Alfa Geotech Co., Ltd. (formerly MAA Geotechnics Co., Ltd.) was established in 1997 as a local geotechnical consulting firm. Over the last decade, the company has become a well-established geotechnical consulting company. The company has involved in several major infrastructure projects in Thailand, including highway, airport, land reclamation, petrochemical and power plant projects etc. Today, the company has over twenty (20) geotechnical engineers with various testing equipment and facilities, becoming one of the most active geotechnical consulting firms in Thailand.

**21 YEARS Experience**
in Geotechnical Engineering

1997  
(MAA Geotechnics)  

2012  
(Alfa Geotech)  

2016  
(Alfa Geotech (Myanmar))  

Now 2018  
(Alfa Geotech Co., Ltd.)

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(+66) 2 931-0721-3   Fax: (+66) 2 931-0724  
E-mail: admin@alfageotech.com
Geotechnical Consultancy

• Ground Improvement
• Foundation Design
• Slope Stability and Settlement Analysis
• Reservoir and Well Design
• Design and Construction Supervision
Soil Investigation

- Soil Boring
Field Testing

- Cone Penetration Test (CPT)
- Seismic Cone Test
- Dynamic Cone Penetration Test (DCPT)
- Plate Bearing Test
- Downhole Seismic Test
- Pressuremeter Test
- Field Vane Shear Test
Field Testing

- Soil Resistivity Test
- Thermal Test
- Field Permeability
- Sand Cone Density
- Underground Cable Detector
- Ground Penetration Radar Test
- Half-cell Potential Test
- Ultrasonic Concrete Test
Field Testing

Cone Penetration Test (CPT)

- Suitable for Mobilize and Setup
- Real-Time Measurement
Field Testing

Dynamic Cone Penetration Test (DCPT)
Field Testing

Plate Bearing Test

- Real-Time Measurement
- ASTM D1194, D1196 and DIN 18134
Field Testing

CBR Test

- ASTM D4429
Field Testing

Thermal Conductivity

- ASTM D5334
Field Testing

Field Permeability

- Hvorslev’s Method

\[ K = \frac{q \ln \left( \frac{L}{D} + \sqrt{1 + (L/D)^2} \right)}{2 \pi L H_c} \]

(Hvorslev, U.S. Corps of Engineers, W.E.S)

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Alfa Geotech Co., Ltd.
บริษัท แอลฟ่า เจทเทค จำกัด
Field Testing

Soil Resistivity Test

Downhole Seismic Test
Field Testing

Pressuremeter Test

Field Vane Shear Test
Field Testing

Sand Cone Test

Underground Cable Detect
Field Testing

Ground Penetrating Radar

- Provides Plan and X-sectional Results
Field Testing

Ultrasonic Concrete Test

- ASTM C597
Field Testing

Half Cell Potential Test

- ASTM C876
Pile Testing

- Low Strain Integrity Test (PIT)
- Dynamic Pile Analyzer (PDA)
- Static Pile Load Test
- Crosshole Sonic Logging Test
Pile Testing

Low Strain Integrity Test (PIT)

Dynamic Pile Load Test (PDA)
Pile Testing

Static Pile Load Test

Crosshole Sonic Logging Test
Instrument Supply, Installation and monitoring

- Tiltmeter
- Strain Gauge
- Settlement Plate
- Soil Movement Monitoring (Inclinometer)
- Horizontal Inclinometer
- Piezometer Monitoring
- Magnetic Extensometer
- Vibration Monitoring
- Sound Level Monitoring
Instrument installation and monitoring

**Strain Gauge**

**Settlement Plate**
Instrument installation and monitoring

Tiltmeter
Instrument installation and monitoring

Soil Movement Monitoring (Inclinometer)

Horizontal Inclinometer

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E-mail:admin@alfageotech.com
Instrument installation and monitoring

Magnetic Extensometer

Piezometer Monitoring
Instrument installation and monitoring

Vibration Monitoring

- DIN-4150
Instrument installation and monitoring

Sound Level Monitoring

- ASTM E1014
Soil Laboratory Test

- Basic Physical Properties Test
- Strength Tests
  - Unconfined Compression Test
  - Triaxial Compression Test (UU, CU, CD)
  - Direct Shear Test
- Consolidation Tests
  - One Dimensional Oedometer
  - Constant Rate of Strain (CRS)
- Chemical Test (pH, Chloride, Sulphate and Organic Content)
- Electrical Test
  - Soil Box Resistivity Test
  - Thermal Conductivity Measurement
- Compaction & CBR Test
- Permeability Test
Soil Laboratory Test

