

## Australian and New Zealand Standard Method of Measurement 2018

### NZ Guidance Notes – produced by NZIQS

These guidance notes are provided to ease the transition from using the NZS4202 method of measurement to using this new trans-Tasman method of measurement; the *Australian and New Zealand Standard Method of Measurement 2018 (ANZSMM 2018)*.

ANZSMM 2018 is based on the *Australian Standard Method of Measurement 6th Edition (ASMM6)*. Some changes have been made to ASMM6 to recognise industry practice in New Zealand.

These guidance notes aid use of this standard within the New Zealand tendering market. The notes highlight any significant differences between Australian and NZ practice in each trade section and make some recommendations for adaption in NZ. Regional variances have been ignored and larger region trends adopted as the standard. This does not restrict users from applying regional preferences as their style of measurement. This is only a guide.

Methods of measuring in general are not changed, but users will notice some changes in the ways of expressing quantum.

Health and Safety Act requirements have been referred to only in these guidance notes and may require the user researching the Act for full definitions of requirements. This applies particularly to working spaces and planking and strutting protection, previously measured from tabulated guides in NZS4202. These requirements must be measured in accordance with the Act.

Some aspects of how NZS4202 specifics were derived has been researched and the answers not found. For this reason, Australian SMM principles including generally one-category narrow width items, measurement of pipe fittings larger than 32mm dia., additional height and length identifications, and others have been adopted. There is also no reference to extra value items. Take care to follow the new ANZSMM 2018 standard as this will be the new measurement rules to follow.

There are references in the standard that may not occur in New Zealand descriptions. They include: “rat baffles”, “ant traps”, “kerbing wall” and “reglets”. Simply ignore the need to measure these items in New Zealand.

A “Bill of Quantities” (Australian terminology) is a “Schedule of Quantities” (NZ terminology).

The removal of Asbestos is a developing issue in construction demolition, building alterations and extensions. Like the Health and Safety Act requirements, asbestos removal needs to be researched by measurers and appropriate and applicable items scheduled to cover the intended and specified works.

In some instances, traditional New Zealand trade items are spread over more than one ANZSMM 2018 trade. Adopt regionally appropriate trade sections for such measurement.

### **QUERIES/FEEDBACK**

Please contact the NZIQS Executive Director, [marilyn.moffatt@nziqs.co.nz](mailto:marilyn.moffatt@nziqs.co.nz) 04 4735521, if you have any queries, comments or suggested additions to these Guidance Notes.

### **DISCLAIMER:**

**References in these guidance notes are for the first edition (2018) of ANZSMM. They represent some indicative principles that have been identified or possible differences in philosophy that have been adopted in this method of measurement. However, this is not an all-inclusive list and must not be viewed as such. Reference to all relevant clauses in ANZSMM 2018 is essential when measuring or pricing any trade or section to comply with this code.**

