Australian Test Methods

Electronic worksheets are screens that conform to a Standards Australia, State Authority or other test method. They collect all the information required by the method and perform calculations and checks according to the method.

QESTLab is not restricted to the test methods detailed here and currently supports more than 600 electronic worksheets for test methods from various jurisdictions around the globe. Support for new test methods is continually being developed as a need arises. In addition QESTLab also provides functionality that allows the customer to extend the system to incorporate electronic worksheets based on Microsoft Excel.

This list of test methods is based on QESTLab v4.1. If you are interested in any test methods not shown in this list, please contact Spectra QEST at www.spectraqest.com.

**AS 1012 - Methods of testing concrete**
- AS 1012 Parts 1/3.1/8.1/8.2/9/10/14/ Concrete Sample
- AS 1012.4.1 * Air Content
- AS 1012.4.2 * Air Content
- AS 1012.5 Mass per Unit Volume of Freshly Mixed Concrete
- AS 1012.13 Shrinkage
- AS 1012.20 * Sulphate and Chloride in Concrete Aggregate
- AS 1012.21 * Water Absorption and Apparent Particle Density
- AS 1012.21 * Water Chloride and Sulfate Content

**AS 1141 - Methods of sampling and testing aggregates**
- AS 1141.4 Bulk Density
- AS 1141.5 Particle Density - Fine
- AS 1141.6.1 Particle Density - Coarse
- AS 1141.6.1 Particle Density - Weighted
- AS 1141.6.2 Particle Density - Coarse
- AS 1141.6.2 * Particle Density and Water Absorption of Coarse Aggregate
- AS 1141.7 * Apparent Particle Density of Filler
- AS 1141.11.1 Grading
- AS 1141.12 Finer than 75 µm
- AS 1141.13 Material Finer Than 2µm
- AS 1141.14 Particle Shape (2:1)
- AS 1141.14 Particle Shape (3:1)
- AS 1141.15 Flakiness Index
- AS 1141.16 Angularity Number
- AS 1141.17 * Voids in Dry Compacted Filler
- AS 1141.18 * Crushed Particles in Coarse Gravel Aggregate
AS 1141.19 Fine Particle Size Distribution By Sieving And Decantation
AS 1141.20.1 Average Least Dimension
AS 1141.20.2 Average Least Dimension
AS 1141.20.3 Average Least Dimension Calculation
AS 1141.21 Aggregate Crushing Value
AS 1141.22 Wet/Dry Strength Variation
AS 1141.23 Los Angeles Value
AS 1141.24 Sodium Sulphate Soundness
AS 1141.25.1 Degradation Factor – Source Rock
AS 1141.25.2 Degradation Factor – Coarse Aggregate
AS 1141.25.3 Degradation Factor – Fine Aggregate
AS 1141.26 Secondary Minerals Content in Igneous Rocks
AS 1141.30.1 Visual Comparison
AS 1141.31 Light Particles
AS 1141.32 Weak Particles
AS 1141.33 Clay and Fine Silt
AS 1141.34 * Organic Impurities
AS 1141.35 * Sugar
AS 1141.41 * Polished Aggregate Friction Value
AS 1141.50 Resistance to Stripping of Cover Aggregate Binders
AS 1141.51 Unconfined Compressive Strength
AS 1141.66 Methylene Blue Adsorption Value
AS 1141.72 Stabilisation Agent Content (Calibration and Test)

