INTERNALLY CURED CONCRETE

Internally cured high performance bridge concrete (ICHPC) is a standard bridge deck concrete mixture in which a portion of the cement is replaced with silica fume and fly ash to improve the properties, providing a more dense and less permeable material. A portion of the sand, which is traditionally used in concrete mixtures, is replaced with a pre-wetted fine lightweight aggregate that holds water until it is needed during the curing process, helping more of the cement in the mixture to hydrate, further improving the properties of the concrete while reducing the potential for cracking.

REDUCTIONS

Frequency and magnitude of **repairs**

Direct **costs** of maintaining structures

Congestion associated with construction restrictions

Costs and emissions associated with **idling** in work zones

INDIANA DEPARTMENT OF TRANSPORTATION

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INDOT has four bridges that will be built in the 2013 construction season that contain ICHPC. Ultimately, INDOT anticipates that this mixture will extend the life of the bridge decks, reducing the frequency and amount of maintenance necessary in the future.

1. SR 933 over Baugo Creek, St. Joseph County
2. I-69 over Little Black Creek, Grant County
3. US 150 over Lost River, Orange County
4. US 31 over Hutto Creek, Scott County

For more information, download
SPR-3211: Development of Internally Cured Concrete
for Increased Service Life
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