

Proposed Changes to New York City Building Code – Admixtures



by William S. Phelan, Senior Vice President of Marketing & Technical Services, The Euclid Chemical Co.

The CIB's proposed Building Code revisions with respect to admixtures in Section 27-608 (C26-1004.6) read as follows:

Air-entraining, water reducing, and high range water-reducing admixtures may be used in concrete only when included in the preliminary test mixes or in the project used for field experience based mix designs. When admixtures are used, the provi-

sions of reference standards RS 10-3 and RS 10-44 shall apply except that water-reducing and high range water-reducing admixtures shall conform to reference standard RS 10-44. Type A – Water-reducing; Type B – Retarding; Type C – Accelerating; Type D – Water reducing and retarding; Type E – Water-reducing accelerating; Type F – High range water-reducing; or Type G – High range water-reducing retarding admixture shall meet all the requirements of ASTM C 494, "Standard Specification for Chemical Admixtures for Concrete." Admixtures shall be added in accurately measured quantities in conformance with the accepted mix design.

Water-reducing admixtures reduce mixing water 5% - 7%, mid-range water-reducing

admixtures 7% - 9%, and high-range water-reducing admixtures 12% - 30%. Their use allows concrete mix designs to be prepared and used at acceptable slumps without impairing concrete quality. In addition, their proper usage combined with the use of supplementary cementitious materials (SCM) prevent the use of excessive cement.

The manufacture of one pound of cement results in the emission of one pound of carbon dioxide into the atmosphere. The Kyoto Agreement several years ago committed the industrialized nations to reducing carbon dioxide emissions. We therefore have the ability to optimize mix designs using renewable resources, supplementary cementitious materials, and improve the overall environmental impact of concrete construction. ■

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