

TEMPERATURE MEASUREMENTS OF ASPHALTIC LAYERS IN FLEXIBLE PAVEMENTS

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The temperature recording system comprises of, 6 temperature sensors inserted in a bituminous layer in 5, 50, 100, 150, 200, and 250mm depths, a chamber for measuring air temperature with an additional electronic sensor and a Hg thermometer, and an A to D converter connected with a computer. One year measurements are presented and discussed. Through regression analysis algorithms are developed for predicting the daily variation of pavement temperature, in various depths, as a function of the mean, max and min daily temperature. Similar algorithms are presented for predicting the "average" daily temperature variation at various depths for each month. Also it is presented, the concept of the "Equivalent Pavement Temperature", that is the temperature which if it were constant along the whole pavement depth, it would cause the same damage with that caused by the real temperatures, and a calculation example is given.