

MebraDrain



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Project report

Changi 1C, Singapore

The method

Vertical wick drains can be used for soil stabilization in areas with compressible and water saturated soils. When loads such as road embankments, hydraulic fills or dikes are placed on soft compressible soils, significant settlement may occur and this in turn could create serious problems. MebraDrain installed, evenly spaced, into the depth of the compressible layer, will allow pore water to flow in a horizontal direction to the nearest drain and escape freely, thereby reducing the consolidation period significantly.

The project

Worldwide rapid growth in aviation transportation was also felt in Singapore where both Singapore International Airport at Paya Lebar and Seletar Airport in the north-eastern area of the main island were facing considerable congestion problems. The solution to this problem was found in land reclamation and subsequently in the building of an extensive airport (Changi 1C) on this newly developed land. The reclamation works, involving the use of more than 52.000.000m³ of fill began in Changi. About 2km² of swamp

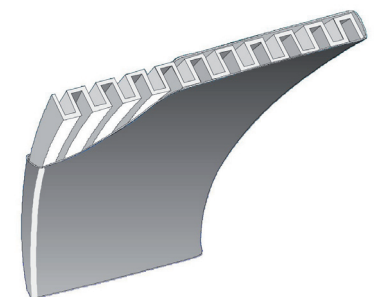
land was cleared and filled with 12.000.000 m³ of earth from nearby hills, while another 40.000.000m³ of sand was used to reclaim land from the sea, creating half of the airport's total land area.

Equipment

48.000.000m of MD7007 has been installed using 3 RH40E's and 3 RH30's.

Drain configuration

Drains were installed up to a depth of 50 meters. The average triangular centre to centre distance was 1.0 meter.



MebraDrain type MD7007