Concrete Materials Laboratory Services

Petrography, chemistry, and physical testing

RJ Lee Group routinely conducts testing and evaluation of construction materials including concrete, stucco and aggregate using petrography, chemical analyses and physical tests according to the standard methods listed below. We have significant experience in conducting small and large-scale analytical programs to assess defects and premature product failures. Contact us to discuss your needs and obtain a cost estimate.

Testing Service	Method
Acid Soluble Chloride in Mortar and Concrete	ASTM C 152 // AASHTO T260
Cement Composition	Internal Method
Cement Content	ASTM C1084
Chemical Analysis of Cements	ASTM C114 // AASHTO T105
Compressive Strength Testing	ASTM C42, ASTM C39
Concrete Petrography	ASTM C856
Density Absorption and Voids in Hardened Concrete	ASTMC642
Expansion and Shrinkage	ASTM C157
Mix Design Confirmation	Internal Method
Mortar Characterization	ASTM C1324
Non-destructive Concrete Testing Services	Multiple Techniques
Point Count/Air Void	ASTM C457
Rapid Chloride Permeability	ASTM C1202

Testing Service	Method
Sampling/Testing Fly Ash or Natural Pozzolans for use as a Mineral Admixture in Portland Cement Concrete	ASTM C311
Scanning Electron Microscopy (SEM) with elemental analysis	
Specialized Sample Preparation	Multiple Techniques
Sulfate Analysis	
Thermogravimetric (TGA) Analysis	
Water Soluble Chloride in Mortar and Concrete	ASTM C1218 // AASHTO T260
Water-Cement Ratio	Multiple Techniques
X·ray Diffraction (XRD)	
X·ray Fluorescence (XRF)	

Aggregate Testing	Method
Aggregate Sieve Analysis	ASTM C136
Clay Lumps and Friable Particles in Aggregate	ASTM C142 // AASHTO T112
Coarse Aggregate	ASTM D5821
Determining the Percentage of Fractured Particles in Flat, Elongated or Flat/Elongated Particles in Coarse Aggregate	ASTM D4791
Iron Staining in Light Weight Concrete Aggregates	ASTM C641
Leco for sulphur in concrete aggregate	ASTM D4329
Petrographic Examinations of Aggregates for Concrete	ASTM C295
Slag Characterization for use as Aggregate Fill or Road Base	Multiple Techniques

Rush analysis is available for samples at an additional charge. Please call for more information.