Air-Detraining Agents

Ways to Reduce the Air Content of Concrete

From time to time the subject of using air-detraining agents, to reduce the air content of a concrete mix, resurfaces. GCP Advanced Technologies Construction Products neither manufactures products for this application nor encourages their use.

The information presented here is intended for information purposes only and not as an endorsement of these products nor as a guide to their use.

Two chemicals sometimes used to reduce the air content of concrete are:
- Tributyl Phosphate
- Octyl alcohol / 1-octanol / caprylic alcohol

These chemicals should be available at any well stocked laboratory supply house. The quantity of either of these materials required to de-air concrete will vary with air content, mix design, etc., but in any case the dosage is very small. A common starting point is 10 mL/m³ (0.25 oz/yd³). The addition should be made after all other components of the mix have been added.

These materials are not soluble in water but may be diluted with methyl alcohol if proportioning of small quantities is a problem. Do not use too much methyl alcohol for dilution purposes, as it is flammable.

For use of these chemicals over an extended period of time, it would seem logical to use a properly calibrated container to assure the proper addition rate.