RESEARCH & DEVELOPMENT



Steel Sheet Structure Cellular (Embedded) Method

New Offshore Waste Disposal Site

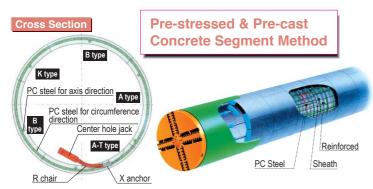
This method developed by TOA is used for many projects. A water-stop wall made of steel sheets, which will be placed in the brine surrounding the waste, will be built around the outer perimeter of the construction site. It is absolutely critical that the water-stop wall is sealed tightly so that the seawater does not overflow and allow the polluted water to leak out. This is where our technology and know-how has been put to work.



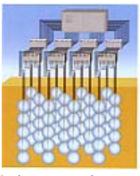


Re-main

As for the damage from salt in concrete, it is important that concrete structures in harbors, centering on jetties, should be repaired properly and maintained by computer-aided strategies. Strategies developed by TOA include understanding concrete aging mechanism and mechanical countermeasures for repairs and maintenance. This includes diagnosis of conditions, judgment for necessary repairs and most suitable method for repair and maintenance.



This is the method to form the segment ring of pre-cast concrete structure that is expected to contribute to the shield tunnel technology. The technology has great potentiality because of its vast application to the shield works such as construction of roads, subways and sewage system.





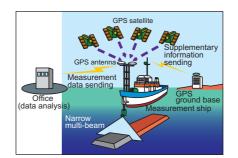
Ultra Multi-Permeation Grout Method

This is a new, but noteworthy technology to prevent soil from liquefaction. In this method, dozens to hundreds of nozzles are set three-dimensionally in the ground, and grout is automatically poured under the most suitable pressure and current volume based on pre-measured data.



Seawalls for **Recreation and Biotope**

Among its own systems for diagnosis and revitalization, TOA presents a seawall renewal concept and its actual promotion process. With our completion of seawalls for recreation and biotope, people will realize the harmony established between their local environments and diversified living plants and animals.



Beluga System

This is our originally developed system for accurate and speedy measurement of the depth of ground level in water by effectively combining the latest measurement devices, including the narrow multi-beam depth measuring sonar, in order to acquire data in wide regions and the GPS.