**AS 1289 - Methods of testing soils for engineering purposes**
AS 1289.1.4.1 Random Site Locations
AS 1289.1.4.2 Random Site Locations
AS 1289.2.1.1 Moisture Content
AS 1289.2.1.2 Moisture Content
AS 1289.2.1.6 Moisture Content
AS 1289.2.2.1 Moisture Content Correlation
AS 1289.3.1.1, AS 1289.3.2.1, AS 1289.3.3.1, AS 1289.3.4.1 Atterberg Limits
AS 1289.3.1.2, AS 1289.3.2.1 * Liquid & Plastic Limits - 1 Point
AS 1289.3.1.2, AS 1289.3.2.1, AS 1289.3.3.1, AS 1289.3.4.1 Atterberg Limits Casagrande
AS 1289.3.3.2 * Cone Plasticity Index
AS 1289.3.5.1 Soil Particle Density - Standard Method
AS 1289.3.6.1 Grading
AS 1289.3.6.2 Grading
AS 1289.3.6.2 Grading/Hydrometer
AS 1289.3.7.1 * Sand Equivalent
AS 1289.3.8.1 Emerson Class Number
AS 1289.3.8.2 * Soil Dispersion
AS 1289.3.8.3 Pinhole Dispersion Classification
AS 1289.3.9.1 Liquid Limit Cone Penetrometer
AS 1289.3.9.2 Liquid Limit Cone Penetrometer (One Point)
AS 1289.4.1.1 * Organics In Soil
AS 1289.4.3.1 * Soil pH
AS 1289.4.4.1 * Electrical Resistivity
AS 1289.5.1.1 Maximum Dry Density - Standard
AS 1289.5.2.1 Maximum Dry Density - Modified
AS 1289.5.3.1 Field Density Sand Replacement
AS 1289.5.3.2 Field Density Sand Replacement
AS 1289.5.4.1 Relative Compaction
AS 1289.5.4.2 Assigned Maximum Dry Density
AS 1289.5.5.1 Min/Max Dry Density Cohesionless
AS 1289.5.6.1 Density Index Method for a Cohesionless Material
AS 1289.5.7.1 Hilf Ratio and Converted Wet Density - Standard
AS 1289.5.8.1 Nuclear Field Density
AS 1289.5.8.1 Appendix A-A1 Nuclear Gauge Calibration
AS 1289.5.8.1 Appendix A-A3 Nuclear Gauge Calibration
AS 1289.5.8.2 Nuclear Field Density
AS 1289.6.1.1 California Bearing Ratio
AS 1289.6.2.2 * Shear Strength
AS 1289.6.3.1 * Determination of the Penetration Resistance of Soil
AS 1289.6.3.2 Determination of the Penetration Resistance
AS 1289.6.3.3 Determination of the Penetration Resistance
AS 1289.6.4.1 Compressive Strength of Soil
AS 1289.6.4.2 Compressive Strength of Soil
AS 1289.6.7.1 Permeability
AS 1289.6.7.2 Permeability
AS 1289.6.7.3 * Permeability
AS 1289.7.1.1 Shrink/Swell Index

AS 2341 - Methods of testing bitumen and related roadmaking products
AS 2341.2 Viscosity by Flow through Vacuum Capillary Tubes
AS 2341.7 Determination of Density using a Density Bottle
AS 2341.8 Determination of Matter Insoluble in Toluene
AS 2341.9 Determination of Water Content [Dean and Stark]
AS 2341.18 Softening Point of Bitumen
AS 2341.32 Determination of pH of Bituminous Emulsions

AS 2891 - Methods of sampling and testing asphalt
AS 2891.2.2 Compaction of Asphalt Specimens
AS 2891.3.1 Bitumen Content
AS 2891.3.3 Bitumen Content
AS 2891.5 Marshall Stability
AS 2891.7.1 Maximum Density
AS 2891.7.3 Maximum Density
AS 2891.8 Air Voids - 50 Cycles
AS 2891.8 Air Voids - 80 Cycles
AS 2891.8 Air Voids - 120 Cycles
AS 2891.8 Air Voids - 250 Cycles
AS 2891.8 Air Voids - 350 Cycles
AS 2891.8 Air Voids [Core]
AS 2891.8 Air Voids [Gyro]
AS 2891.8 Air Voids [Marshall]
AS 2891.9.1 Bulk Density
AS 2891.9.1 Core Density
AS 2891.9.2 [Field] Core Density
AS 2891.9.2 Bulk Density [Lab]
AS 2891.9.3 [Field] Core Density
AS 2891.9.3 Bulk Density
AS 2891.11 Degree of Particle Coating
AS 2891.13.1 Resilient Modulus of Asphalt [No Pre-Condition]
AS 2891.14.2 Appendix B, Density Offset
AS 2891.14.2 Nuclear Field Density
AS 2891.14.5 Dry Density Ratio

AS 3580 - Methods for sampling and analysis of ambient air
AS 3580.10.1 * Dust Gauge Analysis

AS 4133 – Methods of testing rocks
AS 4133.1.1.1 Moisture Content [Rock]
AS 4133.2.1.1 Rock Porosity
AS 4133.2.1.2 Rock Porosity
AS 4133.4.1 Rock Strength – Point Load
AS 4133.4.2.1 Rock Strength – Uni-axial

AS 5101 – Methods for the preparation and testing of stabilised materials
AS 5101.3.3 * Cement Content
AS 5101.4 Unified Compressive Strength

