



Laboratory Testing, Investigation, and Other Services of CMC: Fee Schedule – 2023

(Our prices are based on our experience, quality of our comprehensive report from the depth of examinations, having in-house extensive laboratory facilities to do all the tests mentioned here, report turn-around time, and associated consulting services)

Tests	Designation	Unit Price (\$)
Hardened Concrete		
Air void analyses (Modified Point Count) *	ASTM C 457	500
Alkali-Carbonate Reactivity – Petrography, Chemical, & XRD	ASTM C 856	1500
Alkali-Silica Reactivity – Detailed Petrography*	ASTM C 856	1500
Alkali-Silica Reactivity - Mortar-Bar Method (Without Pozzolan) *	ASTM C 1260	1250
Alkali-Silica Reactivity – Mortar-Bar Method (With Pozzolan) *	ASTM C 1567	1250
Cement Content	ASTM C 1084	1500
Chloride Analyses – Acid-soluble – Powder Sample*	ASTM C 1152	175
Chloride Analyses – Acid-soluble – Per Section from A Core*	ASTM C 1152	225
Chloride Analyses – Water-soluble – Powder Sample*	ASTM C 1218	200
Chloride Analyses – Water-soluble – Per Section from A Core*	ASTM C 1218	275
Chemical Profiles of Water-Soluble Anions and Cations by Ion Chromatography (IC) or Energy-Dispersive X-ray Fluorescence Spectroscopy (ED-XRF) at Three Depths	ASTM D 4327	1500
Density, Absorption, Voids*	ASTM C 642	300
Length Change	ASTM C 157	1500
Petrographic Examinations of Hardened Concrete*	ASTM C 856	1500
Petrographic Examinations of Hardened Concrete (Composite Core) *	ASTM C 856	2000
Petrographic Examination + Scanning Electron Microscopy & Energy-Dispersive X-ray Microanalysis (SEM-EDS)*	ASTM C 856	2000
Petrographic Examinations + SEM + XRD*	ASTM C 856	2500
Resistance to Chloride Penetration (Chloride Permeability) *	ASTM C 1202	500
Sulfate Analyses (XRF)*	ASTM C 114	250
Strength – Compressive*	ASTM C 39/42	175
Specialized Tests as per Project Requirements	TBD	TBD
Concrete Deteriorations (Quoted prices are project-specific, estimated)		
Surface Distress – <i>Scaling</i> – Petrography, SEM-EDS, Air-Void Analysis, Chloride Profile		\$3-3.5K
Surface Distress – <i>Delamination of a trowel-finished surface</i> – Petrography, Air-Void Analysis		\$2K
Surface Distress – <i>Aggregate Popouts, D-Cracking</i> – Petrography, SEM-EDS		\$2K
Surface Distress – <i>Dusting, Efflorescence, Staining, Discoloration, etc.</i> – Petrography, SEM-EDS, XRD		\$1-2K
Cracking due to <i>Alkali-Aggregate Reactions</i> – Petrography, SEM-EDS		\$2K
Cracking and spalling due to <i>Corrosion of reinforcing steel in concrete</i> – Petrography, SEM-EDS, Chloride Profiles		\$2.5-3K
Cracking due to <i>Hardened Expansions of Proprietary Grouts</i> – Petrography, SEM-EDS, XRD, XRF		\$3K
Cracking due to <i>Oxidation of Iron Sulfide (Pyrite, Pyrrhotite) in Aggregates and subsequent Internal Sulfate Attack</i> – Petrography, SEM-EDS, XRD, XRF		\$3K
<i>Early Freezing</i> - Petrography		\$1.5K
<i>Low Strength</i> – Petrography		\$1.5K
<i>Mix Calculations</i> – Petrography, Air-Void Analysis		\$2.5K
<i>Admixture Issues</i> – e.g., <i>From Excessive fly ash, Abnormal Setting, etc.</i> – Petrography, Chemical, FTIR		\$2.5-3K
<i>Fire attack</i> – Petrography, SEM-EDS		\$2K
<i>External Sulfate Attacks</i> – Petrography, SEM-EDS, XRD, XRF		\$3K
<i>Internal Sulfate Attacks</i> – DEF, Oxidation of Iron Sulfide – Petrography, SEM-EDS, XRD, XRF		\$3K
<i>Miscellaneous Chemical Attacks</i> – Petrography, SEM-EDS, XRD, XRF, IC		\$3K