TRADE SECTION	NOTES
<b>1. Introduction, General Rules and Recommendations</b> <b>Page 4</b>	This section is a must read for anybody using ANZSMM for the first time as it provides a very important over-view of the document and the measurement philosophy. It covers a range of generic explanations that apply to most trade sections and should also be used as a regular reference or reminder as to how different situations are handled. This includes descriptions, measurement, terminology and principles, billing units, circular work, abbreviations and even work in an uncommon situation. Pay attention to the following clauses:
<b>Item 3. Measurement</b> <b>Page 4</b>	<b>3.4</b> refers to standard deduction sizes, however some trades give specific deducible areas, in which case you follow the trade section recommendation.
<b>Item 15. Use of the Tabulated Rules</b> <b>Page 7</b>	Explains the use of the tabulated rules set out in ANZSMM 2018. Each section comprises classification tables and supplementary rules: Measurement Rules, Measurement & Prices and Definitions. Refer Appendix I: Tabulated Rules Format for more information on NZIQS website <a href="http://www.nziqs.co.nz">www.nziqs.co.nz</a>
<b>Item 16. Measurement and Prices Clause</b> <b>Page 8</b>	<b>16.1</b> notes that in a schedule of quantities, any amendment to the ANZSMM standard measurement and prices clauses will be stated (in the schedule of quantities). This continues to allow the flexibility to adapt measurement rules to meet certain circumstances. The commonly used generic clause <i>This schedule of quantities is generally measured in accordance with ANZSMM</i> may not meet the intent of this deviation rule and is more applicable when less information is presented rather than when more detail is provided.
<b>Item 17. Symbols and Abbreviations</b> <b>Page 8</b>	It is essential to be able to distinguish the difference between symbols used, especially “ <i>greater than</i> ” and “ <i>equal to and greater than</i> ”, and “ <i>less than</i> ” and “ <i>equal to and less than</i> ”
<b>2. Preliminaries</b> <b>Page 9</b>	The Preliminaries section is very extensive and contains 8 classifications. The first 7 include information only items that generally have no direct project costs: <ol style="list-style-type: none"> <li>1. names of parties</li> <li>2. description of site</li> <li>3. description of works</li> <li>4. conditions of contract</li> <li>5. tender conditions</li> <li>6. bills (schedules) of quantities</li> <li>7. contingencies. <b>Note:</b> Contingency sum in this section must now be measured in <i>Section 39 Included Sums</i></li> </ol> # 8 general particulars: contains commonly recognised Preliminaries items that are project specific and come under the two headings: <ol style="list-style-type: none"> <li>1. contractual conditions items 1 – 24</li> <li>2. site conditions items 25 - 53</li> </ol> For both sections measure the necessary items as required for the project and as regionally appropriate.

<p><b>3. Demolition</b> <b>Page 13</b></p>	<p>Details asbestos removal but ensure you comply with all <a href="#">NZ Health &amp; Safety requirements</a>.</p> <p>Provide a more expansive breakdown of building components if regionally appropriate.</p>
<p><b>4. Groundworks</b> <b>Page 15</b></p>	<p><i>Tree removals</i> have girth categories.</p> <p><i>Surface excavation</i> -measured m<sup>3</sup> - include the area in m<sup>2</sup>.</p> <p><i>Trench and deep excavation</i> - measured in m<sup>3</sup> in 1.0m increments.</p> <p>Describe excavation in rock as “extra over”.</p> <p><i>You are required to state the “Extra width for boxing space”</i>. Recommended that boxing space aligns with <a href="#">Health &amp; Safety at Work Act Regulation 24</a> depth staging. Traditional NZ boxing space rules for these depth categories are:</p> <p style="padding-left: 40px;">up to 1.5m – 600mm boxing space</p> <p style="padding-left: 40px;">1.5 to 3m – 1.0m boxing space</p> <p style="padding-left: 40px;">3m to 6m – 1.3m boxing space</p> <p><i>Planking and Strutting</i> – item to maintain faces of all excavation m<sup>2</sup>– in 1.0m increments.</p> <p><i>Backfilling</i> - measured in m<sup>3</sup> stating total depth in 1m increments.</p> <p><i>Filling</i> – measured up to 250mm in m<sup>2</sup> and over 250mm in m<sup>3</sup>.</p> <p><i>Underpinning</i> - single 1.5m working space and total depth identified in 1m increments. Includes 2 items for maintaining faces of excavation. Measure as required to follow Engineers specification.</p> <p><i>Paper &amp; plastic membranes</i> -simplistic approach of one all-inclusive area m<sup>2</sup> item including edge details. This contrasts with Section 11 Tanking &amp; Waterproof Membrane to wet trades where up to 250mm wide measures in metres – some consistency in rules could be regionally appropriate.</p> <p>Adapt and present a more detailed breakdown as regionally appropriate.</p>
<p><b>5. Piling</b> <b>Page 24</b></p>	<p>Expand for different pile types.</p> <p>Measure in separate sections if regionally appropriate.</p> <p>Some pile lengths grouped in increments of 1m or 2m for fabrication and driving.</p>
<p><b>6. Concrete</b> <b>Page 29</b></p>	<p>Footings have an area classification.</p> <p>m<sup>3</sup> grouping of slabs in 100mm thick stages with area in m<sup>2</sup>.</p> <p>m<sup>3</sup> grouping of walls in 50mm thick stages with area in m<sup>2</sup>.</p> <p>Add additional items If regionally appropriate.</p>
<p><b>7. Formwork</b> <b>Page 35</b></p>	<p>Measured in m<sup>2</sup> and in m for 250mm wide or less.</p> <p>All column and beam formwork -measured in m<sup>2</sup> (no narrow widths).</p> <p>Slabs greater than 200mm thick stated in soffit formwork.</p> <p>Soffit formwork greater than 3m high above finished floor level measured in 1m increments.</p>

