

## **SECTION 175 - REFERENCED DOCUMENTS FOR STANDARD SPECIFICATIONS FOR ROADWORKS AND BRIDGEWORKS**

### **175.01 GENERAL**

This section provides a list of current companion documents referenced in the Wyndham City Council Specification. ~~VicRoads Standard Specifications for Roadworks and Bridgeworks.~~

The referenced documents in this section take precedent over any other referenced documents in other Standard Sections.

### **175.02 VICROADS STANDARD SPECIFICATIONS FOR ROADWORKS AND BRIDGEWORKS SECTIONS**

The VicRoads Standard Specification Series referred to in this section are as follows:

- Section 100 Series – General
- Section 200 Series – Formation
- Section 300 Series – Flexible Pavements
- Section 400 Series – Asphalt and Surface Treatments
- Section 500 Series – Concrete Pavements
- Section 600 Series – Bridgeworks
- Section 700 Series – Incidental Construction
- Section 800 Series – Materials

### **175.03 HIERARCHY OF DOCUMENTS**

The following hierarchy of documents shall be used if there is conflict between any referenced documents and the specification whereby the higher listed documents shall take precedence over lower listed documents:

- Acts of Parliament and Regulations (Federal / Victorian)
- ~~Contract Specific Clauses~~
- Standard Section 175
- All other Standard Specification Sections
- VicRoads Codes of Practice and Bridge Technical Notes
- Australian Standards (except test methods)
- VicRoads Test Methods
- Australian Standards Test Methods
- Austrroads Test Methods
- Other Standards and Test Methods
- VicRoads Technical Bulletins
- Austrroads Guideline Documents and Guides
- Other Publications

## 175.04 APPLICATION AND ACCESS TO REFERENCED DOCUMENTS

### Parliamentary Legislative Documents

These documents shall be obtained through the appropriate level of Government, either Federal or Victorian and are statutory requirements referred in Standard Sections. A copy of the document can be viewed on the relevant Government web site. These documents are referenced in Table 175.051.

### Australian Standards

Australian Standards are commonly referenced to reduce the size of the specification document. If only part of the Australian Standard is to apply, the relevant Standard Section will specify particular and/or alternative requirements. Whenever there is conflict between the Australian Standard and the Standard Section, the Standard Section shall take precedent over the Australian Standard. A list of current Australian Standards with a brief description of each can be viewed on the Standards web site <http://www.standards.org.au/>. These documents are referenced in Table 175.061.

### Australian Standard Test Methods

Australian Standard Test Methods are also listed in this section and are to be used unless there is an applicable VicRoads Test Method listed. The Contractor is expected to become familiar with relevant Australian Standard Test Methods applicable to particular materials or groups of materials that are referenced by the Australian Standard or VicRoads Codes of Practice. Where there is choice of more than one Australian Standard Test Method, the Test Method to be used is specified in either VicRoads Code of Practice 500.05 or 500.16 or by separate reference within this section.

Australian Standard Test Methods shall be obtained directly from Standards Australia, GPO Box 476, Sydney NSW 2001. A list of current Australian Standard Test Methods with a brief description of each can be viewed on the Standards web site <http://www.standards.com.au/>. These documents are referenced in Table 175.061.

### VicRoads Codes of Practice and Bridge Technical Notes

VicRoads Codes of Practice and Bridge Technical Notes are companion documents to the VicRoads Standard Specifications and may or may not be referenced in the Standard Specifications. The Contractor is expected to obtain copies of the Codes of Practice or Bridge Technical Notes to be read in conjunction with the Standard Specifications. The relevant Codes of Practice or Bridge Technical Notes as applicable to each Standard Section are specified in this section.

All current Codes of Practice and Bridge Technical Notes can also be accessed from the VicRoads website <http://www.vicroads.vic.gov.au/>. These documents are referenced in Table 175.071.

### VicRoads Test Methods

All Testing Laboratories are expected to become familiar with the contents of the VicRoads Manual of Test Methods. The Test Methods to be used are specified in either VicRoads Code of Practice 500.05 or 500.16 or by separate reference within this section. VicRoads Test Methods, if applicable, shall take precedent over all other Test Methods.

All current VicRoads Test Methods can be accessed from the VicRoads website <http://www.vicroads.vic.gov.au/>. These documents are referenced in Table 175.081.

### Austrroads Test Methods

Austrroads has produced a series of Test Methods for Bituminous Products. The Austrroads Test Methods to be used will be either listed in this section or listed in VicRoads Code of Practice 500.16. If there is to be a variation in the Austrroads Method, the variation will be described in Code of Practice 500.16 or in the relevant Standard Specification Section.