Australian Airports Association
AAA MT 001 Determination of the Marshall Test Properties of Asphalt Mixes for Airports
AAA MT 002 Determination of the Density Ratio of In-place Compacted Dense Graded Asphalt Mixes for Airports

Austroad Standards
AG:PT/T102 Protocol for Handling PMB in Laboratory
AG:PT/T108 Segregation of PMB
AG:PT/T109 Ease of Remixing PMB
AG:PT/T111 Handling Viscosity of Polymer Modified Binders (Brookfield Thermosel)
AG:PT/T122 Torsional Recovery of PMB
AG:PT/T131 Softening Point of Bitumen
AG:PT/T161 Determination of Dynamic Viscosity [Capillary Tube]
AG:PT/T220 Sample Preparation - Compaction of Asphalt Slabs
AG:PT/T231 Deformation Resistance of Asphalt Mixes by the Wheel Tracking Test
AG:PT/T232 Stripping potential of Asphalt - Tensile Strength Ratio
AG:PT/T233 Det. of Fatigue life of comp. bituminous mixes subjected to repeated flex. bending
AG:PT/T234 Bitumen Content
AG:PT/T235 Asphalt Binder Drain-off Test
AG:PT/T236 Asphalt Particle Loss
AG:PT/T250 Sand Patch - Modified Texture Depth
AG:PT/T251 Ball Penetration

Northern Territory Government Standards
NTCP 102.1Testing Field Compaction for Conformance NTCP 103.1Site Selection by the Stratified Random Technique NTTM 216.1Measurement of Layer Thickness

Queensland Main Roads
Q010 Moisture Content Correlation
Q050 Random Site Locations
Q101 * Preparation of Disturbed Samples
Q102A Moisture Content
Q102B Moisture Content
Q102C Moisture Content
Q102D Moisture Content
Q102E * Moisture Content
Q103A Particle Size Distribution of Soil - Wet Sieving
Q103B Particle Size Distribution of Soil
Q103C Particle Size Analysis of Soils - Hydrometer
Q104A/Q105/Q106 Atterberg Limits
Q104A/Q105/Q106 Atterberg Limits
Q104D/Q105/Q106 Atterberg Limits (One Point Liquid Limit)
Q104D/Q105/Q106 Atterberg Limits (One Point Liquid Limit)
Q109 * Apparent Particle Density of Soil
Q109A * Apparent Particle Density of Soil
Q109B * Apparent Particle Density of Soil
Q110A Maximum Dry Density - Standard
Q110B Maximum Dry Density - Modified
Q110C Maximum Dry Density - Standard
Q110D Maximum Dry Density - Modified
Q110E * Laboratory Compaction of Nominated Levels of Dry Density and Moisture Content
Q110F Assigned Maximum Dry Density
Q111A Field Density Sand Replacement
Q111B Treatment of Oversize Material *
Q111B, Q111C, Q111D Dry Density Ratio and Degree of Saturation
Q112 Nuclear Gauge Relative Compaction of Soil
Q113A California Bearing Ratio
Q113A California Bearing Ratio - Multipoint
Q113B California Bearing Ratio
Q113B California Bearing Ratio - Multipoint
Q113C California Bearing Ratio
Q113C California Bearing Ratio - Multipoint
Q114B Insitu California Bearing Ratio [Dynamic Cone Penetrometer]
Q115 Unconfined Compressive Strength
Q129 Clay Index
Q132A Min/Max Dry Density Cohesionless
Q132B Density Index Method for a Cohesionless Material
Q134 Calibration Heat of Neutralisation for Stabilisation Agent Content
Q134 Test Procedure Heat of Neutralisation for Stabilisation Agent Content
Q140B Density Index of a Cohesionless Material
Q141A Compacted Density of Soils and Crushed Rock [Nuclear Gauge]
Q141B Compacted Density of Soils & Crushed Rock [Sand Replacement]
Q142A Dry Density – Moisture Relationship [Standard Compaction]
Q142B Maximum Dry Density
Q142E Minimum and Maximum Dry Density of a Cohesionless Material
Q144A Assigned Maximum Density
Q145A Laboratory Compaction to Nominated Levels of Dry Density and Moisture
Q153 * Standard Penetrometer Test
Q201 Flakiness Index
Q201A Flakiness Index
Q202 Average Least Dimension - Direct Method
Q202 Average Least Dimension - Indirect Method
Q204A Aggregate Crushing Value
Q204BAggregate Crushing Value
Q205A Dry Strength
Q205A/B/C Wet/Dry Strength Variation
Q205B Wet Strength
Q205C Wet/Dry Strength Variation
Q206 Los Angeles Value
Q208A Degradation Factor
Q208B Degradation Factor
Q209 Sodium Sulphate Soundness
Q210B * Organic Impurities
Q212A Bitumen Stripping Value [Standard Plate]
Q212B Bitumen Stripping Value [Modified Plate]
Q213 Particle Shape [Proportional Calliper]
Q214A Particle Density - Fine
Q214B Particle Density - Coarse
Q214C * Particle Density - Coarse
Q215 * Crushed Particles
Q216 * Degree of Aggregate Precoating
Q217 * Weak Particles
Q221A Loose Unit Mass Of Aggregate
Q221B Compacted Unit Mass of Aggregate
Q305A Marshall Stability, Flow & Stiffness

Australian Test Methods | Page 6
Q306A Compacted Density - Wax Sealed
Q306B Compacted Density – Presaturation
Q306C Compacted Density - Silicone Sealed
Q306E Nuclear Field Density
Q307A Maximum Density of Asphalt (Water Displacement)
Q308A Bitumen Content & Grading of Asphalt (Reflux Method)
Q308D Bitumen Content & Grading of Asphalt (Ignition Oven)
Q311 Voids Calculations for Compacted Mix
Q314 Relative Compaction
Q330 Determination of Dynamic Viscosity (Capillary Tube)
Q334 Softening Point of Bitumen
Q342 Torsional Recovery of Polymer Modified Binders
Q343 Handling Viscosity of Polymer Modified Binders (Brookfield Thermosel)
Q344 Protocol for Handling PMB in Laboratory
Q345 Segregation of PMB
Q346 Ease of Remixing PMB
Q451A * Slump Test
Q455A * Compression and Indirect Tensile Test
Q705 Sand Patch - Modified Texture Depth
Q706 Ball Penetration
Q712 3 metre Straight Edge

Vic Roads
RC 201.01 * Binder Thickness
RC 210.06 Bitumen Content
RC 210.07 Bitumen Content
RC 302.11 Flakiness Index
RC 302.12 * Median Size and Average Least Dimension
RC 316.00 Lot Conformity
RC 316.00 Density Offset
RC 316.10 Random Site Locations
RC 372.01 Visual Assessment
RC 372.04 * Foreign Materials in Crushed Concrete

NSW RMS
RMS R116 Insitu Air Voids
RMS Q6 Random Site Locations
RMS T102 * Pretreatment of Road Material by Compaction
RMS T103 * Pretreatment of Road Material by Artificial Weathering
RMS T106 Grading
RMS T106, T107 Grading
RMS T107 Grading
RMS T108, RMS T109, RMS T113 Atterberg Limits
RMS T111 Maximum Dry Density – Standard
RMS T112 Maximum Dry Density - Modified
RMS T114 Max Dry Compressive Strength
RMS T116 * Unconfined Compressive Strength
RMS T117 California Bearing Ratio
RMS T119 * Density of Road Materials - Sand Replacement
RMS T120 Moisture Content
RMS T121 Moisture Content
RMS T130 Maximum Dry Density
RMS T131 Unconfined Compressive Strength
RMS T132 California Bearing Ratio
RMS T136 * Rate of Spread of Lime or Cement
RMS T160, RMS T199 Benkelman Beam
RMS T161 * Dynamic Cone Penetrometer
RMS T162 Converted Wet Density
RMS T164 Min/Max Dry Density Cohesionless
RMS T164 Min/Max Dry Density Cohesionless by Vibration
RMS T166 Relative Compaction
RMS T171 Triaxial
RMS T173 Nuclear Field Density
RMS T180 Moisture Content
RMS T183 Straight Edge Testing
RMS T190 Grading/Hydrometer
RMS T201 Particle Distribution of Aggregates (by washing)
RMS T202 Friable Particles in Aggregates
RMS T203 Particle Size Distribution [Finer 75µm]
RMS T204 Los Angeles Value
RMS T205 Aggregate Crushing Value
RMS T208 Water Adsorption - Coarse
RMS T209 Particle Density - Coarse
RMS T210 Particle Density - Fine
RMS T211, RMS T212 Bulk Density
RMS T213 Particle Shape (2:1)
RMS T213 Particle Shape (3:1)
RMS T215 Wet/Dry Strength Variation
RMS T223 Rock Strength – Point Load
RMS T230 Resistance to Stripping of Aggregates and Binders
RMS T235 Average Least Dimension
RMS T238 Initial Adhesion of Cover Aggregates and Binders
RMS T239 Fractured Faces
RMS T240 Texture Depth of Coarse Textured Road Surfaces RMS T260 Organic Impurities
RMS T262 Moisture Content
RMS T264 Total Soluble Salts
RMS T266 Sodium Sulphate Soundness
RMS T268 Clay And Fine Silt
RMS T269 * Sugar
RMS T270 Material Finer Than 2µm
RMS T275 Average Least Dimension
RMS T276 * Foreign Materials Content of Recycled Crushed Concrete
RMS T312 Shrinkage
RMS T318 Moisture Content - Saturated Surface Dry
RMS T319 Moisture Content - Saturated Surface Dry
RMS T363 * Alkali Reactivity
RMS T368 Dressing of voids in concrete specimens and adjustment for embedded steel
RMS T607 Bitumen Content & Grading (Refux Method)
RMS T640 Propensity for Stripping of Bituminous Mixes
RMS T649 Retained Resilient Modulus Ratio RMS T659 Methylene Blue Absorption Value of road construction material RMS T662 Compaction of Asphalt Test Specimens (using a Gyratory Compactor)
RMS T1010 * Chloride In Soil
RMS T1011 * Sulphate In Soil