	<p>Note increments and rules for measuring penetrations.</p> <p>Note increments for formations (chases, grooves, rebates, etc).</p> <p>Note separate rules for permanent metal formwork.</p> <p>Note separate rules for slip form formwork.</p>
<p><b>8. Reinforcement</b> <b>Page 43</b></p>	<p>Use kg where measured in tonnes.</p> <p>Provide separate items for each size of bars for NZ increments.</p> <p>Include laps to all bars - as shown, nominated by Engineer (or at 8 metre centres for NZ).</p> <p>Add lap length to the overall length measured.</p>
<p><b>9. Prestressing</b> <b>Page 45</b></p>	<p>Incremental grouping for core or duct items.</p> <p>Assume Post Tension work has similar items.</p>
<p><b>10. Precast Concrete</b> <b>Page 47</b></p>	<p>No detailed quantities or separate fixings are measured.</p> <p>Mass (weight) and lifting height stated.</p> <p>Include lifting eyes as required.</p> <p>Add additional items if regionally required.</p>
<p><b>11. Tanking and Waterproof Membranes</b> <b>Page 49</b></p>	<p>Measure polythene sheet and DPM to wet trades m<sup>2</sup> in this section with up to 250mm wide in m.</p>
<p><b>12. Masonry (Brickwork and Blockwork)</b> <b>Page 51</b></p>	<p>The terminologies used in these sections refer to UK and Australian trades. Use regionally appropriate terminology.</p> <p>Measure net area in m<sup>2</sup> including pointing, deducting all special blocks.</p> <p>Measure skins of cavity walls.</p> <p>Measure all special blocks in m inclusive of all angles, corners, ends, etc.</p> <p>Measure extra labour for setbacks or projections.</p>
<p><b>13. Stonework</b> <b>Page 61</b></p>	<p>The terminologies used in these sections refer to UK and Australian trades. Use regionally appropriate terminology.</p> <p>Measure 500mm or less thick stonework in m<sup>2</sup>.</p> <p>Measure over 500 thick stonework in m<sup>3</sup> and include face area m<sup>2</sup>.</p> <p>Note increments for stone sizes.</p> <p>Note extensive range of other measurement rules.</p>
<p><b>14. Structural Steel</b> <b>Page 71</b></p>	<p>Use kg where measured in tonnes.</p> <p>Separately measure main steel sections and state type, size, number and length.</p> <p>Steel lengths rounded to 0.1m length for mass calculations.</p> <p>Identify if welded, bolted or riveted.</p> <p>Measure items for attached and loose connection plates.</p>

