

## ASPHALT AT LOWERED TEMPERATURES

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### *ABSTRACT*

Producing and paving asphalt at lowered temperatures, by adding chemical additives, creates some important benefits: reduced energy consumption, reduced emission of harmful gasses, increased comfort for road workers, less oxidation of the bitumen resulting in better durability, ... This so called warm mix asphalt can only be allowed if the performance characteristics of the pavement are not worse than those of the classic hot mix asphalt.

In this research, three additives are tested on a frequently used asphalt concrete (AC 0/10), specified in the tender specifications of the Flemish region. The three additives are: Evotherm<sup>TM</sup> DAT, Rediset<sup>TM</sup> WMX and Cecabase RT®. DSR (Dynamic Shear Rheometer), R&B (Ring & Ball) temperature and Pen (Penetration) are measured on the bitumen-additive blend. Gyratory compaction, wheel tracking and ITSr (Indirect Tensile Strength Ratio) tests are performed on the asphalt mix.

*KEY WORDS:* Warm mix asphalt, additives, performance properties