

QUALITY CARE CIVIL LABORATORY PVT LTD

Testing Laboratory for Building Material

8124352223 / 8124362223

AN ISO / IEC 17025 Certified Laboratory



QUALITY CARE CIVIL LABORATORY PRIVATE LIMITED (QCL)

(“ONE-STOP” ACCESS TO OUR WIDE-RANGE OF BUILDING MATERIAL TESTING SERVICES)

QUALITY CARE CIVIL LABORATORY PRIVATE LIMITED (QCL) has been started with an aim of providing service to the construction industry to maintain quality in the process of construction. An ISO 17025 certified Laboratory Started by team of experienced Civil Engineers to help our clients by guiding in quality management provides result and certified reports quickly, conveniently and cost-effectively. “One stop access to our wide-range of construction of materials testing services, Non-destructive tests on old & new RC Structures, Geo-Technical investigation & Foundation design makes the difference. QCL, Headquartered at Nandambakkam, Kundrathur, Chennai, India is one of the largest laboratories in the industry. While providing services to the customer all safety procedures are following strictly according to the industry standards.

- Testing of Physical & Chemical properties of all Building material
- Geo-Technical Investigation & Foundation designs(Soil Penetration test)
- Non Destructive Testing (RHT & UPVT) of old & new RC Structures
- Structural Stability Certification of old & new RC Structures
- Repairs / Rehabilitation & Retrofitting of Structures
- Water Divining and Electrical Resistance test
- Project Management consultants Services (PMC)
- Training for Site engineers on QA / QC, NDT, Methods of Concrete repair, Free of cost every Saturday.

GEO – TECHNICAL INVESTIGATION & FOUNDATION DESIGN

- ❖ Conducting tests for compaction and Quality control in earth works, CBR tests on sub grades.
- ❖ Investigation by drilling Bore – Holes, conducting field tests, collecting samples carrying out laboratory tests and furnishing report with recommendations.
- ❖ Conducting field tests such as plate load test, static cone penetration test, Electrical resistivity test and permeability test.
- ❖ Facilities to conduct low strain and high strain pile testing for pile integrity and safe load evaluation.
- ❖ Designing foundation systems & Retaining structures, study structures subjected to settlement/foundation failure and suggesting remedial measures.
- ❖ Designing ground improvement techniques in weak soil conditions

NON – DESTRUCTING TESTING OF RC & STEEL STRUCTURES

- ❖ Assessment of quality of in-situ concrete through Non – Destructive tests (RHT & UPVT).
- ❖ Assessment of cover and surface disposition of reinforcement through rebar locator studies.
- ❖ Assessment of Quality of in-situ concrete through core tests and pullout tests (Semi-Destructive Tests).
- ❖ Assessment of permeability of concrete through field permeability and rapid chloride permeability tests.
- ❖ Assessment of onset & extent of corrosion in rebar through potential difference and resistivity studies.
- ❖ Assessment of extent of carbonation / chloride penetration in cover concrete.

Plot No.34, Sri Devi Karumari Amman Nagar (West), Nandambakkam, Kundrathur, Chennai - 600 069.
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LABORATORY AND FIELD TESTING OF CONSTRUCTION MATERIALS INCLUDING SPECIAL TESTS

- ❖ Tests on all building materials (As per Relevant Indian standards) such as Cement/ Fly ash/Lime, Aggregates, Bricks/Blocks, Reinforcing steel Bars/ Structural steel, Soil, Tiles/Marbles, Wood, Door Frames/ Shuttering Plywood, Chemical Admixture, Aluminum, Water, Manholes etc. . . .
- ❖ Test on concrete cores & cubes for Compressive strength, Split Tensile Strength of cores, Flexural strength of beam.
- ❖ Concrete Mix designs for Normal & Accelerated curing upto M80 Grades, high performance, Self Compacting Concrete (SCC), High volume fly ash concrete and Ice concrete.
- ❖ Special tests on reinforcement such as Bond test and Salt spray test.
- ❖ Concrete durability test such as water permeability and Rapid chloride permeability (RCPT).
- ❖ Chemical tests on construction materials, water and soil.
- ❖ Tests on highway materials such as Bitumen, PMB, CRMB, Emulsions, Anti – stripping agent and Bituminous concrete as per MORT Specifications.
- ❖ At QCRC we have facilities for conducting on field testing services.

