

## **LABORATORY COMPACTION OF ASPHALT MIXTURES: THE USE OF A SLAB HEAVY COMPACTOR**

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### *ABSTRACT*

Compaction is a factor that strongly influences asphalt mixtures properties and asphalt pavements performances. One of the main problems in studying asphalt pavement performances is the comparison between samples compacted in laboratory and asphalt mixture compacted in field. Over the years, here has been an evolution of laboratory techniques to better simulate the effects of in situ compaction, through the use of Marshall Compactor to the Gyratory Shear Compactor and recently the use of samples cored from cylindrical specimens manufactured by means of Gyratory Shear Compactor to limit the boundary effects. Finally, it has been introduced the laboratory slab compactor, but often no indications about the methodology of compaction and its characteristics are given, because these equipments are not standardized.

A heavy roller compactor has been designed and realized at University of Parma. This equipment allows to compact asphalt mixture slabs. The target of this study is to determine the relationship between number of passages of the heavy roller compactor and the air void content of the samples, defining a "curve of compaction" and the right methodology to manufacture slabs in laboratory.

*KEY WORDS:* Asphalt, pavement, laboratory, compaction, heavy compactor.