



INVENTORS

MOHD MUSTAFA AL BAKRI ABDULLAH
SHARIFAH ZALIH SYED ZUBER
KAMARUDIN HUSSIN
MUHAMMED BIN HUSSAIN
MUHAMMAD FARHEEM MOHD TAHIR
FAUZH AHMAD
NORAZIAN MOHAMED NOOR
NOOR FIFINATASHA SHAHEDAN

CONTACT DETAILS

Centre of Excellence Geopolymer & Green Technology (CEGeoGTech)
School of Materials Engineering
Universiti Malaysia Perlis (Unimap)
P.O. Box 77, D/A Pejabat Pos Besar
01000 Kangar, Perlis, Malaysia
e-mail: mustafa_albakri@unimap.edu.my

GEOPOLYMERIZATION TECHNOLOGY FOR SOIL STABILIZATION APPLICATION

Patent No.: PI 2013701225



PROBLEM STATEMENT

- Soft soils have been associated to many problems especially in engineering field; landslide, during the construction of road, building foundation, railway and offshore structure, river erosion and etc.
Can occur during the construction or all the way through service life
Have insufficient strength of the soils to support the load due to the presence of water, which significantly affects the engineering behavior.



Table titled 'SENARAI KEJADIAN TANAH RUNTUH 1993 - 2011' with columns for No, Tarikh, Kejadian, and Mangsa. It lists various landslide incidents in Malaysia with dates and casualty counts.

PRODUCT DESCRIPTION

Table with 2 columns: Property and Value. Properties include Solid/Liquid Ratio (1.0-3.0), Normal Curing (7 days), Liquid Limit (Reduced down to 31%), Plastic Limit (Increased up to 35%), Plasticity Index (Down to 100%), and Unconfined Compressive Strength (Up to 25 MPa).

NOVELTIES

- Treatment for soil stabilization
Easy and fast treatment process

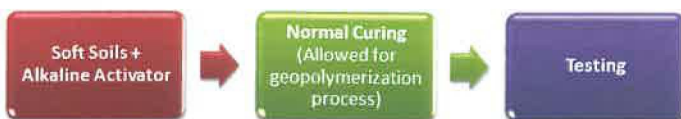
COMMERCIAL POTENTIAL

- Soft soils treatment (depends on the soil characterization)
Applicable for slope treatment
Alternative way for soil stabilization

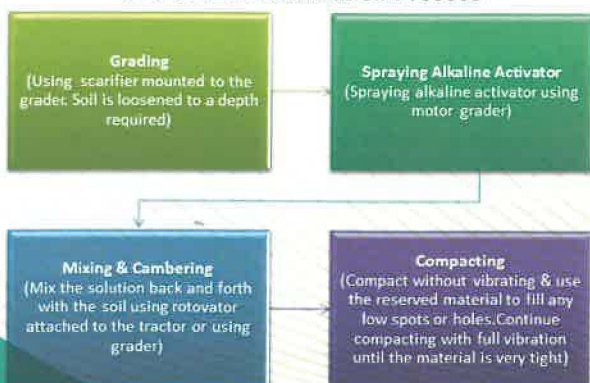
COLLABORATION



PROCESS DESCRIPTION



In-situ Soil Stabilization Process



PUBLICATIONS

- S.Z. Sharifah Zaliha, H. Kamarudin, A.M. Mustafa Al Bakri, M. Binhussain, M.S. Siti Salwa (2013). Review on Soil Stabilization Techniques. Australian Journal of Basic and Applied Sciences, 7(5): 258-265, 2013.
A.M. Mustafa Al Bakri, A. R. Rafiza, Y. Zarina, H. Kamarudin, Y. M. Liew, A. M. Izzat (2013). Asas Geopolimer Teori & Amali. Unit Penerbitan Universiti Malaysia Perlis.
A. M. Mustafa Al Bakri, C. Y. Heah, Y. M. Liew (2012). Clay Based Geopolymer Processing & Characterization. Lambert Academic Publishing.