The current Austrroads Test Methods can be obtained from the Austrroads Web Site <http://www.austrroads.com.au/>. These documents are referenced in Table 175.091.

### VicRoads Technical Bulletins

VicRoads has produced a number of Technical Bulletins. These or parts of these documents may form part of this Specification if referenced in the relevant Standard Section.

VicRoads Technical Bulletins can be accessed from the VicRoads website <http://www.vicroads.vic.gov.au/>. These documents are referenced in Table 175.111.

### Austrroads Guides and Specification Framework Documents

Austrroads has produced a number of specification framework and guideline documents listed in this section. These or parts of these documents may form part of this Specification as specified in the relevant Standard Section.

Austrroads Specification Framework and Guideline documents can be purchased from the ARRB Group, 500 Burwood Highway, Vermont South. These documents are referenced in Table 175.121.

### Other Documents and International Standards

Other referenced standards, test methods and documents produced by organisations not mentioned above, are also specified in this section, e.g. ASTM, BS, ISO, RTA and APAS.

These documents shall be obtained from Australian Standards or the relevant publishing authority responsible for the document.

These documents are referenced in Table 175.101 (standards and test methods) and Table 175.131 (for other referenced documents).

## 175.05 PARLIAMENTARY LEGISLATIVE DOCUMENTS

Table 175.051 lists the Parliamentary Legislative Documents that are applicable to the relevant Standard Specification Sections.

All documents listed in this Standard Section shall include all supplements and amendments to the documents, unless otherwise stated within contract specification documents or by Superintendent. Documents that have been reconfirmed are denoted by "R(reconfirmed year)".

**Table 175.051 Parliamentary Legislative Documents**

Document	Standard Specification Section						
Aboriginal Heritage Act 2006 (Vic)	176 177						
Australian Government Building and Construction WHS Accreditation Scheme	168						
Building and Construction Industry (Consequential and Transitional Provisions) Act 2016	168						
Fair Work (Building Industry—Accreditation Scheme) Regulation 2016	168						
Catchment and Land Protection Act (CALP) (1994)						720 750	
Dangerous Goods (Storage and Handling) Regulations 2012	176 177						
Electricity Safety (Electric Line Clearance) Regulations 2015						752	
Emergency Management Act 2013						750 751 752	
Environment Protection Act 1970 (Vic)	176 177					750 752	
Public Health and Wellbeing Act 2008						750 752	

Table 175.051 Parliamentary Legislative Documents ... continued

Document	Standard Specification Section						
Heritage Act 2017 (Vic)	176 177						
Land Acquisition and Compensation Act 1986	165						
Occupational Health and Safety Act (2004)	168				612 613 614 622 687 688	713 765	
Occupational Health and Safety Regulations (2017)	168				606 608 613 614 631 688	713 751	
Road Safety (Traffic Management) Regulations 2009	160						
Road Management Act 2004	165 166					706 750 752	
Road Management Act 2004 Code of Practice for Management of Infrastructure in Road Reserves (Victoria Government Gazette No. S 117 Thursday 28 April 2016)						706	
Road Management Act 2004 Code of Practice for Operational Responsibilities for Public Roads (Victoria Government Gazette No S 174 30 May 2017)						706	
Road Management Act 2004 Code of Practice for Worksite Safety - Traffic Management (Victoria Government Gazette No S 351 31 August 2010)	160 161 163 166					750 751 752	
Road Management (Works and Infrastructure) Regulations 2015						706	
State Environment Protection Policy (Air Quality Management)	176 177						
State Environment Protection Policy (Groundwaters of Victoria)	176 177						
State Environment Protection Policy (Prevention and Management of Contamination of Land)	163 176 177						
State Environment Protection Policy (Waters of Victoria)	176 177						
Code of Practice for Safe Electrical Work (Low Voltage Electrical Installations) 1997						751	
WorkSafe - Confined Spaces - Shafts, Tunnels and Trenches (May 2003)					606 608		
WorkSafe Compliance Code - Confined Spaces March 2018					606 608		
WorkSafe Compliance Code – Workplace amenities and work environment (September 2008)	160					751	

**175.06 AUSTRALIAN STANDARDS**

Table 175.061 lists the Australian Standards (including test methods) that are applicable to the Standard Specification Section contained in this Specification.