- Oedometer
- CRS
- Unconfined Compression
- Triaxial
- Direct Shear Test
Rock & Aggregate Test

• Basic Properties
• Rock Core Preparation
• Uniaxial Compression Test with and without Strain Gauge
• Point Load Test
• Los Angeles Abrasion Test
• Soundness Test
• Alkali Reaction Test
• Specific Gravity and Absorption of Coarse Aggregate
Geotextile Testing

- Tensile Strength
- Grab Strength
- Trapezoid Tearing Strength
- Index Puncture Resistance
- CBR Puncture Strength
- Bursting Strength
- Apparent Opening Size (AOS)
- Thickness
- Permeability Test
- Discharge Capacity
Project Experience
PTTGC – PO/ORP

Map Ta Phut, Rayong

- Soil Boring over 50 nos.
- In-situ Test
  - Downhole Seismic
  - Plate Bearing Test
  - Resistivity Test
  - Thermal Test
  - DCPT
  - CPT
- Pile Testing
  - PDA
  - Static Pile Load Test
- Vibration and Sound Monitoring
- Topographic Survey
- Geotechnical Consultant
PTTLNG Phase I & II

Map Ta Phut, Rayong

- Soil Boring over 50 nos.
- In-situ Test
  - Downhole Seismic
  - Plate Bearing Test
  - Resistivity Test
  - Pressuremeter Test
  - CPT
- Pile Testing
  - PDA
  - Static Pile Load Test
- Tank Settlement Monitoring
- Geotechnical Consultant
Upstream Project for Hygiene and Value Added Products (UHV)

IRPC, Rayong

- Soil Boring over 100 nos.
- In-situ Test
  - Downhole Seismic
  - Plate Bearing Test
  - Resistivity Test
  - Pressuremeter Test
- Pile Testing
  - PDA over 500 Piles
  - Static Pile Load Test
- Topographical Survey
Tostem

Nava Nakorn Industrial Zone, Pathum Thani

- Flood Protection Wall Design
- Water wells Installation
Hitech Industrial Estate

New Flood Protection Barrier System

- Design of Perimeter Dike Protection (11 km)
- Topographical Survey
- Geotechnical Investigation
Suvarnabhumi Airport

Maintenance Apron Expansion

- Consulting service for design of ground improvement via vacuum consolidation and soil cement column methods

1st Midfield Satellite Aprons and 3rd Runway

- Consulting service for design of ground improvement via PVD and vacuum consolidation methods for construction.

1st Midfield Satellite Building

- Review of soil factual reports and preparation of geotechnical interpretative report, design check of pile foundation and diaphragm wall design including of possible causes of pavement damage on existing airfield pavement and provide solutions to minimize such problem in new pavement.
Oversea Project

- Algeria
- Sudan
- Kenya
- Myanmar
- Laos
- Thailand
- Vietnam
- Cambodia
- Malaysia
- Singapore
- Vietnam
- Hanoi-Haiphong Expressway Project
- Dau Giay Expressway Project
- Tan Son Nhat-Binh Loi Outer Ring Road Project
- Lon Son Petrochemical Complex Project

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Cambodia

Sihanoukville International Airport

- Geotechnical Investigation
- The Design of New Runway
Coal Power Plant, Sihanoukville, Cambodia

- Soil Boring over 24 nos. (onshore and offshore)
- Rock Coring
- In-situ Test
  - Field Permeability
  - Plate Bearing Test
  - Resistivity Test
- Downhole Seismic
- Topographic Survey
- Bathometric Survey
- Geotechnical Consultant
Malaysia

Kualalumpur International Airport 2 (KLIA2)

- Consultancy Service on Geotechnical Evaluation Works
- Geotechnical Aspects of Fuel Hydrant Rectification Works
KLIA2, Fuel Hydrant Rectification Works

Malaysia

- Evaluate Pile Load
- Evaluate Pile Integrity
- Estimate Pile Capacity and Settlement
- Modification of Pipe Supports
- Recommendation in future pipeline support
- Review and Compare MTM (Magnetic Tomography)
- Geotechnical Consultant

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