

## StabMd: A Novel Technique to Stabilize Marine Deposits



**Problem Statement:** While it is already densely populated, India faces a scarcity of land and other natural resources for creating infrastructure facilities. We have acres of land used for dumping waste materials, whereas on the other end, large portions, particularly the coastal regions of India, have marine deposits. The marine components like clay and sediments are under-consolidated deposits; they exhibit lower shear strength and are prone to excess consolidation settlements under external loading. Planning any kind of infrastructure on these deposits is difficult unless stabilised. Hence, their stabilisation becomes of utmost importance.

**Uniqueness of the Solution:** Often, the marine sites with such deposits are inaccessible (due to the soft and sensitive nature of the clays and sediments). Hence none of the conventional stabilisation techniques can be attempted to achieve the desired objectives. Under these

circumstances, there is an alarming need to develop a methodology for stabilising marine deposits. The method should duly address the issues related to 'sustainable development' by employing the concept of industrial byproducts (IBPs) as a human-made resource. Keeping in view the issues mentioned above and stabilising marine deposits under in-situ conditions, the methodology StabMd was developed.

**Current Status of Technology:** The technology is ready with an optimum combination of industrial byproducts and execution methodology in the field. It is demonstrated in the in-situ condition to stabilise marine deposits at Navi Mumbai 4th container terminal.

**Societal Impact:** By stabilising marine deposits with industrial byproducts, overall sustainable development of the society is expected, with a vast area of land becoming suitable/ready for any type of development. It reduces dependence

on natural resources paving out a way to bulk utilisation of the industrial byproduct and lower pollution load in the environment.

**Patent(s):** Filed

**Relevant Industries:** Alumina Refineries, Alcofine Manufacturers, Thermal Power Plants, Geotechnical Consultancy Groups.

**Faculty:** Prof. D N Singh, Civil Engineering.