**Table 175.061 Australian Standards (including test methods)**

Australian Standard	Standard Specification Section			
AS 1012 (series) : Methods of testing concrete Part 1 : 2014 - Sampling of concrete Part 2 : 2014 - Preparing concrete mixes in the laboratory Part 3.1 : 2014 - Determination of properties related to the consistency of concrete - Slump test Part 3.2 : 1998 (R2014) - Determination of properties related to the consistency of concrete – Compacting factor test Part 3.3 : 1998 (R2014) - Determination of properties related to the consistency of concrete – Vebe test Part 3.4 : 1998 (R2014) - Determination of properties related to the consistency of concrete – Compatibility test Part 3.5 : 2015 - Determination of properties related to the consistency of concrete - Slip flow, T500 and J-ring Part 4.1 : 2014 - Determination of air content of freshly mixed concrete – Measuring reduction in concrete volume with increased air pressure Part 4.2 : 2014 - Determination of air content of freshly mixed concrete – Measuring reduction in air pressure in chamber above concrete Part 4.3 : 2014 - Determination of air content of freshly mixed concrete – Measuring air volume when concrete is dispersed in water Part 8.1 : 2014 - Method of making and curing concrete – Compression and indirect tensile test specimens Part 8.2 : 2014 - Method of making and curing concrete – Flexure test specimens Part 9 : 2014 - Compressive strength tests - Concrete, mortar and grout specimens Part 12.1 : 1998 (R2014) - Determination of mass per unit volume of hardened concrete – Rapid measuring method Part 12.2 : 1998 (R2014) - Determination of mass per unit volume of hardened concrete – water displacement method Part 13 : 2015 - Determination of drying shrinkage of concrete for samples prepared in the field or in the laboratory Part 14 : 2018– Method for securing and testing cores from hardened concrete for compressive strength and mass per unit volume Part 20.1 : 2016 - Determination of chloride and sulphate in hardened concrete and concrete aggregates-Nitric acid extraction Part 20.2 : 2016 - Determination of water-soluble chloride in aggregates and hardened concrete Part 21 : 1999 (R2014) - Determination of water absorption and apparent volume of permeable voids in hardened concrete Part 24 : 2015 - Determination of the tensile bond strength of concrete - Repairs and strengthening systems	503	607	703	
	520	610	708	
	521	619	711	
		683	730	
		684		
		688		
		689		
AS 1074 : 1989 - Steel tubes and tubulars for ordinary service				707 733
AS 1101.3 : 2005 (R2018) - Graphical Symbols for General Engineering - Welding and non-destructive examination			630	
AS 1111 (series) : ISO metric hexagon bolts and screws			630	707
Part 1 : 2015 - Product grade C – Bolts				708
Part 2 : 2015 - Product grade C – Screws				760
AS 1112 (series) : ISO metric hexagon nuts			630	707
Part 1 : 2015 - Style 1 Product grades A and B				708
Part 2 : 2015 - Style 2 Product grades A and B				
Part 3 : 2015 - Product grade C				
Part 4 : 2015 - Chamfered thin nuts - Product grades A and B				

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section							
	205	307	404	503	610	701	801	
AS 1141 (series) : Methods for sampling and testing aggregates	205	307	404	503	610	701	801	
Part 3.1 : 2012 – Sampling - Aggregates	290		405	520	619	702	802	
Part 3.2 : 2012 – Sampling – Rock spalls and boulders			407			703	811	
Part 5 : 2000 (R2016) - Particle density and water absorption of fine aggregate			408			706	812	
Part 6.1 : 2000 (R2016) - Particle density and water absorption of coarse aggregate – Weighing-in-water method			409			713	815	
Part 11.1 : 2009– Particle size distribution – Sieving method			410			715	818	
Part 15 : 1999 (R2018) - Flakiness Index			417			760	820	
Part 17 : 2014 - Voids in dry compacted filler			418				831	
Part 18 : 1996- Crushed particles in coarse aggregate derived from gravel			421					
Part 20.3 : 2000 (R2013) - Average least dimension - Calculation (nomograph)			423					
Part 22 : 2008- Wet/dry strength variation			427					
Part 23 : 2009 - Los Angeles value								
Part 25.1 : 2003 (R2013) - Degradation factor - Source rock								
Part 26 : 2008 - Secondary minerals content in igneous rocks								
Part 28 : 2014 - Ball mill value								
Part 30.1 : 2009- Coarse aggregate quality by visual comparison								
AS 1160 : 1996 - Bituminous emulsions for the construction and maintenance of pavements			407				802	
			408					
AS/NZS 1163 : 2016 - Cold-formed structural steel hollow sections					630	760		
AS/NZS 1170 (series) - Structural design actions					613			
Part 1 : 2002- Permanent, imposed and other actions								
Part 2 : 2011 (R2016) - Wind actions								
AS/NZS 1214 : 2016 - Hot-dip galvanized Coatings on threaded fasteners (ISO metric coarse thread series) (ISO 10684:2004, MOD)					630	707		
					653	708		
						760		
AS 1237 (series)					653	707		
Part 1 : 2002 (R2015) : Plain washers for metric bolts, screws and nuts for general purposes - General plan								
Part 2 : 2016 – Tolerances for fasteners - washers for bolts, screws and nuts – product grades A, C, and F								
AS/NZS 1252 (series) - High-strength steel fastener assemblies for structural engineering - Bolts, nuts and washers					630			
Part 1 : 2016 - Technical requirements					653			
Part 2 : 2016 - Verification testing for bolt assemblies								
AS 1275 : 1985- Metric screw threads for fasteners						751		

