



Scholars Institute of Technology and Management, Garoghuli, Ghy-35

A Report on One-Day Training Program On

“Ideal Construction Techniques”

(Organised by Dalmia Cement)



Dated: 12.02.2020

Venue: Dalmia Cement Construction Knowledge Centre, Bhaskar Nagar, Ghy.

Participants: Students of 8th Semester and 6th Semester, SITM.

Submitted by: Halim Islam, Asst. Professor, CE.

REPORT

A one day training program on “*Ideal Construction Techniques*” was organised by Dalmia Cement on 12.02.2020 for the students of Civil Engineering. The program saw active participation from the students of the 8th semester and 6th Semester. Following were the points and topics highlighted during the training seminar:

- Manufacturing of Cement-Wet Process and Dry Process.
- Constituents of Cement and how each one influences the cement property.
- The advantage of using Dalmia Cement (high grade).
- OPC and PPC used in Consturction.
- Different grades of Concrete.
- Different grades of Steel.
- TMT bars used in construction. Introduction to Corrosion Resistant Steel bars.
- Water-Cement ratio- the workability of the mix.
- Batching and selection of Plant location.
- Nominal mix and Design Mix
- Clear cover required for various RCC construction units.
- Challenges of Construction in the North-Eastern region.
- Homogenous Quarring.
- Aggregates- their tests and acceptable ranges.
- Fine Aggregates- Zoning and Sieving.
- Retarders and Plasticizers.
- Light Weight Concrete, Paver Blocks, AAC Blocks, Tiles, Sand from different sites.
- Dalmia DSP Cement-Fly ash and Slag based cement.
- The manufacturing of Dalmia Cement, its allied products and various construction challenges in the North-Eastern region.



Participants during the One Day Seminar organised by Dalmia Cement

The sessions were a set of presentation of slides and observation of the samples present at the Dalmia centre. **Mr. Dhrubajyoti Talukdar, Regional Technical Head, Dalmia Cement Ltd.**, gave a dynamic presentation on the topics mentioned above. The most highlighted part of the program included the use of recent advanced grade of cement produced by Dalmia and the construction challenges faced on site pertaining to the North-Eastern region.



Regional Technical Head Mr. D.J. Talukdar presenting during the One Day Seminar

The marginal high cost of Cement Manufacturing in Dalmia Bharat Cement Group was addressed and justified. Technological innovation and high cost of homogenous quarrying leads to the price increase per bag of the cement. Although there is an increase in the price,



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the quality and homogeneity of the strata leads to good quality of the cement with less variability in the quality and standard.



Mr. Anil Talukdar, Regional Technical Head, Dalmia Cement taking sessions during the Quality Seminar

The need to use the Indian Standard Codes for design and construction were emphasised. Various construction challenges like the variability in the quality of the water affecting the quality of the structures in most North-Eastern states were also addressed.



Different types of bars, sand and aggregates from sites in the North-Eastern region

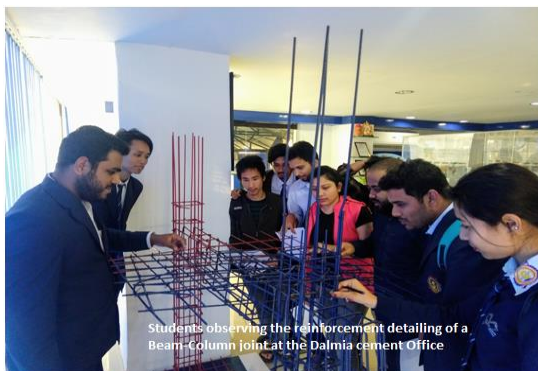


Different types of concrete on display at the center

Advantages of the Dalmia DSP Cement which is one of the most specialized and best in class cement, manufactured for varied construction purposes across the country was also shared. The word DSP is a simple acronym for 'Dhalai Special'. Available in two variants- Fly ash based DSP and Slag based DSP. Fly ash-based DSP cement is made in South and North East cement units of Dalmia plant.



The Dalmia DSP Cement ensures optimal particle size (fineness), ease of working and best setting time along with the highest level of strength. It can be made a popular choice for casting. The cement has more volume per bag, optimised setting time (50% less than the permissible time set by BIS) and optimised workability. Benefits of using this cement was discussed and debated. Furthermore after the presentation, participants were encouraged to observe samples of different types of sands, aggregate, bars, reinforcement detailing and live-housing models to try and understand their need and uses. Different types of concrete- lightweight concrete, permeable concrete, single charged tiles, double charged tiles, paver blocks, AAC blocks were also explained.



The seminar finally concluded with a question-answer round and a vote of thanks to the participants and the collaborating institute- Scholars Institute of Technology and Management.