STRUCTURAL STRENGTHENING AND RETROFITTING SERVICES

- ❖ Repair and Rehabilitation of Existing and Dilapidated Buildings
- ❖ Epoxy Injection & Fiber Wrapping of Concrete failure Members
- ❖ Water Proofing Work in New Construction
- ❖ Treatment of Expansion Joints with Sealants and Water repellent Elastomeric Coatings.
- ❖ Corrosion inhibitors and Anticorrosive Protection Treatment in laid concrete, etc.

QUALITY PROFESSIONAL

Meeting your quality, service and turnaround needs is a priority. Find likes to everything you'll need for your responsibilities.

CERTIFIED REPORTS FOR TESTING

All data and results from construction materials testing, Non – Destructive tests on old and RC Structures, Geo – technical Investigation and Foundation Design are outlined in user – friendly certified reports that will meet your industry and quality requirements. Ask for your certifications by E-mail, Fax or mail.

QUALITY ASSURANCE / AUDIT OF CONSTRUCTIONS

- Independent / Third party agency to monitor the quality of construction by our specialized teams. Through continuous supervision or periodic inspections.
- Quality inspection of materials and works including form work, fabrication, concreting and Finishes.
- Providing solutions to technical problems during construction.
- Documenting the quality inspections and their compliance through periodic reports.

ADDITIONAL INFORMATION

- The payment may be made thru Cheque / Cash in favor of
“QUALITY CARE CIVIL LABORATORY PVT LTD” payable at Chennai.
- Samples shall be collected from the site according to the samples specimen.

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OUR CLIENTELE

GOVERNMENT PROJECT

- Greater Chennai Corporation (Water Drains and Public Road Projects)
- Indian Railways (Platform and Compound Wall Projects)
- Public Works Department (PWD)
(AMMA Memorial, Marina Beach & Dr. Ambedkar Law University, Perungudi)
- Power Grid Corporation of India Limited (400/230 kV Substation, Pondicherry)
- Tambaram and Pallavaram Municipality office
- Chennai Metropolitan Water Supply & Sewerage Board (CMWSB)
(Sewage Plant & Water Tank)
- Cantonment Board (Staff Quarters Project)
- Tamilnadu Government Medical College (Hostel Projects, Anna Salai, Chennai)
- Tanjavur Municipal Corporation (River Bridge works)
- Chennai NBCC ESIC Hospital
- Oil and Natural Gas Corporation Limited (ONGC), Ramanathapuram

ABROAD PROJECTS

- Factory and Ware House Building in Cambodia, Malaysia and Vietnam and Sri Lanka

PRIVATE SECTOR PROJECTS

- | | |
|---|---|
| ❖ Vestas Wind Technology India Pvt Ltd | ❖ Komos Automative India Pvt Ltd |
| ❖ Ramco Industries Limited | ❖ Estancia IT Park, Guduvancherry |
| ❖ Srikalahasthi Pipes Limited, Andhra Pradesh | ❖ Annai Infra Developers Pvt Ltd |
| ❖ Supreme Petrochemical Limited | ❖ Samson Lighting Pvt Ltd |
| ❖ Tamilnadu Petrochemical Limited | ❖ B & B Developers & Builders Pvt Ltd,
Vellore |
| ❖ Sheenlac Paints Limited | ❖ KEF Infrastructure India Pvt Ltd, krishnagiri |
| ❖ Cognizant Technology Solutions India Pvt Ltd
(Varalakshmi IT Park) | ❖ Reliable Corporation |
| ❖ Star Health and Allied Insurance Company | ❖ Sathyam Homes Pvt Ltd |
| ❖ Vivanta by Taj Resorts (Taj Hotel) | ❖ S & P Foundation Pvt Ltd |
| ❖ Yes Bank Ltd | ❖ Alliance Business Parks Pvt Ltd |
| ❖ Hiranandani Parks, Oragadam | ❖ Bhoomi and Buildings Pvt Ltd |
| ❖ Indospace Project, Oragadam | ❖ Ganesan Builders Ltd |
| ❖ Casa Grand Pvt Ltd | ❖ Arima Constructions Pvt Ltd., etc..... |