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section							
	204	304	407	520	610	701	801	
AS 1289 (series) : Methods of testing soils for engineering purposes	205	306	423		632	702	802	
Part 2.1.1 : 2005 (R2016) – Soil moisture content tests – Determination of the moisture content of a soil – Oven drying method (standard method)	210	307			682	706	811	
Part 2.1.6 : 2005 (R2016) – Soil moisture content tests – Determination of the moisture content of a soil – Hotplate drying method–	290	308				712	812	
Part 3.1.1 : 2009 (R2017)– Soil classification tests - Determination of the liquid limit of a soil - Four point Casagrande method		310					815	
Part 3.1.2 : 2009 (R2017)– Soil classification tests - Determination of the liquid limit of a soil - One point Casagrande method (subsidiary method)							818	
Part 3.3.1 : 2009 – Soil classification tests - Calculation of the plasticity index of a soil							820	
Part 3.6.1 : 2009 – Soil classification tests - Determination of the particle size distribution of a soil - Standard method of analysis by sieving								
Part 3.7.1 : 2002 (R2013) – Soil classification tests - Determination of the sand equivalent of a soil using a power-operated shaker								
Part 3.8.1 : 2017 – Soil classification tests - Dispersion - Determination of Emerson class number of a soil								
Part 4.3.1:1997 – Soil chemical tests - Determination of the pH value of a soil - Electrometric method								
Part 4.4.1:2017 – Soil chemical tests - Determination of the electrical resistivity of a soil - Method for fine granular materials								
Part 5.1.1:2017 – Soil compaction and density tests - Determination of the dry density/moisture content relation of a soil using standard compactive effort								
Part 5.2.1:2017– Soil compaction and density tests - Determination of the dry density/moisture content relation of a soil using modified compactive effort								
Part 5.4.2:2007 (R2016) – Soil compaction and density tests - Compaction control test - Assignment of maximum dry density and optimum moisture content values								
Part 5.7.1:2006 – Soil compaction and density tests - Compaction control test - Hilf density ratio and Hilf moisture variation (rapid method)								
Part 5.8.1:2007 – Soil compaction and density tests - Determination of field density and field moisture content of a soil using a nuclear surface moisture–Density gauge - Direct transmission mode								
Part 6.1.1 : 2014 – Soil strength and consolidation tests - Determination of the California Bearing Ratio of a soil - Standard laboratory method for a remoulded specimen								
Part 6.2.2 : 1998 – Soil strength and consolidation tests - Determination of shear strength of a soil - Direct shear test using a shear box								
Part 6.7.1 : 2001 (R2013) – Soil strength and consolidation tests - Determination of permeability of a soil								
Part 6.7.2 : 2001 (R2013) – Soil strength and consolidation tests - Determination of permeability of a soil - Falling head method for a remoulded specimen								
AS/NZS 1314 : 2003 (R2016) – Prestressing anchorages					612			
AS 1319 : 1994 - Safety Signs for the Occupational Environment					612 622			
AS/NZS 1365 : 1996 (R2016) – Tolerances for flat-rolled steel products						708		
AS 1366.3 : 1992 - Rigid cellular plastics sheets for thermal insulation - Rigid cellular polystyrene – moulded (RC/PS - M)					613 614			

