Energy efficient technologies and operations (52)
   Mogens Juhl Fons, *Fons Technology International*
3. Power optimization &cost savings Analytical tool for continuous improvement (59)
   Rajesh Kumar Gupta- Individual
4. Opportunities for Improving Energy Efficiency in Bag Filter Systems (88)
   Dilip Sakhpara and Umair Sayyed, *Maxtech Industries LLP*
5. A Study of Thermal Impact on the Mineralogy of China Clay & its compatibility with Limestone Rejects (89)
   Jai Prakash Vrati, Kamal Virendra Singh, Ashwin K Raykundaliya and B C Pandey, *Ambuja Cements ltd*
   S K Agarwal, S K Chaturvedi, B N Mohapatra, *National Council for Cement and Building Materials*
6. Initiatives for Energy Conservation (97)
   Devendra Kumar Patel, *JK Super Cement*
7. Assessment of Compressor Energy Consumption in Cement Plant - A Case Study (406)
   Ankur Mittal, Saurabh Bhatnagar and Ashutosh Saxena, *National Council for Cement and Building Materials*
8. Utilization and Recovery Methods of Waste Heat in Cement Plant (431)
   Ankur Mittal, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials*

TECHNICAL SESSION – IX B	**Ashoka Convention Hall**	**1400 h to 1545 h**

CONCRETE DETERIORATION MECHANISMS AND REINFORCEMENT CORROSION

1. Study of behavior of polypropylene Fiber reinforced high strength concrete exposed to higher temperature (421)
   Vikas Patel, V V Arora, Brijesh Singh, Megha Kalra and Sahara Adhikari, *National Coucnil for Cement and Building Materials*
2. The Influence of High Sulphate Content on Performance of Ordinary Portland Cement (130)
   Arun C Emmanuel, Riya Anilkumar, Gopala Rao Dhoopadahalli and Shashank Bishnoi, *Indian Institute of Technology Delhi*
3. Assessment of mechanical and mineralogical properties of concrete dams in India (443)
   V V Arora, Brijesh Singh, Shubham Jain, Vikas Patel & Pramod Narayan, *National Coucnil for Cement and Building Materials*
4. Compatibility Issues of Flyash Based Cements With Nanomaterials Like Nano-Silica (2)
   Mainak Ghosal and Arun Kr Chakraborty, *Indian Institute of Engineering Science & Technology, Shibpur*
5. Comparative Study of Characteristics of OPC-53 grade of Cement and its Influence on Water Demand and Rheological Properties of Mortar and Concrete (440)
   P N Ojha, G J Naidu, Suresh Palla and Piyush Mittal, *National Council for Cement and Building Materials*
6. Condition assessment and remedial measures for rehabilitation of Induced Draught Cooling Towers (IDCTs) located in different climatic regions of India- A case study (424)
   TVG Reddy, Sanjay Mundra and Rizwan Anwar, *National Council for Cement and Building Materials*
7. Performance Analysis of In-Service RC Members of Turbo Generator in India - A Comparative Study of Service Life Assessment (444)
   Sanjay Mundra, TVG Reddy and Naman Agarwal, *National Council for Cement and Building Materials*

Tea/Coffee	**1545 h to 1615 h**

TECHNICAL SESSION – X A | **Zorawar Auditorium** | **1615 h to 1800 h**

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-I

1. Technological up-gradation & sustainability initiatives (33)
   Manoranjan Sahoo and Ahmer Ali Khan, *Dalmia Cement (Bharat) Ltd*
2. Improved Low NOx Calciner (48)
   Ram Kumar Sridharan, *FLSmidth Private Limited*
3. CPP-De-SOx System (79)
   Sushil Kumar Paneri, *Amubuja Cements Ltd*
   Umashankar Srinivasan and Vinod Mishra, *Maratha Cement Works*
4. NOx Reduction through Primary & Secondary Measures at JK LAKSHMI CEMENT LTD, Jaykaypuram (117)
   Rajpal singh Shekhawat, Pankaj Tiwari and Kanish Singh, *JK LAKSHMI CEMENT LTD.*
5. Maximum Utilisation Of Low Grade Limestone In Cement Clinker Production (10)
   Anil Singh and Tushar Ghorai. *KJS Cement (I) Ltd, Maihar*
6. Dust Control in Construction Projects (119)
   Lavanya A R and Raksha Rajani DSouza, *N.M.A.M. Institute of Technology*
   Umesh R, *Rohini Project Management Consultants Pvt Ltd*
7. Practical approach to CSR journey in cement manufacturing (36)
   Mangleshwar Nath Verma, *Knight Synergy GT LLC*
8. Effect of Different Dopants on the Belite Phase Formation During Clinkerisation using Low Grade Limestone (414) - Dropped