Transport SA
TSA-MAT-TP061 Site selection by stratified random number
TSA-MAT-TP134 Grading
TSA-MAT-TP141, TSA-MAT-TP143 Atterberg Limits
TSA-MAT-TP166 Maximum Dry Density - Standard
TSA-MAT-TP195 Cement Content
TSA-MAT-TP230 Grading
TSA-MAT-TP240 Elongation Index
TSA-MAT-TP241 Flakiness Index
TSA-MAT-TP244 * Percentage of Flat particles
TSA-MAT-TP428 Compaction of Asphalt Specimens
TSA-MAT-TP435 Maximum Density
TSA-MAT-TP436 Bulk Density
TSA-MAT-TP437 Bulk Density (Lab)
TSA-MAT-TP470 Bitumen Content
TSA-MAT-TP705 * Aggregate Stripping Value

Main Roads WA
WA 0.1 Random Site Locations
WA110.1 Moisture Content
WA110.2 Moisture Content
WA115.1 Grading
WA115.2 Grading
WA120.1, WA121.1, WA122.1, WA123.1 Atterberg Limits (incl. CPL or LL charts)
WA132, WA133 Assigned Maximum Dry Density
WA132.1 Dry Density/Moisture Content Relationship [Standard] - Fine & Medium Grained Soils
WA132.2 Dry Density/Moisture Content Relationship [Standard] - Coarse Grained Soils
WA133.1 Dry Density/Moisture Content Relationship [Modified] - Fine & Medium Grained Soils
WA133.2 Dry Density/Moisture Content Relationship [Modified] - Coarse Grained Soils
WA134.1, WA136.1 - 2012 Dry Density Ratio and Moisture Ratio
WA135.2 Nuclear Gauge Calibration
WA140.1 * Max Dry Compressive Strength
WA141.1 California Bearing Ratio
WA210.1 Aggregate Grading and Bitumen Extraction
WA212.1 Moisture Content
WA212.2 Moisture Content
WA216.1 Flakiness Index
WA220.1 Los Angeles Value
WA250.1 * Colour of Aggregate
WA 324.1 Dry Density (Sand Replacement)
WA 324.2 Field Density (Nuclear)
WA717.1 Bitumen Dispersion In Soil
WA730.1 Bitumen Content and Particle Size
WA731.1 Marshall Stability & Flow
WA733.1 Voids & Density Relationships - Marshall (Field & Lab)
WA733.2 Voids & Density Relationships - Vacuum Sealing (Field & Lab)
WA910.1 * Chlorides and Total Soluble Salts in Soil and Water
WA915.1 Calcium Carbonate Content
WA2040.2 Nuclear Gauge Calibration

*Indicates an electronic worksheet that allows for the entry of test results and other data required for reporting only [does not perform calculations].

Note: Although every effort has been made to ensure that the above information is correct, Spectra QEST makes no guarantee as to its accuracy.