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section						
AS 1379 : 2007 – Specification and supply of concrete				503	610 619	703 704 705 708 711 760	
AS/NZS 1390 : 1997 - Cup head bolts with ISO metric coarse pitch threads						707	
AS 1391 : 2007 - Metallic materials - Tensile testing at ambient temperature					680	708	
AS 1397 : 2011 – Continuous hot-dip metallic coated steel sheet and strip– Coatings of zinc and zinc alloyed with aluminium and magnesium							860
AS 1443 : 2004 - Carbon and carbon-manganese steel - Cold-finished bars					630	760	
AS/NZS 1477 : 2017– PVC pipes and fittings for pressure applications						733	
AS 1478.1 : 2000 - Chemical admixtures for concrete, mortar and grout – Admixtures for concrete				520	610 619 683 684 689	703 760	
AS 1478.2 : 2005 : Chemical admixtures for concrete, mortar and grout – Methods of sampling and testing admixtures for concrete, mortar and grout					607 612 619 683 689	703 760	
AS/NZS 1554 (series) – Structural steel welding Part 1 : 2014 - Welding of steel structures Part 2 : 2003 - Stud welding (steel studs to steel) Part 3 : 2014 - Welding of reinforcing steel Part 5 : 2014 - Welding of steel structures subject to high levels of fatigue loading Part 6 : 2012 - Welding stainless steels for structural purposes					605 608 611 620 630 632 640	708	
AS 1576.1 : 2010 – Scaffolding – General requirements					613		
AS 1580 (series) – Paints and related materials – Methods of test Part 108.2 : 2004 : Dry film thickness - Paint inspection gauge Part 214.5 : 1997 (R2013) : Consistency – Rotational viscometer Part 301.1 : 2005: Non-volatile content by mass Part 408.4 : 2004 : Adhesion (cross-cut) Part 408.5 : 2006 (R2016) : Adhesion - Pull-off test				520	685 686 691	765	
AS/NZS 1594 : 2002 (R2016) - Hot-Rolled Steel Flat Products					614 630 685	708	
AS 1597 (series) - Precast reinforced concrete box culverts Part 1 : 2010 - Small culverts (not exceeding 1200 mm span and 1200 mm height) Part 2 : 2013 – Large culverts (exceeding 1200 mm span and 1200 mm height and up to and including 4200 mm span and 4200 mm height)					619		
AS 1604 (series) : Specification for preservative treatment Part 1 : 2012 – Sawn and round timber Part 2 : 2012 – Reconstituted wood-based products Part 3 : 2012 – Plywood Part 4 : 2012 – Laminated veneer lumber (LVL) Part 5 : 2012 – Glued laminated timber products						707 765	



Table 175.061 Australian Standards (including test methods) ... continued

Australian Standard	Standard Specification Section							
AS 1627 (series) - Metal finishing Part 1 : 2003 (R2017) - Preparation and pretreatment of surfaces – Removal of oil, grease and related contamination Part 2 : 2002 (R2017) – Power tool cleaning Part 4 : 2005 (R2017)- Preparation and pretreatment of surfaces - Abrasive blast cleaning of steel Part 9 : 2002 (R2017)- Pictorial surface preparation standards for painting steel surfaces						631 685 686 688 689 691	705 708 765	
AS 1646 : 2007 Elastomeric seals for waterworks purposes							701	
AS 1672.1 : 1997 (R2016) : Limes and limestones - Limes for building		290	307 308	407		610	704	815
AS 1683.11 : 2001 - Methods of test for elastomers - Tension testing of vulcanized or thermoplastic rubber							701	
AS 1720 (series) : Timber structures Part 1 : 2010 - Design methods Part 2 : 2006 - Timber properties Part 4 : 2006 - Fire resistance for structural adequacy of timber members						613	708	
AS 1725.1 : 2010 - Chain-link fabric fencing - Security fences and gates – General requirements							707	
AS 1726 : 2017 - Geotechnical site investigations		204				682	711	
AS/NZS 1734 : 1997 - Aluminium and aluminium alloys – Flat sheet, coiled sheets and plate								860
AS 1742 (series) Manual of uniform traffic control devices Part 1 : 2014 General introduction and index of signs Part 2 : 2009 Traffic control devices for general use Part 3 : 2009 Traffic control for works on roads	166						708 714 730 750 751	860
AS 1743 : 2018 - Road signs – Specifications							714	860
AS 1744 : 2015 - Standard alphabets for road signs	160 168							
AS/NZS 1906 (series) Retroreflective materials and devices for road traffic control purposes Part 1 : 2007 - Retroreflective sheeting (available superseded) Part 2 : 2007 - Retroreflective devices ( <i>non pavement application</i> ) Part 3 : 1992 - Raised pavement markers ( <i>retroreflective and non retroreflective</i> ) (available superseded)	166						708 709 710 711 712 721	853 860
AS 1988.1 : 2006 - Welding of ferrous castings – Steel castings						675		
AS 2008 : 2013 - Bitumen for pavements			308	407 408 427				802
AS/NZS 2009 : 2006 (R2016) - Glass beads for pavement marking materials							721	
AS/NZS 2041(series) - Buried corrugated metal structures Part 1 : 2011 - Design methods Part 2 : 2011 - Installation Part 4 : 2010 - Helically formed sinusoidal pipes Part 6 : 2010 - Bolted plate structures						632	701 702	

