

High PERFORMANCE PAVing (HIPERPAV®) Software

The High PERFORMANCE PAVing (HIPERPAV®) software program allows users to predict early age concrete pavement behavior based on user-defined input for environmental, design, and construction condition. The user input includes variables such as ambient weather conditions, thickness of pavement, mix design, time of placement, and type of curing. Mathematical models then calculate the progression of the concrete's strength gain and developing stresses at the early age after placement. HIPERPAV® was first released in 1996, followed by an updated version in 2005. In 2010, HIPERPAV III®, version 3.2, was released with enhanced moisture transport modeling.

The new version of software, HIPERPAV III®, version 3.3, includes two new features: automated downloading of weather data from the National Weather Service Web site and the addition of slag aggregate input. The new default values for the coefficient of thermal expansion of Portland cement concrete were also incorporated.

Users

The HIPERPAV III®, version 3.3 program can be very helpful to highway agency engineers, contractors, and concrete suppliers. HIPERPAV® can be used during planning, design, construction, and post-construction evaluation phases. Typical applications include optimizing pavement designs and construction methods thereby preventing the need for expensive pavement repairs in the future, developing project quality control specifications to ensure optimized methods are followed, and conducting forensic investigations to identify potential early-age factors that may have led to specific performance patterns after construction.

System Requirements

HIPERPAV II minimum requirements included the following:

Minimum

Process speed: 500MHz

RAM: 128 MHz for Microsoft® Windows® NT®, 2000, or CP operating system; or 256 MHz for Microsoft Windows 98 or ME

Desirable

Process speed: 1 GHz or above

RAM: More than 256 MHz running on Microsoft Windows NT, 2000, or XP operating system; or 384 MHz for Microsoft Windows 98 or ME operating system

License Agreement

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