

Newsletter



**SOIL IMPROVEMENT
SOLUTIONS FOR
STORAGE TANKS**

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Typical solutions for the foundation of buildings with high loads, like tanks storage or storage silos for fuels or any other heavy material can be built on deep piles, structural concrete slabs, or foundation caissons. However, some techniques of soil improvement also function to be able to support these types of products, diminishing costs and construction time, and optimizing the foundations in respect to typical solutions.

Soil improvement allows transforming terrains formed by soils with poor mechanical characteristics and that are not apt to adequately support a construction project, to terrains highly capable of responding to the support necessities required.

Particularly when it comes to adequately supporting atmospheric storage tanks, soil improvement is required to meet the following objectives:

1
Load Capacity
Is sufficient to maintain the stability of the tank under static and dynamic conditions.

2
Total Deformations
That the long-term settlements are limited to absolute values that don't generate problems between the tank and surrounding installations, particularly in connection with pipes.

3
Differential Deformations
That the settlements that occur at the center of the tank in respect to those at the edges or at the differentials in the periphery are small enough and controlled to avoid structural damage in the tank (base, walls, ceiling), that is generally formed by welded steel plaques.

Examples of storage tanks built on terrains with soil improvement:



Execution of CMC in refinery.

Water storage tanks over improved soil.



Foundation optimization to support a 26m diameter tank with a concrete reinforced foundation ring.

