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## STATISTICAL EVALUATION OF COMPRESSION INDEX CORRELATIONS

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**Abstract:** *Primary consolidation of cohesive soil can significantly affect the serviceability of overlying structures and its amount is calculated using the compression index ( $C_c$ ). Determination of  $C_c$  is complex and time consuming that raised the need for using empirical correlations with simpler tests. Development of these correlations started as early as the 1940s and new correlations still being developed. Most of these correlations were derived using data fitting with site-specific measured values and was evaluated using simple statistics. Better statistical evaluation may reduce the correlation deviation. ATIC method in-line with other evaluation measures was used to evaluate 92 compression index correlations using measured data from Egypt, UAE, Iraq, and Indonesia. For the studied data, each statistical measure ranks the correlations differently, especially for the best correlation. The advantages and shortcoming of each statistical measure were briefly introduced.*