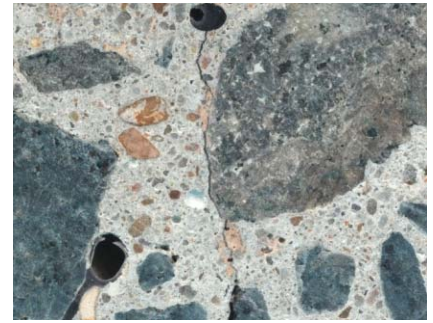


Construction Materials Testing

M+P Labs specializes in material qualification and failure analysis on a range of materials used in the construction industry. A host of comprehensive laboratory testing services provides a one-stop-shop for material investigations of cement, concrete, aggregates, asphalts, mortars, stucco, stone, and steel.



MATERIALS

Aggregates

Freeze/thaw testing
Mineral composition
Particle size analysis
Reactivity

Asphalt

Chemical analysis
Emulsion water content
Softening point

Mortar/Grout

Chemical analysis
Match existing
Failure analysis

Concrete

Water:Cement ratio
Alkali-Silica reaction
Chloride penetration
Entrained/entrapped air
Petrographic analysis
Sealant testing

Steel/Rebar

Chemical analysis
Corrosion assessment
Strength testing
Weld evaluation
Weldability

PETROGRAPHIC EXAMINATIONS

- Hardened concrete
 - Extensive microscopy capabilities
 - Scanning Electron Microscope
- Air void analysis
 - Automated image analysis techniques quantify entrained air, entrapped air, aggregate and cement paste

CHEMICAL ANALYSIS

- Identification of material composition
- State-of-the-art instruments: SEM-EDS, XRD, XRF, ICP-OES, IC, FTIR, TGA, TMA

CORROSION STUDIES

- Assessment of reinforced concrete structures with half-cell potential method
- Depth of chloride penetration in hardened concrete

PHYSICAL TESTING

- Density, absorption and voids
- Compressive, tensile and flexural strength
- In-house machine shop for preparation of mechanical test specimens

METALLURGICAL ANALYSIS

- Evaluation and qualification of welds
- Microstructural evaluation



All testing is performed in compliance with the quality requirements mandated by:

