



Materials Testing

Douglas Partners' origins began in the early 1960's when the late Don Douglas established and developed the geotechnical engineering and testing services of Frankipile Australia Ltd (a leading piling contractor) under the name 'Ground Test.'



Grounded Expertise

Douglas Partners is down-to-earth, practical ground experts who have been getting the job done with integrity since 1963. Our specialist disciplines encompass geotechnical engineering, rock mechanics, contaminated land, groundwater, geophysics, and materials testing.

With over 60 years of experience, using local knowledge to collect high-quality ground data, we are uniquely positioned to deliver practical solutions for projects where the built environment interacts with the ground.

Integrity of results and quality of work is central to our operations. Our ISO17025 NATA accredited Quality Assurance system underscores our commitment to excellence. Our culture embodies our guiding mantra: "Keep it Simple, Get it Right, Do it Well."

With 600+ dedicated professionals across 19 branches in Australia, including 14 NATA registered laboratories, our expert advice helps manage and mitigate risk and our solutions are tailored to enhance outcomes for our clients, community and environment.



Services Across Sectors

Douglas Partners consulting services provide clients with a range of integrated and specialist skills with the aim of delivering practical solutions across a large number of business sectors including:



DEFENCE



WATER



TRANSPORT



RESOURCES



ENERGY



HEALTHCARE



PROPERTY &
BUILDINGS



MARINE



LAND
DEVELOPMENT



SPORT &
RECREATION



WASTE
MANAGEMENT



TELE-
COMMUNICATIONS



Materials Testing and Services

Douglas Partners testing laboratories provide construction materials testing for industrial, commercial and residential subdivisions, mines and associated infrastructure, roads, pipelines, quarries, railways, bridges, tunnels and dams. We conduct and maintain quality assurance testing of aggregates, rocks, soils and concrete during the construction of major infrastructure projects.

The quality of our laboratories is attributed to our dedicated people. Our team is knowledgeable, approachable, dependable and committed to delivering optimal solutions for our clients. Within the laboratories, you'll find experienced and qualified technicians who collaborate closely with our clients to devise forward-thinking solutions that are both technically sound and easily applicable. Our technicians actively participate in regular internal and external proficiency programs. We hold our work in high regard and continuously strive to surpass client expectations.

We promote an enjoyable and stimulating work environment with an overarching commitment to safety. Our staff development sets us apart with all technicians undertaking external and ongoing internal training provided by our inhouse trainer and numerous NATA technical assessors. Our laboratories are NATA accredited with ILAC Mutual Recognition Arrangement and comply with current Australian and International Standards such as British Standards (BS), American Society of Testing and Materials (ASTM) and many State & Territory test methods.

Douglas Partners' laboratory services provide clients with:

- Fast turnaround and accurate test results
- Reliable service
- Conduct our business with integrity and in compliance with our accreditation body
- Comprehensive range of construction materials testing including soils, rocks, aggregates, concrete and chemical analysis
- Fully integrated LIMS software that allows clients to access their test reports online
- Tender preparation service
- Full geotechnical and environmental engineering support



Level 1 & Level 2 Compaction Testing & Inspection

Level 1 Testing & Inspection in accordance with AS3798 -2007 Guidelines on Earthworks for Commercial and Residential Developments'

Level 1 earthworks testing is a crucial aspect of construction and civil engineering projects. It helps clients by ensuring compliance, minimizing risks, optimizing costs and providing a solid foundation for the successful and safe completion of their projects. Douglas Partners provides fulltime on-site supervision for level 1 projects in order to confidently express an opinion on the compliance of the work in accordance with the project specification.

Level 2 Testing

Douglas Partners can provide level 2 compaction testing services during construction in order to verify that the soil has been placed and compacted in accordance with the specification. We service all sectors and industries, including state and local government, property developers, small business and individuals. We conduct our work in accordance with the code of practice and industry best practice to ensure it fits strategically with our client's objectives.

Laboratory Compaction Tests:

- Standard Compaction
- Modified Compaction
- Maximum / Minimum Density Index (Cohesionless Material)

Field Density Tests:

- Nuclear Gauge Method
- Sand Replacement Method

Soil Testing

Douglas Partners provides a broad range of testing to determine soil characteristics and properties, from CBR testing to determine pavement thickness designs to soil classification testing for residential, commercial and industrial developments. We also undertake specialised soil testing to determine permeability, dispersion, strength, consolidation and direct shear. We are totally committed to extending our range of services to meet our client's requirements.

Services offered include:

- Atterberg Limits
- Linear Shrinkage
- Moisture Content
- Shrink Swell Index
- Sieve Analysis
- Hydrometer Test
- Foreign Materials
- Triaxial Permeability
- Constant & Falling Head Permeability
- Emerson Class Number
- Pinhole Dispersion
- California Bearing Ratio (CBR)
- In-situ CBR
- Unconfined Compressive Strength (UCS)
- Unconsolidated Undrained (UU) Triaxial Compression
- Consolidated Undrained (CU) Triaxial Compression
- Consolidated drained (CD) Triaxial Compression
- Direct Shear
- Hand Vane Shear
- One Dimensional Consolidation

“Without exception Douglas Partners have added value to the project work we have been jointly involved in. We find their staff to be knowledgeable, experienced, flexible and a pleasure to work with.”

John Eggleston
Senior Project Manager Robert Luxmoore Pty Ltd

Aggregate Testing

Douglas Partners can provide gravel and aggregate testing for quarry production and quality assurance conformance to a range of specifications for pavement gravels, drainage materials, asphalt materials and concrete mixes. We can undertake testing for production control like gradings, size, shape, durability, strength, density and chemical analysis.

- Sampling
- Sieve Analysis
- Average Least Dimension
- Clay & Fine Silt Content
- Flakiness Index
- Fractured Faces
- Friable Particles
- Los Angeles Abrasion Value
- Material Finer than 75µm
- Maximum Dry Compressive Strength
- Organic Impurities Other than Sugar
- Particle Shape (proportional caliper)
- Particle Density & Water Absorption
- Sodium Sulfate Soundness
- Weak Particles
- Unit Mass (loose + compacted)
- Bulk Density
- Wet / Dry Strength Variation
- Aggregate Crushing Value
- Slake Durability

“At all times we have found that Douglas Partners has provided a high level of service to us. Their advice has been reliable and they have been very timely in their service delivery. Based on our experience to date, we wouldn't hesitate to engage them in the future.”

Stephen Parkin
Director, Armstrong Parkin Architects



Concrete Testing

Douglas Partners can provide concrete testing for various applications, including pavements, bridges, drainage culverts & headwalls, industrial, commercial & residential buildings, precast units, retaining walls and driveways. Our knowledge extends from day to day quality control sampling and testing for local projects into providing concrete mix designs for individual organisations, or the larger national companies, that work on major infrastructure projects like state highways, windfarms and dams.

Services offered include:

- Sampling
- Compressive Strength
- Slump / VEBE
- Mass Per Unit Volume
- Trial Mixes
- Mass Per Unit Volume
- Bleed of Concrete
- Brazil Splitting
- Grout Testing
- Determination of Chloride and Sulfate
- Flexural Strength
- Drying Shrinkage
- Compressive Strength of Concrete Cores
- Slump Flow for Self Consolidating Concrete



Rock Testing

Douglas Partners can provide specialist rock testing to determine the strength and durability of rock used to set design parameters for new developments.

Services offered include:

- Young's Modulus
- Poisson's Ratio
- Unconfined Compressive Strength
- Point Load Strength Index
- Brazil Splitting
- Slake Durability
- Moisture Content
- Resistance to Salt Attack
- Strength Testing

Penetration & Deflection Testing



Douglas Partners can provide tests to determine bearing capacity for footing designs and crane pads as well as deflection testing of road pavements. The test data can be used for engineering properties prior to construction and post construction for conformance to specification requirements.

Services offered include:

- Dynamic Cone Penetrometer
- Perth Sand Penetrometer
- Benkelman Beam Deflection

“We have used Douglas Partners extensively for geotechnical advice, earthworks testing and contamination issues at The Hermitage for a number of years now and always found their advice to be accurate and reliable. Most importantly, I have found the team have shown the ability to use their commercial acumen in identifying cost effective solutions.”

Oliver Roborgh
Development Manager, Sekisui House Australia

'State-of-the-art' equipment and technologies

From the days of Don Douglas we have aimed at: "Highest quality standards in regard to technology and its application, accuracy and presentation". In today's age of fast paced technological change we are increasingly investing in research and development of systems and techniques to allow us to provide reliable and efficient solutions for our clients.

We maintain a wide range of advanced field testing and monitoring equipment to provide the most comprehensive and accurate data for our clients' projects. In addition, Douglas Partners' drilling business, Ground Test, owns and operates 12 drilling rigs, 3 cone penetration testing rigs and a comprehensive range of in-situ testing equipment.

Our in-house GIS database contains over 130,000 completed project records. This resource provides background knowledge and an understanding of both site specific and regional conditions, assisting with providing prompt advice and solutions, and in many cases avoiding unnecessary costs for our clients.

"This team is efficient and service orientated and the level of mutual trust between our organisations ensures that Douglas Partners are our first choice consultant."

David Bobyreff
Director, Minotaur Project Management



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Local capability, world-class talent

For information on how Douglas Partners can assist on your project, please contact one of our branches below or email info@douglaspartners.com.au.

BRISBANE ☎ (07) 3237 8900

CAIRNS ☎ (07) 4055 1550

CANBERRA ☎ (02) 6260 2788

CENTRAL COAST ☎ (02) 4351 1422

COFFS HARBOUR ☎ (02) 6650 3200

DARWIN ☎ (08) 8948 6800

GEELONG ☎ (03) 5221 0711

GOULBURN ☎ (02) 4822 8395

GOLD COAST ☎ (07) 5568 8900

MACARTHUR ☎ (02) 4647 0075

MELBOURNE ☎ (03) 9673 3500

NEWCASTLE ☎ (02) 4960 9600

NTH WEST SYDNEY ☎ (02) 4666 0450

PERTH ☎ (08) 9204 3511

PORT MACQUARIE ☎ (02) 6581 5992

SUNSHINE COAST ☎ (07) 5351 0400

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