	<p>Site welding and bolts are measured.</p> <p>Steel is classified by levels.</p> <p>Measure Item for heaviest lift and height.</p> <p>Measure as regionally appropriate including hollow section and tube in m.</p>
<b>15. Metalwork</b> <b>Page 77</b>	<p>Note extensive range of items and rules.</p> <p>As regionally appropriate, describe and measure in No. or m giving the weight.</p>
<b>16. Roofing</b> <b>Page 84</b>	<p>General roofing turnups and turndowns included in main area m<sup>2</sup>.</p> <p>Describe roofing turnups and turndowns in m (NOT extra value).</p> <p>Includes gutters and downpipes in measurement rules.</p> <p>Sarking is measured in Carpentry section.</p>
<b>17. Façade Systems</b> <b>Page 92</b>	<p>This trade section can be made up of several trades in NZ and should be measured in those trade sections as appropriate.</p> <p>A range of separate items listed is to be measured in m<sup>2</sup>, m and No.</p>
<b>18. Windows</b> <b>Page 95</b>	<p>This trade covers timber and metal windows.</p> <p>Includes flashings in m, girth in 250mm increments.</p> <p>Includes glass m<sup>2</sup> with Section 19 Glazing rules.</p> <p>Measure as regionally appropriate.</p>
<b>19. Glazing</b> <b>Page 97</b>	<p>Glazing- measured in m<sup>2</sup> in increments of 0.5 to 2.5, then 2.5 increments.</p>
<b>20. Carpentry</b> <b>Page 100</b>	<p>Building wrap and cavity systems to be measured in this section in m<sup>2</sup>.</p> <p>Structural timbers greater than 3.6 m in increments measured as: 3.6m-6m, 6m-7.5m, 7.5-9m.</p> <p>Linings- measured in m<sup>2</sup>, measure in m where less than 250mm wide except where caused by openings.</p> <p>Some labours described where required with relevant classification section.</p> <p>Herringbone strutting could be substituted with solid blocking.</p> <p>Bolts-state length in increments of 100mm.</p>
<b>21. Partitions</b> <b>Page 108</b>	<p>Prefabricated modular (toilet) partitions all-inclusive m<sup>2</sup> or No. if 500mm wide or less.</p> <p>Metal Framing to walls and partitions (can include lining) -measure in 1m height increments in m<sup>2</sup>; corners, angles et. In m and openings in No.</p> <p>Composite partitions- measure in 1m high increments in m<sup>2</sup>; corners, angles etc. m and openings No.</p> <p>Fire Rated Partitions with all linings- measure in 1m height increments in m<sup>2</sup>; corners, angles etc m and openings No.</p> <p>Measure as regionally appropriate.</p>

<b>22. Suspended Ceilings</b> <b>Page 114</b>	Describe the ceiling height and void if over 3.5m above Finished Floor Level. Work around sprinklers etc. is included in m <sup>2</sup> rate. Forming big openings measured as No.
<b>23. Access Floors</b> <b>Page 116</b>	Note -a unique trade. Measure work up to 250mm wide in m, greater than 250mm in m <sup>2</sup> . Access panels etc- measure in No.
<b>24. Doors</b> <b>Page 117</b>	Includes metal and timber doors. Includes hinges or track. Include glass with Section 19 Glazing rules. Frames are in the carpentry section. Measure grouping as regionally appropriate.
<b>25. Hardware</b>	Includes, locks, latches, handles. Includes sash geared openers. Measure grouping as regionally appropriate.
<b>26. Applied Finishes, Render and Textured Finishes</b> <b>Page 119</b>	Includes multi trades. Areas of walls - measured 50mm higher where suspended ceilings. Ceilings include height 1m increments above 3.5m. Provide preamble that edge labours included in m <sup>2</sup> rates. Stopping to be measured separately. Note special measurement rules to existing work. Measure grouping as regionally appropriate.
<b>27. Tiling, Slab and Paving</b> <b>Page 124</b>	Measure isolated surfaces 1m <sup>2</sup> or less separately. Measure narrow widths 250mm wide or less in m. Measure edge tiles if appropriate. Measure work around pipes, toilet fittings if appropriate. Measure pointing if appropriate. Skirtings -measure in m, inclusive of corners, angles.
<b>28. Carpet and Resilient Finishes</b> <b>Page 129</b>	Underlays etc. included in main item. Measure isolated surfaces 1m <sup>2</sup> or less separately. Measure narrow widths 250mm wide or less in m. Use generic deductible openings size. Note if surface areas are interrupted. Skirtings – measure in m, inclusive of corners, angles. No separate cleaning item measured.

