

## 2.0 Field Quality Assurance:

The contractor shall be responsible for day-to-day quality checks of concrete and other building materials during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/BHEL'S customer and as per field quality plan approved by **BHEL/ BHEL'S customer**.

Mix design for all concreting shall be carried out from NCCBM, IITs, NITs approved by NTPC/BHEL, contractor has to ensure adding of high grade PCE based admixture to minimize the cement content in line with ASTM C 494 as advised by BHEL time to time without any additional cost.

**In case of change of brand of cement in a particular design mix, bidder has to re-design the concrete mix with new brand of cement before actual usage at site, cost incurred will be borne by Bidder.**

The following specifications of PCE-type high performance super plasticizer shall be used for concrete works as per BOQ item.

1. High performance super plasticizer PCE-based water reducing admixture of Type-G/F as per ASTM C-494 of approved make FOSROC/SIKA/BASF or Equivalent having minimum water reduction capability of 30%.
2. The performance compliance of the Super-plasticizer should be ensured based on the following test.
  - a) Marsh cone test for optimum dosage of admixture with specific brand of cement.
  - b) Slump retention test of concrete.
  - c) Water reduction capability test by doing trial mix.
  - d) Rheological properties of fresh concrete on trial mix.

In case ambient temperature is greater than 32 Degree Celsius, Placement temperature should be controlled with necessary temperature correction of concrete by introducing Chiller Plant along with Batching Plant

**2.7.2** The scope shall also include setting up by the bidder a testing laboratory (one AC lab size 4.5mtrx6mtr and 1 non AC lab 4.5 mtrx4.5 mtr.) in the field to carry out all relevant tests. Detail of laboratory equipment's as per NTPC specification to be arranged by the contractor within quoted rate for conducting day to day tests. The contractor may tie up with approved/registered inspection agencies for setting up test lab at site as described above.