BUILDING CHEMISTRY INDUSTRY

Method Statement for Water-Reducing, Plasticizing, and Set-Retarding Admixture for Concrete **BC Tec 505 TP**

1. Introduction

This method statement details the procedure for using water-reducing, plasticizing, and set-retarding admixtures in concrete, ensuring compliance with ASTM C-494 Types B and D specifications namely BC Tec 505 TP.

2. Scope

This procedure covers the mixing, application, and quality control of the admixtures in concrete to achieve desired workability and setting times.

3. Materials

Admixture: Ensure the admixture complies with ASTM C-494 Types B and D specifications.
Water: Potable water should be used for mixing.

4. Equipment

Concrete mixer (batch or truck-mounted)
Measuring equipment (scales, graduated containers)
Sampling tools
Testing equipment (slump test apparatus, air content meter)

5. Safety Precautions

Personal protective equipment (PPE) such as gloves, goggles, and masks must be worn.
Ensure proper ventilation in work areas.
Follow Material Safety Data Sheets (MSDS) for handling admixtures.

6. Procedure

6.1 Admixture Selection

Review project specifications to determine the required type of admixture.

Consult the admixture manufacturer for dosage recommendations based on environmental conditions and concrete requirements.

6.2 Mix Design Adjustment

Adjust the concrete mix design to accommodate the addition of the admixture, ensuring that water-to-cement ratio remains within specified limits.

6.3 Batching

Weigh and batch materials:

Cement, aggregates, water, and admixtures must be accurately weighed according to the mix design.

Add admixture:

Add the admixture to the mixer during the initial mixing phase. This can be done:

Pre-mixing: Mix the admixture with water before adding to the dry materials.

Direct addition: Add directly into the mixing drum with water.

6.4 Mixing

Mix the concrete thoroughly for the time specified in the project's mix design to ensure uniform distribution of the admixture.

6.5 Testing Fresh Concrete

Perform slump tests to evaluate workability.
Conduct air content tests as required by the specifications.
Record and monitor temperature and humidity conditions.

6.6 Placing and Finishing

Place concrete as per the project specifications.

Use proper finishing techniques to ensure desired surface quality.

6.7 Curing

Implement curing procedures to maintain moisture and temperature conditions.

Use curing compounds, wet burlap, or other methods as specified.

7. Quality Control

Document batch weights, admixture amounts, mixing times, and test results.

Conduct regular site inspections to ensure adherence to procedures.

Store admixtures in accordance with manufacturer recommendations.

8. Disposal

Dispose of any waste materials in accordance with local regulations.

9. Documentation
Maintain records of:
Material delivery tickets
Mix designs
Test results
Quality control inspections

10. Conclusion

This method statement provides a framework for the effective use of water-reducing, plasticizing, and set-retarding admixtures in concrete. Adhering to this procedure will ensure high-quality concrete performance in accordance with ASTM C-494 standards.