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section						
AS 2053 (series) : Conduits and fittings for electrical installations Part 1 : 2001 (R2016) - General requirements Part 2 : 2001 (R2016) - Rigid plain conduits and fittings of insulating material Part 3 : 1995 (R2016) - Rigid plain conduits and fittings of fibre-reinforced concrete material Part 4 : 1995 (R2016) - Flexible plain conduits and fittings of insulating material Part 5 : 2001 (R2016) - Corrugated conduits and fittings of insulating material Part 6 : 2001 (R2016) - Profile-wall, smooth-bore conduits and fittings of insulating material Part 7 : 2002 (R2016) - Rigid metal conduits and fittings Part 8 : 1995 (R2016) - Flexible conduits and fittings of metal or composite material							733
AS 2062 : 1997 - Non-destructive testing - Penetrant testing of products and components							611
AS 2074 : 2003 - Cast Steels (Withdrawn)							675
AS 2082 : 2007 (R2017) - Timber - Hardwood - Visually stress-graded for structural purposes							707
AS 2144 : 2014 - Traffic signal lanterns							751
AS 2150 : 2005 - Hot mix asphalt - A guide to good practice			407 427				802
AS 2157 : 1997 - Cutback bitumen			408				802
AS 2159 : 2009- Piling - Design and installation						603 604 605 606 607 608 640	
AS 2193 : 2005(R2017) - Calibration and classification of force-measuring systems						612 619 622 680 683	
AS 2205 (series) : Methods for destructive testing of welds in metal Part 4.2 : 2003 (R2018) - Fillet break test Part 5.1 : 2003 (R2018) - Macro metallographic test for cross-section examination						611 630	
AS 2239 : 2003 (R2016) - Galvanic (sacrificial) anodes for cathodic protection						681	
AS 2271 : 2004 (R2016) - Plywood and blockboard for exterior use						603 614	
AS/NZS 2310 : 2002 (R2016) - Glossary of paint and painting terms						631	765
AS/NZS 2311 : 2017 - Guide to the painting of buildings						685 686	765
AS/NZS 2312 (series) - Guide to the protection of structural steel against atmospheric corrosion by use of protective coatings Part 1 : 2014 - Paint coatings Part 2 : 2014 - Hot dip galvanizing						631 683 685 686 688 691	765
AS 2334 : 1980 (R2015) - Steel nails - metric series							707

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section						
AS/NZS 2341 (series) : Methods of Testing Bitumen and Related Road Making Products Part 2 : 2015 - Determination of dynamic viscosity by vacuum capillary viscometer Part 3 : 1993 - Determination of kinematic viscosity by flow through a capillary tube Part 4 : 2015 - Determination of dynamic viscosity by rotational viscometer Part 8 : 2016 - Determination of matter insoluble in toluene Part 10 : 2015 Determination of the effect of heat and air on a moving film of bitumen (rolling thin film oven (RTFO) test) Part 12 : 1993 - Determination of Penetration (obsolescent) Part 13 : 1997 (R2013) - Long-term exposure to heat and air Part 18 : 1992 - Determination of softening point (ring and ball method)				408 418 427			
AS 2353 : 2018 - Pedestrian push-button assemblies							751
AS 2423 : 2002 - Coated steel wire fencing products for terrestrial, aquatic and general use							707
AS 2439 (series) : Perforated plastics drainage and effluent pipe and fittings Part 1 : 2007 - Perforated drainage pipe and associated fittings Part 2 : 2007 - Perforated effluent pipe and associated fittings for sewerage applications							702
AS 2700 : 2011 - Colour standards for general purposes				431		631 685 686	765 860
AS 2701 : 2001 (R2015) - Methods of sampling and testing mortar for masonry constructions						607	
AS 2758.1 : 2014 - Aggregates and rock for engineering purposes – Concrete aggregates						610 619	701 703 801
AS 2832 (series) - Cathodic protection of metals Part 1 : 2015 - Pipes and cables Part 2 : 2003 (R2016) - Compact buried structures Part 3 : 2005 (R2016) - Fixed immersed structures Part 4 : 2006 (R2016) - Internal surfaces Part 5 : 2008 (R2018) - Steel in concrete structures						681	
AS 2858 : 2008 - Timber - Softwood - Visually stress-graded for structural purposes							707
AS 2876 : 2000 - Concrete kerbs and channels (gutters) - Manually or machine placed (withdrawn)							703

