



Soil Corrosivity Testing



MATERGENICS - Pittsburgh has created a specialized algorithm to rate soil corrosivity as it relates to buried steel assets for early detection of corrosion activity with a high degree of confidence. Our dedicated lab has rapid turn-around times and is supported by a multidisciplinary team of NACE¹ certified materials and corrosion engineers, Cathodic Protection design and installation specialists, coating specialists, chemists, and lab and field engineers. The combination of field and lab analysis provides essential data for geotechnical, asset management, site surveys, CP installations, and failure analysis.

¹National Association of Corrosion Engineers

MATERGENICS

100 Business Center Drive
Pittsburg, PA 15205

Tel: +1 (412) 788-1263 info@matergenicsinc.com
Fax: +1 (412) 788-1283 www.matergenicsinc.com





FIELD AND LABORATORY SOIL ANALYSIS CAPABILITY

Knowing the corrosion rate of a metallic material is critical to determine the remaining life of underground structures. It also helps to understand whether or not mitigation, coating or cathodic protection is required. We at MATERGENICS are not only able to determine the corrosion, but we also have the expertise to provide you with a recommendation that is specific to your application. Using our unique algorithms developed by expert corrosion engineers, the soil around a buried metallic asset is assigned a soil corrosivity (SC) rating that is based on a number of parameters including soil resistivity, pH, chlorides, sulfates, properties, and linear resistance polarization. These ratings identify high soil corrosivity areas where assets are located and, based on these ratings, decisions for inspection frequency, prioritization, and long term planning can be made with confidence. This is what distinguishes us from our competition.

Corrosion and Engineering Methods

AASHTO T290: Sulfate Ion Content in Soil

AASHTO T291: Chloride Ion Content in Soil

ASTM C1580: Sulfate Ion Content in Soil

ASTM D1498: Redox Potential of Water

ASTM D2216: Moisture Content of Soil

ASTM D2487: Soil Classification

ASTM D421: Dry Prep of Soil Samples

ASTM D4318: Liquid Limit, Plastic Limit,
Plastic Index of Soils

ASTM D422: Particle Size Analysis of Soils

ASTM D4972: pH of Soils

ASTM D512: Chloride Ion in Water

ASTM G102: Corrosion Rate

ASTM G51: pH of Soil for Corrosion

ASTM G57: Soil Resistivity

ASTM D4658: Sulfide Ion in Water

ASTM G162: Conducting and Evaluating
Lab Soil Corrosion Tests

Additional Tests Available Upon Request

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