

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 March 2017
CCE-09	Modernization & upgradation of training facilities for cement, concrete and construction industries at NCB units (April 2012 to March 2017)	NCB-Ballabgarh New canteen functional. Newly constructed hostel rooms are well equipped with all logistics support. NCB-Hyderabad Infrastructural facility of hostel is ready. Training blocks and hostel are functional to a limited extent.
ITS-04	Information technology for improving communication (April 2012 to March 2017)	Completely revamped website www.ncbindia.com has gone 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. Proceedings of seminar and Exhibitors Directory were released in the form of E-Book and distributed to delegates. With Digital Signature Certificates and 4 mbps ILL RF, the infrastructure is up-date for E-procurement. Video conferencing system (skype based) installed in Board/Conference room after PoC. E-procurement infrastructure ensured with alternate internet connectivity's fail safe support.
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. Construction of new laboratory block at NCB-Ballabgarh completed and operational. Process of procurement of equipments for 2016-17 in progress.
FBR-12	Investigations on fly ash based geopolymers (April 2013 to March 2017)	Preparation of terracing tiles utilizing lower percentages of alkali for activation of fly ash with bottom ash by thermal curing. Performance evaluation as per IS 2690 (II) 1992 along with mineralogical and microstructural studies. Investigations of blends of fly ash with B F slag and L D slag for alkali activation studies. Investigations on fresh and hardened state properties of geopolymers.
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 their physical properties and hydration characteristics. Dispersion studies of the CNT in different solvents with and without superplasticizer. Normal consistency, setting time, compressive strength, flexural strength of OPC-CNT mortar using different dispersing agents such as PCE, CTAB, SDS and PCE+SDS. Studies on concrete mixes incorporating CNT and nanosilica along with their microstructure.
COB-04	Development of composite cements based on OPC (April 2013 to March 2017)	Performance evaluation of composite cement blends containing different proportions of fly ash, granulated blast furnace slag, cement grade and marginal grade limestone along with their hydration studies and durability characteristics.
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 and analyzed. Field studies and laboratory testing of cast samples completed. Design mix with crushed sand studied. Comments to be sent to BIS for necessary modification in revision of IS:456.
SOD-08	Development of design parameters for high strength concrete (April 2013 to March 2018)	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. Design and experimentation scheme for RCC members in compression and shear using BIS and Euro codes. Analysis of results obtained from testing of RCC beams in flexure for M75, M55 and M35 grade. Experimentation scheme for RCC members in shear. Testing of specimens with three different type and source of aggregate for studying effect of aggregate on various mechanical parameters.