Tests	Designation	Unit Price (\$)
<i>Parking Garage Assessment</i> – Petrography, SEM-EDS, Chloride Profile, Strength, Coating (FTIR)		\$2.5-3.5K
<i>Bridge Deck Assessment</i> – Petrography, SEM-EDS, Chloride Profile/Permeability, Strength		\$2.5-4K
<i>Condominium Complex Assessment</i> - Petrography, SEM-EDS, Chloride Profile, Strength		\$2.5-3.5K
<i>PCCP, BCP, Sewer Pipe Distress</i> – Petrography, Chloride/Sulfate Profile, Absorption, SEM-EDS		\$2.1-3K
<i>Coating Failures</i> – Petrography, SEM-EDS, FTIR		\$3K
<i>Floor-Covering Failures</i> – Petrography, SEM-EDS, Chemical Analysis		\$3K
Masonry Units & Masonry Mortars		
Masonry Mortar Analyses* – (1) Petrography (Optical Microscopy), (2) Chemical Analysis (Acid Digestion, Insoluble Residue, Loss on Ignition), (3) Mix Proportion Calculation, (4) Suggestion for Suitable Repointing Mortar, and (5) Investigation of Mortar deterioration, (6) Image Analysis for Sand and Void Contents and Distribution, (7) XRD (for bulk mineralogical composition), (8) ED-XRF (for bulk oxide composition), (9) SEM-EDS for detailed characterization of binders used, and (10) Sand extraction by acid digestion & sieve analysis of sand for compliance to ASTM C 144, photos of sand colors	ASTM C 1324 + RILEM	2250
Brick, Stone, or Concrete Masonry Units* – Petrographic Examinations and XRD	ASTM C 856	1250
Brick Masonry Units* – Absorption & Saturation coefficient to Check Compliance to ASTM C 216 Facing Bricks (Set of 5 half bricks)	ASTM C 67	1000
Brick Masonry Units* – Compressive Strengths to Check Compliance to ASTM C 216 Facing Bricks (Set of 5 dry half bricks)	ASTM C 67	1000
Brick Masonry Units – Efflorescence Test (Set of 10 full bricks)	ASTM C 67	500
Brick Masonry Units – Initial Rate of Absorption (Set of 5 whole bricks)	ASTM C 67	500
Masonry Efflorescence – Detection of Existing Efflorescence (Salt) Deposits on Masonry Walls by XRD	ASTM C 856	350
Aggregates for Concrete		
Alkali-Carbonate Reactivity – Rock Cylinder Method	ASTM C 586	750
Alkali-Carbonate Reactivity – Petrography †	ASTM C 295	1500
Petrographic Examination - Crushed stone* †	ASTM C 295	1750
Petrographic Examination – Gravel* †	ASTM C 295	2000
Petrographic Examination - Slag †	ASTM C 295	2500
Petrographic Examination – Sand* †	ASTM C 295	1750
Total Sulfur by Combustion IR (Leco Method)	ASTM D 4239	500
Total Sulfur by ED-XRF	ASTM C 114	350
Sulfur Speciation by WD-XRF	ASTM E 1621	1000
Sulfide mineralogy in aggregate by XRD (Qualitative ICDD-Jade Search/Match)	ASTM C 1365	500
Sulfide mineralogy in aggregate by XRD (Quantitative – Rietveld Analysis)	ASTM C 1365	1000
Detection of pyrrhotite in aggregate by magnetic separation	-	350
Accelerated oxidation test of pulverized aggregate from chemical analysis of filtrates by ion chromatography (IC)	ASTM D 4327	750
Mortar Bar Expansion Tests – Accelerated Method	ASTM C 1260	1250
Mortar Bar Expansion Test – Length Change Measurements in Water	ASTM C 157	1250
Micro-XRF on Drilled cores from quarry	ASTM C 114	2000
Petrographic Examinations of drilled core from quarry	ASTM C 295	1750
Prestressed Concrete Cylinder Pipes (PCCP), Sewer Pipe, Clay Pipe		
Absorption, Specific Gravity, Volume of Permeable Voids*	ASTM C 642	300
Chloride Analysis – Water-Soluble - Per Section/Depth*	ASTM C 1218	275
Petrographic examinations*	ASTM C 856	1500
Portland Cement Plaster (Stucco)		
Stucco Analysis (2-coat system) * – Petrographic Examinations to Evaluate the Composition and Condition of Individual Coats, and Investigate Stucco Failures	ASTM C 856	1500 (2-coat) 1750 (3-coat)
Dimension Stones		
Absorption (Set of 3 stones, each 2-in. square)	ASTM C 97	360
Petrographic Examinations of Dimension Stones – Optical Microscopy + XRD	ASTM C 1721	1250
Petrographic Examinations of Dimension Stones – Optical Microscopy + XRD + SEM	ASTM C 1721	1750