TECHNICAL SESSION – X B | **Ashoka Convention Hall** | **1615 h to 1800 h**

DISTRESS INVESTIGATION, REPAIR/ STRENGTHENING/ RETROFITTING OF CONCRETE STRUCTURES

1. Geokrete- An Ideal Phosphosilicate based Binder for Concrete Repair and Rehabilitation (69)
   N Ramkumar, *Natural Cemeco Private Limited*
2. Laboratory test method for evaluating corrosion inhibiting efficiency of admix type bipolar corrosion inhibitor (438)
   Puneet Kaura, P N Ojha, Piyush Mittal, V V Arora, *National Council for Cement and Building Materials*
3. Case Studies on Repair of Concrete Dam in Himalayan Region using high Performance Concrete (436)
   P N Ojha, Suresh Kumar, Digvijay Kumar, V V Arora, *National Council for Cement and Building Materials*
4. Performance Evaluation of Polymer Modified Mortar and Bonding agent for Structural Repair (430)
   Puneet Kaura, Y N Dainel, Nitesh Kumar, TVG Reddy, *National Council for Cement and Building Materials*
5. Experimental Study on the Flexural Behaviour of Retrofitted RC-Beams (62)
   Aastha Singh, R R Singh, *PEC University, Chandigarh*
6. Experimental investigations on fiber reinforced self-leveling pavement quality concrete (PQC) for use in partial depth repairs of cement concrete pavements in urban areas (425)
   D Pavan Kumar, J Narsimha Rao, P N Ojha, B Sreenivas Rao, Adarsh Kumar NS, *National Council for Cement and Building Materials*

Friday, 06 December 2019

TECHNICAL SESSION – XI A | **Zorawar Auditorium** | **0900 h to 1045 h**

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-II

1. Optiwave Pulse Cleaning (Owpc) Technology For Long Bag Filters (11)
   T Venkat Naresh and S B Aradhya, *Clair Engineers Pvt. Ltd., Hyderabad, Telangana*
2. Our Journey on Water Positivity- Working towards future generations and global happiness (22)
   R Rajamohan, K Vinayagamurthi and R A Krishnakumar, *Dalmia Cement (Bharat) Ltd*
3. Pulsed Radio Wave Technology for Mitigation of Ambient Particulate Pollution (121)
   Srikanth Sola, *Sai Lakshmi Industries*
4. Assessment of SO2 Generation and Mitigation Measures at a Cement Plant in India - A Case Study (402)
   Anand Bohra, KPK Reddy, KRP Nath, Anupam, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials*
   Pankaj Kejriwal, A K Sinha, S P Shrimali, S K Kulshrestha, Y K Singh, B L Suthar, *Star Cement Limited, Meghalaya*
5. Best Engineering practices: An important tool for attaining high and sustainable TSR (404)
   M V Ramachandra Rao, Anupam, Anil K Popuri, Kapil Kukreja and Rayees Ahmed *National Council for Cement and Building Materials,*
6. Review of Carbon Capture and Utilization efforts made in Cement Industry (445)
   Anand Bohra, K P K Reddy, Prateek Sharma, A Saxena and B N Mohapatra, *National Council for Cement and Building Materials*
7. Usage of ammonium carbonate in place of aq. Ammonia in sncr operation
   K Subbulakshmanan, Vijay Chauhan, Keshav Katare, Ramsinh Chauhan, Reshu Chauhan, Sunil Kothari, Sukuru Ramarao, *Ambuja Cements Limited, Ambujanagar,*

TECHNICAL SESSION – XI B **Ashoka Convention Hall** **0900 h to 1045 h**

SUSTAINABLE CONSTRUCTION PRACTICES AND USE OF ALTERNATE AGGREGATES AND GEOPOLYMER CONCRETE

1. Optimization of Thermo-Mechanical Treatment for Recycling Demolished Concrete (9)
   Rohit Prajapati and Ravindra Gettu, *Indian Institute of Technology, Madras* **KEYNOTE**
2. Characterization of Ladle Furnace Slag for Development of Cementitious Binder (128)
   Surya M, S K Singh, and Jyoti, Akhil Rana, *CSIR-Central Building Research Institute, Roorkee*
3. Studies on fly ash and slag based Geopolymer concrete (426)
   Lalit Kumar, Amit Trivedi and V V Arora, *National Council for Cement and Building Materials*
   Lopamudra Sengupta, *JSW Cements Ltd*
4. Achieving Concrete Sustainability Through Nanotechnology (13)
   L P Singh, U Sharma, D Ali and Srinivasarao Naik B,*CSIR-Central Building Research Institute, Roorkee, India*
5. Utilisation of brine sludge in manufacture of building bricks through geopolymerisation process (94)
   S D Muduli and N K Dhal, *CSIR- Institute of Minerals and Materials Technology, Bhubaneswar*
6. Design and Construction of Low Traffic Volume Concrete Roads Using C & D Aggregates and Supplementary Cementitious Materials (442)
   Vaibhav Chawla, Amit Trivedi and V V Arora, *National Council for Cement and Building Materials*

