

**ANALYSIS OF STRENGTH DEVELOPMENT IN IN-SITU CEMENT ADMIXED
COLUMNAR INCLUSION – A FIELD STUDY**

Suksun Horpibulsuk, ¹ Norihiko Miura ², Hirofumi Koga ³ T.S. Nagaraj ⁴

¹Lecturer, School of Civil Engineering, Suranaree University of Technology, Nakhorn-
Ratchasima, Thailand

²Professor of Civil Engineering, Department of Civil Engineering, Saga University, Saga, JAPAN

³Chief Engineer, Shinwa Techno Co. Ltd. Saga, Japan Tel. +81 -952 -68-3491

⁴Professor Emeritus, Indian Institute of Science,
(UGC –Emeritus Fellow) RV Engineering College, Bangalore, INDIA

Abstract

Soft soil deposits in-situ or reclaimed land in coastal regions, generally, exhibit low shear strength and high compressibility. The in-situ deep mixing technique to form composite soft ground has been one of the effective means adopted very extensively under myriad situations in Japan. This paper deals with the field investigation undertaken to investigate the effect of parameters involved in in-situ mixing, viz. installation rate which considers penetration and withdrawal during mixing, speed of rotation of mixing wing, apart from cement content and water/ cement ratio in the slurry used, as input parameters. Mixing energy has been found to be an integral parameter to account for all the installation parameters. In order to have a close control over these various installation parameters a laboratory model column study has also been done. The findings from both these investigations have been integrated along with the earlier basic laboratory studies on induced cementation of cement admixed clays. A practical method of arriving at different parameters in the installation of columnar inclusion to result in composite ground has been suggested.

KEYWORDS: Soil-cement column, composite soft ground, in-situ deep mixing technique, double mixing method, cement admixed clay, execution of soil-cement column, full-scale test.

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