Tests	Designation	Unit Price (\$)
Strength, Compressive (Set of 20 samples, pre-cut to spec. of ASTM C 170)	ASTM C 170	3000
Strength, Flexural (Set of 20 samples, pre-cut to spec. of ASTM C 880)	ASTM C 880	3000
Strength, Modulus of Rupture (Set of 20 samples, pre-cut to spec. of ASTM C 99)	ASTM C 99	3000
Terra Cotta & Architectural Cast Stones		
Petrographic Examinations	ASTM C 856	1250
Petrographic Examinations + XRD	ASTM C 856	1500
Petrographic Examinations + XRD + SEM-EDS	ASTM C 856	1750
Ceramic Tile & Other Floor Covering Failures		
Investigation of De-bonding, Blistering, Discoloration, Cracking, etc. of Floor Covering – Petrography*	ASTM C 856	1750
Investigation of De-bonding, Blistering, Discoloration, Cracking, etc. of Floor Covering – Petrography + SEM-EDS*	ASTM C 856	2500
Pozzolanic and Cementitious Materials		
Chemical Analyses of Hydraulic Cement - Oxides of Si, Al, Ca, Mg, Na, K, Fe, Ti, P, and S by ED-XRF	ASTM C 114	750
X-ray diffraction (Qualitative)	ASTM C 1365	500
X-ray diffraction (Quantitative)	ASTM C 1365	1000
Gypsum & Lime Products		
Chemical Analyses – Oxides of Si, Al, Ca, Mg, Na, K, Fe, Ti, P, and S by ED-XRF	ASTM C 114	750
Petrographic Examinations + XRD	ASTM C 856	1500
Petrographic Examinations + XRD + SEM-EDS	ASTM C 856	1750
Fill Materials		
Petrographic examinations + XRD + XRF	-	1500
Rocks, Sediments, Soils, Meteorites, etc.		
Chemical Analyses - Oxides of Si, Al, Ca, Mg, Na, K, Fe, Ti, P, and S by ED-XRF	-	750
Petrographic Examinations (Optical Microscopy) – Rocks, Sediments*	-	1000
Petrographic Examinations (Optical Microscopy) - Soils	-	1500
XRD (Semi-Quantitative)	-	500
SEM-EDS	-	1000+
Report of Laboratory Examination & Report Consultation		
Report of Laboratory Examinations by Electronic mail as an Adobe PDF File*	-	FREE
Report of Laboratory Examinations - Modifications	-	250-1000
Phone Consultation after Report Submission	-	250/hr.
Supplemental Report	-	500-1000
Litigation Services		
Principal – Deposition & Trial	-	750/hr.
Principal – Out-of-Office Travel Time - For In-PA Litigation	-	300/hr.
Principal – Air Travel Time - For Out-of-State Litigation	-	Minimum 1250/day
Principal – Document review for expert testimony	-	250/hr.
Principal – Document review and responses for a project (Other than the laboratory report)	-	350/hr.
Secretarial	-	150/hr.
Auto Mileage	-	\$2/mile
Miscellaneous Charges (e.g., Airfare, Hotel, Toll, Parking, Photocopies, Postage)	-	At cost + 15%

Price subjected to change without notice. All above testing prices (except those marked with †) are for standard 3 to 4 weeks TAT. An additional 100 percent premium is added for an expedite 5-day report.

†Standard Turnaround for ASTM C 295 is 6 to 8 weeks.

*Asterisks show the most frequently requested tests.

Litigation services are mostly for court cases in PA. Since COVID pandemic, we do not offer out-of-state litigation anymore. An initial \$5000 retainer fee must be paid prior to the involvement of litigation services.

Updated January 2023.

Information Needed to Initiate A CMC Project

1. Contact person(s) knowledgeable on the project - Name, Phone, Fax, Email address, Mailing address, and Company information for direct and other clients
2. Bill-to information for invoice and payment
3. Ship-to information for sending the Final Report (if hard copy is requested) & samples after testing
4. Full Name and Address of the Project (e.g., Street, City, & State)
5. Your Project Number (if available)
6. Testing Requested (e.g., Petrography, Air Content, Chloride Content/Permeability, etc.)
7. Reason(s) for the Requested Testing (e.g., If there a problem; Nature and Extent of the problem, etc.)
8. Detailed background Information, e.g. (i) Nature of the problem, if any, (ii) When the problem was first noticed, etc., (iii) Time of installation (e.g., month, year, season, age), (iv) Location/environment (e.g. indoor vs. outdoor, wall vs. floor, if it exposed to a freezing and thawing environment or a chemically aggressive environment), (v) Mix design, MSDS data sheets, Specification, etc., (vi) Previous testing results (e.g., strength results, air, slump, temperature, weather condition during placement, etc.), (v) Any other relevant information not mentioned here
9. Field photographs showing – (i) condition of the structure in question, the nature of the problem, if any, and (ii) sample locations with the extracted samples (either on a CD, or a flash drive, or by email)
10. What would you like to do with the sample(s) after testing is completed (i.e., Toss or Return)?
11. Label your samples properly (e.g., Sample ID, which side is top/exposed, good vs. bad samples, etc.).
12. Ship your samples securely with adequate bubble wraps – no peanut wrap please.
13. Mention the turn-around: 3 to 4 weeks Standard, or 5-day Expedite Report.
14. Include a paperwork (despite all prior email communications) of Project Transmittal in the sample box.
15. **All New Clients Are Requested to Pay in Full Prior To The Release of the Report.** All Existing Clients have a 30-Day Pay Period.
16. Testing will not begin until a receipt of the signed and approved Cost Proposal (which will be provided via email when our Lab receives the sample(s).