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section												
AS/NZS 2891 (series) - Methods of sampling and testing asphalt Part 1.1 : 2013 - Sampling - Loose asphalt Part 1.2 : 2008 - Sampling - Coring method Part 1.3 : 2008 - Sampling - Asphalt from slabs Part 2.1 : 2014 - Sample preparation - Mixing, quartering and conditioning of asphalt in the laboratory Part 2.2 : 2014 - Sample preparation - Compaction of asphalt test specimens using a gyratory compactor Part 3.1 : 2013 - Binder content and aggregate grading - Reflux method Part 3.3 : 2013 - Binder content and aggregate grading - Pressure filter method Part 5 : 2015 - Compaction of asphalt by Marshall method and determination of stability and flow - Marshall procedure Part 7.1 : 2015 - Determination of maximum density of asphalt - Water displacement method Part 7.3 : 2014 - Determination of maximum density of asphalt - Methylated spirits displacement Part 8 : 2014 - Voids and volumetric properties of compacted asphalt mixes Part 9.1 : 2014 - Determination of bulk density of compacted asphalt - Waxing procedure Part 9.2 : 2014 - Determination of bulk density of compacted asphalt - Presaturation method Part 9.3 : 2014 - Determination of bulk density of compacted asphalt - Mensuration method Part 10 : 2015 - Moisture content of asphalt Part 11 : 2014 - Degree of particle coating Part 13.1 : 2013 - Determination of the resilient modulus of asphalt - Indirect tensile method Part 14.1.1 : 2013 – Field density tests - Determination of field density of compacted asphalt using a nuclear surface moisture-density gauge - Direct transmission mode Part 14.1.2 : 2013 – Field density tests - Determination of field density of compacted asphalt using a nuclear surface moisture-density gauge - Backscatter mode Part 14.2 : 2013– Field density tests - Determination of field density of compacted asphalt using a nuclear thin-layer density gauge Part 14.3 : 2013 - Field density tests - Calibration of nuclear thin-layer density gauge using standard blocks Part 14.4 : 2013 - Field density tests - Calibration of nuclear surface moisture-density gauge - Backscatter mode Part 14.5 : 2014 – Field density tests - Density ratio and percentage air voids of compacted asphalt	308	404	405	407	409	410	417	418	421	423	427	802	831
AS/NZS 3000 : 2007 - Electrical installations (known as the Australian/New Zealand Wiring Rules)					681	711	733	751					
AS/NZ 3012 : 2010 - Electrical installations – Construction and demolition sites					681								
AS 3568 : 1999 - Oils for reducing the viscosity of residual bitumen for pavements			408									802	
AS 3569 : 2010 - Steel wire ropes – Product specification						708							

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section							
AS 3580 (series) : Method for sampling and analysis of ambient air Part 9.6 : 2015 - Determination of suspended particulate matter - PM10 high volume sampler with size selective inlet - Gravimetric method Part 9.7 : 2009 - Determination of suspended particulate matter - Dichotomous sampler – (PM10 coarse PM and PM2.5) Gravimetric method Part 9.8 : 2008 (R2018) - Determination of suspended particulate matter - PM10 continuous direct mass method using a tapered element oscillating microbalance analyser Part 9.9 : 2017 - Determination of suspended particulate matter – PM10 low volume sampler - Gravimetric method Part 9.11 : 2016 - Determination of suspended particulate matter - PM10 beta attenuation monitors Part 10.1 : 2016 - Determination of particulate matter - Deposited matter - Gravimetric method Part 10.2 : 2013 - Determination of particulate matter – Impinged matter - Gravimetric method	176 177							
AS/NZS 3582 (series) : Supplementary cementitious materials Part 1 : 2016 - Fly ash Part 2 : 2016 - Slag - Ground granulated iron blast-furnace (AS only) Part 3 : 2016 – Amorphous silica			306 307 308	407	520	610 619	703 704	815
AS 3600 : 2009 - Concrete Structures							701 703 704 705 707 708 711 714	
AS 3610.1 : 2010 - Formwork for concrete – Documentation and surface finish (available superseded)						603 613 614 619	703 708 711	
AS/NZS 3678 : 2016 - Structural steel - Hot-rolled plates, floor plates and slabs						608 620 630 682 685		
AS/NZS 3679 (series) : Structural steel Part 1 : 2016 - Hot rolled bars and sections Part 2 : 2016 - Welded I sections				503		611 630 640 682	705	
AS 3705 : 2012 Geotextiles - Identification, marking and general data		205 210		408			702	
AS 3706 (series) : Geotextiles - Methods of test Part 2 : 2012 - Determination of tensile properties - Wide strip and grab method Part 4 : 2012 - Determination of burst strength - California bearing ratio (CBR) - Plunger method Part 5 : 2014 - Determination of puncture resistance - Drop cone method Part 7 : 2014 - Determination of pore-size distribution – Dry-sieving method Part 11 : 2012 – Determination of durability – Resistance to degradation by light, heat and moisture		205 210		408			702	
AS 3743 : 2003 - Potting mixes							720	

