



THE APRON EXTENSION AT TERMINAL 3 – PHASE 2 SOEKARNO HATTA INTERNATIONAL AIRPORT – INDONESIA CONTROLLED MODULUS COLUMNS (CMC)

Category:	Platform and Logistics (Port, Airports)
Developer:	Angkasa Pura II
Consultant:	PT. Indulexco
Contractor:	PT. Adhi Karya (Persero) Tbk
Area / Quantity:	413,363 m ²
Year:	2012-2014



MENARD ASIA

PROJECT DESCRIPTION

The project consists in the construction of the apron extension at Terminal 3, Soekarno Hatta International Airport, Cengkareng, Jakarta, Indonesia. This extension of the apron is to accommodate aircraft to the size of Boeing 747.

Soil improvement works were necessary before the construction of the apron pavement itself.



Figure 1: View of Terminal 3 Soekarno Hatta International Airport – Soil Improvement Works Ongoing

SOIL CONDITION / GEOTECHNICAL PROBLEM

In general, there is an upper layer of medium stiff silty clay overlying dense sand. Medium dense to very dense sand was found around 12m to 14m depth.

The selection of the ground improvement technique to be used needed to comply with these factors:

- Sensitivity towards noise and vibration
- Minimum environmental impacts
- Reduced quantity of spoil



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MENARD SOLUTION

Menard implemented the technique Controlled Modulus Columns (CMC).



**Figure 2: CMC Equipment -
Liebherr LBR155**

QUALITY CONTROL

A total of 413,363 m² were improved using Controlled Modulus Columns (CMC).