<p><b>29. Painting</b> <b>Page 133</b></p>	<p>Quantities are taken from other trades with common separation of location. Generally measured in m<sup>2</sup> inclusive of associated returns, reveals, etc.</p> <p>Measure separately narrow widths not exceeding 250mm width or girth <b>only where different specification from surrounding work such as fascia, barge skirting.</b></p> <p>Glazed areas- measured flat overall m<sup>2</sup>.</p> <p>Reveal linings, sill boards, architraves, etc. to doors &amp; windows included with m<sup>2</sup> doors and window items.</p> <p>Profiled areas in m<sup>2</sup> follow profile.</p> <p>State height where flat or sloping ceiling soffit is greater than 3.5m above finished floor level.</p>
<p><b>30. Joinery</b> <b>Page 137</b></p>	<p>Remember doors, windows and hardware are separate sections.</p> <p>No detailed quantities required but fully describe component parts and labours. Include all hardware.</p> <p>Use different grouping and additional detail where regionally appropriate.</p>
<p><b>31. Furniture, Fittings and Equipment</b> <b>Page 139</b></p>	<p>This is a new section focusing on proprietary furniture &amp; equipment. Includes hospital items, curtains, soft furnishings, art work.</p> <p>Include all hardware.</p>
<p><b>32. Hydraulics</b></p>	<p>Think of all pipework trades as in this section.</p> <p>Identify basis of pipework measured where no pipeline drawings provided. Subtrades are measured separately if regionally appropriate.</p> <p>Measurement of pipe fittings larger than 32mm dia.</p> <p>Amend presentation and identify where larger than 25mm dia. pipe fittings. measurement is regionally more appropriate.</p> <p>Same rules as pipework for separate measurement of lagging.</p> <p>Only fire rated sleeves measured.</p> <p>Some special connections/joints measured.</p> <p>Separate pipework between branches and stacks.</p> <p>Note special rules for glass pipework.</p> <p>Specially designed brackets or hangers are measured.</p> <p>Trenches included with pipework in ground unless regionally appropriate to separate.</p>
<p><b>33. Drainage</b> <b>Page 147</b></p>	<p>Trenches included with pipework in ground unless regionally appropriate to separate.</p> <p>Trenches - measured in 1m depth increments.</p> <p>Fittings to all pipework measured.</p> <p>Manholes- measured in 500mm depth increments.</p> <p>Note specific rock excavation measurement requirements.</p>

<p><b>34. Electrical Installations</b> <b>Page 151</b></p>	<p>Trenches included with cables in ground unless regionally appropriate to separate.</p> <p>Cable carriers- measured in m with fittings 150mm wide or bigger measured in No.</p> <p>Conduit - measured in m with fittings bigger than 100mm dia. measured in No.</p> <p>Special boxes to conduit - measured in No.</p> <p>Cable lengths include tails per m (mains &amp; sub-mains).</p> <p>Cable measurements per circuit- measured in No. (unless actual cable runs shown for cable lengths).</p> <p>All switches, outlets and fittings - measured in No.</p> <p>Light fittings include lamps and tubes.</p>
<p><b>35. Mechanical Installations</b> <b>Page 159</b></p>	<p>Identify basis of mechanical installations measured where no installation drawings provided.</p> <p>Measure ductwork &amp; associated fittings by area m<sup>2</sup> per ductwork measurement rules in previous NZS 4202. Refer on <a href="http://www.nziqs.co.nz">http://www.nziqs.co.nz</a></p> <p>Internal or external insulation is included with the ductwork where applicable.</p> <p>Include seismic joints.</p> <p>Specially designed brackets and hangers – measured in No.</p> <p>Any associated pipework measured as Section 32 Hydraulics.</p>
<p><b>36. Transportation Services</b> <b>Page 167</b></p>	<p>Speed of travelators and lifts to be stated.</p> <p>Temporary protection panels measured.</p>
<p><b>37. Exterior Elements</b> <b>Page 168</b></p>	<p>Follow standard trade measurement principles of the trades covered in this section.</p>
<p><b>38. Fire Protection</b> <b>Page 172</b></p>	<p>Identify basis of Fire Protection installation measured where no installation drawings provided.</p> <p>Follows basic pipe, plant and outlet measurement principles with larger than 32 dia. fittings measured.</p>
<p><b>39. Included Sums</b> <b>Page 173</b></p>	<p>Summary of all sums in the project.</p> <p>The Trade location in the schedule of quantities of the priced PC Sums to be identified.</p> <p>Additional Items where relevant will be included for any oncost.</p>