

NATIONAL COULCIL FOR CEMENT AND BUILDING MATERIALS

Scheme: Productivity and Quality Improvement in Cement and Construction Sector

[project wise qualitative targets achieved]

Project No.	Project Title	Targets achieved as on 31March 2016
CCE-09	Modernization & upgradation of training facilities for cement, concrete and construction industries at NCB units (April 2012 to March 2017)	NCB – Ballabgarh Construction of additional hostel –civil and electrical work completed. The procurement of other logistics items such as TV, inverters and solar water geysers are in progress. New canteen operational NCB-Hyderabad Infrastructural facility of hostel is ready. Logistics items like TV, inverter and solar water geysers are being procured. Training block and hostel are now partially operational. Procurement of audio-video aids for lecture halls is in progress.
ITS-04	Information technology for improving communication (April 2012 to March 2017)	Completely revamped website www.ncbindia.com is ready to go live. NCB's IT infrastructure is strengthened with intel i3 based PC and printers (25 Nos) along with MS Windows 10, MS Office Std 2013 and systematic antivirus. Proof of Concept (PoC) for Unified Threat Management (UTM/Firewall) is done and its suitability ensured which can take multiple internet inputs. NCB News and NCB Abstracts are sent to about 16,000 e-mail ids from time to time.
CQC-03	Modernization and upgradation of laboratories and infrastructural facilities at NCB units (April 2013 to March 2017)	Equipment procured under the project include UPV test equipment, digital rebound hammer, humidity cabinet, sedimentation apparatus, RHF silicon carbide heating furnace 1500°C, vibrating machine, mortar mixer, platform balance, air quality meter, electronic analytical balances etc. Initiation action for 2016-17 procurement.
EMG-03	Studies on evaluation of technologies for co generation of power utilizing waste heat in cement manufacture April 2013 to March 2016	Equipment procurement is underway
FBR-12	Investigations on fly ash based geopolymeric cements (April 2013 to March 2017)	Procurement of BF slag, LD slag and bottom ash. Studies on alkali activation of ground fly ash mixed with filler (standard sand grade II and III) by applying thermal curing at 90°C. Investigations on alkali activation of fly ash and BF slag mixes by rationalized mechanical processing of fly ash and BF slag; under ambient temperature curing condition. Investigations on alkali activation of non-conforming fly ash and BF slag mixes. Preparation of terracing tiles by alkali activation of processed fly ash with bottom ash.
FBR-13	Investigations on nanoparticle blended cements and cement based nanocomposites (April 2013 to March 2017)	Preparation and evaluation of OPC blends with nano silica, nano Fe ₂ O ₃ , nano TiO ₂ of different composition up to 5% nano particles, evaluation of physical properties of above blends. Hydration studies of nano silica-OPC blends using SEM, XRD and DTA. Dispersion studies of the CNT in different solvents with and without superplasticizer. Compressive strength determination of OPC-CNT mortar using dispersed CNT with super plasticizer PCE.
COB-04	Development of composite cements based on OPC (April 2013 to March 2017)	Preparation and performance evaluation of different cement blends containing 40-60% clinker, with different doses of fly ash and BF slag (35-55%). Performance evaluation of 21 cement blends containing 15-40% fly ash and 5-15% low grade limestone. Preparation of ternary blends by replacing clinker with 5-15% low and average grade limestone along with 15% fly ash and 40% slag. Performance evaluation of above blends is in progress.
SOD-07	Development of methods for service life design of concrete structures (April 2013 to March 2017)	Detailed work plan prepared based on the study of various international codes and latest research data reported. Data on field studies on carbonation, strength and chloride diffusion rate etc were collected from 15 projects. Field studies and laboratory testing of cast samples continued. Design mix with crushed sand studied.
SOD-08	Development of design parameters for high strength concrete (April 2013 to March 2016)	Physical and chemical testing of concrete making materials completed. Mix design trials with different water-cement ratio and two different types of aggregates completed. Testing of specimens for five grades (M100 to M35) of concrete for studying basic engineering properties like compressive strength, MOE, Poisson's ratio, split tensile test, flexure strength and bond strength completed. Design and experimentation scheme for RCC members in compression and shear using BIS and Euro codes is underway. Experimentation scheme for RCC members in shear in progress.