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TECHNICAL SPECIFICATIONS

Average Compressive Strength Development on the Curing period for plain concrete*

Curing Period, Days	Grade of Concrete, N/mm ²							
	M20	M25	M30	M35	M40	M45	M50	M60
7	13.3	16.6	20.0	23.3	26.6	29.9	33.3	39.9
14	17.1	21.4	25.7	30.0	34.3	38.5	42.8	51.4
28	20.0	25.0	30.0	35.0	40.0	45.0	50.0	60.0

Physical Properties Requirements for Reinforcing Steel (IS:1786-1985/RA 2008)

Dia (mm)	Mass (wt.) (kg/m) (Min.)	Grade	0.2% Proof Stress (N/mm ²) (Min.)	U T S (N/mm ²) (Min.)	Elongation (%) (Min)
8 mm	0.367 – 0.423	Fe-415	415	485 or 10% more than Actual Proof Stress whichever is higher	14.5
10 mm	0.574 – 0.660				
12 mm	0.843 – 0.932	Fe-500	500	545 or 8% more than Actual Proof Stress whichever is higher	12.0
16 mm	1.500 – 1.658				
20 mm	2.392 – 2.540	Fe-500D	500	565 or 10% more than Actual Proof Stress whichever is higher	16.0
25 mm	3.739 – 3.971				

Soil Requirement Suitable for filling purpose (As per Morth Specifications)

Atterberg Limits		Maximum Dry Density, (MDD),	Free Swelling Index
Liquid Limit	Plasticity Index		
Not More than 40%	Not More than 20	Not Less than 1.80 g/cc	Not More than 50%

Requirements of Compressive Strength for Brick

Test	Higher classes	First classes	Second classes	Third classes
Comp.Strength, N/mm ²	More than 12.5	7.5 to 12.5	5.0 to 7.5	3.5 to 5.0

Below 3.5 N/mm² not Recommended for Brick Wall.

Requirements of Non Destructive Testing (NDT) for RCC Structural Members

Rebound Hammer Test (RHT)		Ultrasonic Pulse Velocity Test (UPVT)	
Avg. RHT	Estimated Quality Grading of Concrete	Pulse Velocity, km/sec	Concrete Quality Grading
Above 40	Very Good Hard Layer	Above 4.5	Excellent
30 to 40	Good Layer	3.5 to 4.5	Good
20 to 30	Fair Layer	3.0 to 3.5	Medium
Below 20	Poor Concrete	Below 3.0	Doubtful

Removal of Forms

Sides of Foundations, Columns, Beams and Walls	2 days
Under sides of Slabs up to 4.5m span	7 days
Under sides of Slabs above 4.5m span and Under sides of beam and arches up to 6m span	14 days
Under sides of beam and arches up to 6m span to 9m span	21 days
Under sides of beam and arches over 9m span	28 days

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REBOUND HAMMER TEST



ULTRASONIC PULSE VELOCITY



REBAR SCANNER



CONCRETE CORE CUTTING



PULLOUT TEST OF REBAR



LOAD TEST OF ROOFSLAB



SOIL SPT – BORE



SAND REPLACEMENT TEST



SOIL CORE CUTTING TEST



FIBER WRAPPING



STRENGTHING FOR COLUMN



INJECTION GROUTING



LAB ACTIVITES

