APPLICABILITY OF INFRARED THERMOGRAPHY IN PAVEMENT QUALITY CONTROL

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ABSTRACT
Non Destructive Testing (NDT) plays a major role in pavement condition monitoring, assessment and evaluation, allowing continuous real time pavement data collection. Infrared Thermography (IRT) is an NDT technique increasingly being utilized for asphalt pavement evaluation. IRT can be defined as the science of the acquisition and analysis of data from non-contact thermal imaging systems. This paper focuses on illustrating the investigation of the applicability of the IRT technique as a means of pavement quality control and pavement monitoring. For this purpose in-situ surveys were performed using an IRT system on both under construction and in-service asphalt pavements. Thermal data was processed and analyzed leading to useful insights. The temperature differentials, for example, during pavement construction that are associated with asphalt layer quality were easily identified in mat surfaces; in addition IRT seemed to be an efficient tool for the detection of cracks and other surface defects of in-service asphalt pavements. Consequently it could be possible to use infrared thermography as an effective method for pavement quality control applications and the detection of pavement defects.

KEY WORDS: Pavement, infrared thermography, NDT, quality control.