

Section 4103. Liquid Admixtures for Portland Cement Concrete

4103.01 GENERAL REQUIREMENTS.

- A. Comply with AASHTO M 154 for air entraining admixtures and AASHTO M 194 for other liquid admixtures.
- B. Unless the Engineer approves, do not use admixtures containing more than 1.0% chloride ions.
- C. Inspection and acceptance of liquid admixtures for PCC will be according to [Materials I.M. 403](#).
- D. **Air Entraining Admixtures.**
Stir, agitate, or circulate air entraining admixtures prior to use to ensure a uniform and homogeneous mixture.
- E. **Retarding and Water Reducing Admixtures.**
 - 1. Use retarding and water reducing admixtures compatible with the air entraining agent used.
 - 2. As approved by the Engineer, use admixtures either:
 - In amounts recommended by the manufacturer for conditions which prevail on the project, or
 - According to [Materials I.M. 403](#).
 - 3. When used, introduce admixtures into the mixer after all other ingredients are in the mixer. The Engineer may approve other procedures.
 - 4. Agitate retarding and water reducing admixtures prior to and during their use according to [Materials I.M. 403](#).
 - 5. When supplementary cementitious materials are used in the concrete, apply the liquid admixture dosage rate to both the cement and supplementary cementitious materials weight (mass) combined.
- F. **Other Admixtures.**
Other admixtures may be used with the Engineer's approval and according to the manufacturer's recommendations.