

STEVEN L. BESHEAR
GOVERNOR



ROBERT D. VANCE
SECRETARY

PUBLIC PROTECTION CABINET
DEPARTMENT OF HOUSING, BUILDINGS AND CONSTRUCTION
DIVISION OF BUILDING CODE ENFORCEMENT
101 SEA HERO ROAD, SUITE 100
FRANKFORT, KENTUCKY 40601-5405
TELEPHONE: (502) 573-0373
FAX: (502) 573-1059
WEB SITE: WWW.DHBC.KY.GOV

FORMAL INTERPRETATION 09-01

DOCUMENT: 2007 Kentucky Residential Code
Chapter 4 Section R403

SUBJECT: Imix XS (ICC, ESR-1726) use in the construction of concrete footers and concrete slabs

QUESTION: Is Imix XS (ICC, ESR-1726 @ www.icc-es.org) an acceptable alternative to steel reinforcing to minimize shrinkage and temperature cracking of structural plain normal-weight concrete footings and structural plain normal-weight concrete slabs supported directly on the ground?

ANSWER: Yes

COMMENTARY: Imix steel fiber admixture is permitted whenever steel reinforcement is not required for structural reasons in residential footing and slab design. In many cases the steel reinforcement we see in footings is added not for structural reasons but for shrinkage and cracking due to shrinkage. No where does the IRC identify when steel reinforcement is required in footings. Therefore, for steel reinforcement to be required in a footing or slab the design would most likely be an engineered footing design. The steel we see in residential construction is more a standard practice rather than a requirement.

The foundation wall is a different matter. The IRC has many situations in which steel reinforcement would be required and because of that the Imix steel fiber would not be an alternative to the steel reinforcement in the foundation wall design.

So the question that needs to be asked or verified regarding the footing or slab design and construction, is steel reinforcement required for structural reasons? If the answer is no then the steel fibers can be used. For more information on the use and application of Imix steel fibers, review the ICC Evaluation report available on ICC's website, ICC, ESR-1726 @ www.icc-es.org.


George E. Mann
Deputy Commissioner

May 18, 2009
Date

Originated May 2009