



GEOCONSULT

Founded 1981

GEOTECHNICAL ENGINEERS PUERTO RICO

Laboratory Testing, Inspection & Field Operation Capabilities

Our Facilities

Geoconsult is a professional consulting firm specialized in geotechnical engineering and related areas. The company offers comprehensive geotechnical testing services and has complete drilling capabilities. Geoconsult also performs material testing services, specializing in concrete, aggregates, and soil materials. In addition, Geoconsult provides earthwork inspection services.

In our 28 years of service we have conducted work on the islands of Puerto Rico, Hispaniola, Virgin Islands and Cuba. Our facilities are located in San Juan, Puerto Rico and include a temperature-controlled environment to perform all laboratory tests. The laboratory was designed to meet all space and environmental conditions required by ASTM and AASHTO.

Our laboratory area has more than 2,000 ft² of working space. We have storage capability for more than one thousand concrete cylinders and extensive free space for daily receipt of materials for testing.

Laboratory Testing

Our scope of activities includes: geotechnical investigations, laboratory testing and instrumentation, slope stability studies, foundation design, underpinning, design of braced and open excavations, embankment dams, ground water and seepage analyses, dewatering studies and design, as well as engineering analyses for stone quarries. Our trained and certified soil technicians and engineers perform laboratory tests required for any particular project.

Soil Material Testing

- ASTM D422:** Particle-Size Analysis of Soils.
- ASTM D4318:** Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- AASHTO T92:** Shrinkage Factors of Soils by the Mercury Method.
- ASTM D698:** Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft).
- ASTM D854:** Specific Gravity of Soils.
- ASTM D1557:** Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- ASTM D2166:** Unconfined Compressive Strength of Cohesive Soil.
- ASTM D2434:** Permeability of Granular Soils (Constant Head).
- ASTM D2435:** One-Dimensional Consolidation Properties of Soils
- ASTM D3080:** Direct Shear Test of Soils Under Consolidated Drained Conditions.
- ASTM D2216:** Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
- ASTM D1140:** Amount of Material in Soils Finer Than a No. 200 (75- μ m) Sieve.
- ASTM D2487:** Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- ASTM D2488:** Description and Identification of Soils (Visual-Manual Procedure).
- ASTM D5084:** Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.
- ASTM D4767:** Consolidated Undrained Triaxial Compression Tests for Cohesive Soils.
- ASTM D4546:** One-Dimensional Swell or Settlement Potential of Cohesive Soils.
- ASTM D2850:** Unconsolidated-Undrained Triaxial Compression Tests for Cohesive Soils.
- ASTM D6938:** In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth).

Aggregate Material Testing

- ASTM C29:** Bulk Density and Voids of Aggregate.
- ASTM C40:** Organic Impurities in fine Aggregate for Concrete.
- ASTM C88:** Soundness of Aggregate.
- ASTM C127 & C128:** Density, Relative Density, Specific Gravity and Absorption of Coarse and Fine Aggregate.
- ASTM C131:** Resistance by Abrasion and Impact in the Los Angeles Machine.
- ASTM C1252:** Uncompacted Void Content of Fine Aggregate.

Field Operations

- **Standard Penetration Test (SPT)**
- **Cone Penetration Test (CPT), with seismic measurement capability**
- **Seismic Downhole and Crosshole Tests**
- **Seismic Refraction Tests**
- **3D Electrical Resistivity Imaging**
- **Field instrumentation:** This includes the installation and monitoring of piezometers and inclinometers, as well as conducting packer permeability tests.

Field technician services include: field density tests with nuclear density gage and sand cone, inspection control of earth work, acceptance of materials for fill placement, and monitoring of embankment construction.

Our highly trained professional staff monitors and interprets static load tests on piles and plate bearing tests, as well as specialized dynamic load tests with the pile driving analyzer (PDA).

Concrete Material Testing

- ASTM C109:** Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- ASTM C172:** Sampling Freshly Mixed Concrete
- ASTM C1064:** Temperature of Freshly Mixed Portland Cement Concrete
- ASTM C143:** Slump of Hydraulic Cement Concrete
- ASTM C138:** Unit Weight, Yield, and Air Content (gravimetric) of Concrete
- ASTM C231:** Air Content of Freshly Mixed Concrete by Pressure Method
- ASTM C173:** Air Content of Freshly Mixed Concrete by Volumetric Method.
- ASTM C39:** Compressive Strength of Cylindrical Concrete Specimens
- ASTM C42:** Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
- ASTM C31:** Making and Curing Concrete Test Specimens in the field.
- ASTM C192:** Making and Curing Concrete Test Specimens in the Laboratory.
- ASTM C511:** Water Storage used in testing Concrete.
- ASTM C617:** Capping Cylindrical Concrete
- ASTM 1231:** Use of Unbended Caps for Compressive Strength



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