Tea/Coffee **1045 h to 1115 h**

TECHNICAL SESSION – XII A **Zorawar Auditorium** **1115 h to 1300 h**

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT-III

1. Mitigation of NOx at UltraTech Dhar Cement: A Case Study (37)
   Sebastian Frie, Anupkumar Das, *Thyssenkrupp Industrial Solutions AG, Germany*
2. Sustainable Productivity Through Process Optimization & Remote Asset Management - Digital Solutions (44)
   Sridhar Padmanabhan and Jeyamurugan Kandasamy, *FLSmidth Private Limited*
3. SOx emission control through installation of Flue gas desulphurization system in captive thermal power plants (40)
   Tanmay Maitra, D H Thanki and S.K. Gotecha, *ERCOM Engineers Pvt. Ltd*
4. Continuous Measurement of Particulate Emissions at Stack (87)
   Vahid Mirsadi, Rushabh Sakhpara and Umair Sayyed, *Maxtech Industries LLP*
5. NOx Reduction Experiences In Kiln & CPPs of Cement Plant (107)
   Geet, *YARA Environmental*
6. Impact of Ammonia on Environment due to its use for Secondary NOx Control in Cement Plant (401)
   Anand Bohra, Prateek Sharma, M Selvarajan, Ashutosh Saxena and B N Mohapatra, *National Council for Cement and Building Materials*
7. Energy and occupant Comfort Evaluation for Building (405)
   Kajol, *World Resources Insitute, India*
   Ankur Mittal, Ashutosh Saxena and B N Mohaptra, *National Council for Cement and Building Materials*
   Devinder Singh, *Indona Innovative Solutions*
8. Microstructural development in clinker phases while using waste marble dust powder as a raw mix component. (429)
   S K Gupta[*±], S K Agarwal[*], S K Chaturvedi[*], B N Mohapatra[*], Megha Bansal[**], [*]*National Council for Cement and Building Materials, India,*** [±]***Manav Rachna University, India,*** [**]***Manav Rachna University, India***

TECHNICAL SESSION – XII B **Ashoka Convention Hall** **1115 h to 1300 h**

SUSTAINABLE CONSTRUCTION PRACTICES AND OTHER BUILDING MATERIALS AND BINDERS

1. Fast Track Construction Systems for Affordable Housing – Need of the Hour (84)
   Shailesh Kr Agrawal, *BMTPC*
2. Material Efficient Floor System for Housing in India (116)
   Mohamed Ismail and Caitlin T Mueller, *Massachusetts Institute of Technology*
3. Characteristics of Indian Bottom Ash and its Feasibility for use as Fine Aggregate in reinforced concrete (435)
   P N Ojha, Amit Trivedi, Suresh Kumar, Nikhil Kaushik, Digvijay Kumar and V V Arora, *National Council for Cement and Building Materials*
4. Sustainable Solution For Judicious Use of Flyash From Desulfurization Process and Pondash (51)
   Alka Mishra, Raja Annamalai and Swaminathan N, *Flsmidth Private Limited*
5. Fly ash based binding (ADHESIVE) material [B(A)M] (136)
   Bhupendra Mohan Manglik and Ashish Kumar Pandey, - Individual
6. "Use of High MgO Limestone in Portland Cement Manufacture: An Indian Perspective (122)
   G C Mishra and K N Bhattacharjee, *AKS University, Satna*
7. Effectiveness of waterproofing admixtures in low clinker cement mortars (54)
   Lav Singh, Ujjwal Kant, Shashank Bishnoi, *Indian Institute of Technology Delhi*

8. A flexible technology to produce gray calcined clays (77) **Luiz Felipe de Pinho1, Luis Felipe Von Rainer Fabiani1 and Natália Bernardi Ghisi Celeghini1,** *Dynamis Engenheria e Comércio, Brasil*	
LUNCH	**1300 h to 1345 h**
CONCLUDING SESSION AND AWARD PRESENTATION	**1345 h to 1515 h**
Farewell Get-together	**1515 h -**