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section							
AS/NZS 3750 (series) : Paints for steel structures Part 6 : 2009 - Full gloss polyurethane (two-pack) Part 9 : 2009 - Organic zinc-rich primer Part 13 : 1997 (R2013) - Epoxy primer (two-pack) Part 14 : 1997 (R2013) - High-build epoxy (two-pack) Part 15 : 1998 (R2013) - Inorganic zinc silicate paint Part 18 : 2002 (R2013) - Moisture cure urethane (single-pack) systems						631	707 708 765	
AS 3799 : 1998 - Liquid membrane-forming curing compounds for concrete					503	610 619 681 689	703 708 711	
AS/NZS 3845 (series) - Road safety barrier system and devices Part.1 : 2015 - -Barrier systems Part 2 : 2017 - Road safety devices	169						708 711	
AS 3894 (series) : Site testing of protective coatings Part 3 : 2002 (R2013) - Determination of dry film thickness Part 4 : 2002 (R2013) - Assessment of degree of cure Part 5 : 2002 (R2013) - Determination of surface profile Part 6 : 2002 (R2013) - Determination of residual contaminants Part 10 : 2002 - Inspection report – Daily surface and ambient conditions Part 11 : 2002 - Equipment report Part 12 : 2002 - Inspection report – Coating Part 13 : 2002 - Inspection report – Daily Part 14 : 2002 - Inspection report – Daily painting						631	765	
AS 3972 : 2010 : General purpose and blended cements			307 308	407	520	607 610 612 619 683	701 703	815
AS 3978 : 2003 - Non-destructive Testing - Visual Inspection of Metal Products and Components						675		
AS 4049 (series) : Paints and related materials – Pavement marking materials Part 1 : 2005 (R2016) - Solvent-borne paint – For use with surface applied glass beads Part 2 : 2005 (R2016) - Thermoplastic pavement marking materials – For use with surface applied glass beads Part 3 : 2005 (R2016) - Waterborne paint - For use with surface applied glass beads Part 4 : 2006 (R2016) - High performance pavement marking systems				408			721	
AS/NZS 4058:2007 - Precast concrete pipes (pressure and non-pressure)							701 733	
AS 4100 : 1998 (R2016) – Steel Structures						613 630	708	
AS 4115 : 1993 Hand torque tools (withdrawn)						660		
AS 4130 : 2009 - Polyethylene (PE) pipes for pressure applications						683	733	
AS 4133.4.1 : 2007 (R2016) – Methods of testing rocks for engineering purposes – Rock strength tests - Determination of point load strength index		205						
AS 4139 : 2003 - Fibre reinforced concrete pipes and fittings							701	

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section						
AS/NZS 4233.1 : 2013 - High pressure water jetting systems - Safe operation and maintenance				428			
AS 4373 : 2007 - Pruning of amenity trees						720 750	
AS 4419 : 2003 - Soils for landscaping and garden use						720	
AS 4454 : 2012 - Composts, soil conditioners and mulches						720	
AS/NZS 4455.1 : 2008 – Masonry units, pavers, flags and segmental retaining wall units – Masonry units						713	
AS/NZS 4456 Masonry units, segmental pavers and flags – Methods of test Part.1 : 2003 – Sampling for test Part 4 : 2003 - Determining compressive strength of masonry units						713	
AS 4489.6.1 : 1997 (R2016) - Test methods for limes and limestones - Lime index - Available lime	290	307					815
AS/NZS 4534 : 2006 (R2017) - Zinc and zinc/aluminium-alloy coatings on steel wire						707	
AS 4663 : 2013 - Slip resistance measurement of existing pedestrian surfaces				431			
AS/NZS 4671 : 2001 - Steel reinforcing materials					503	611 682 683	703 705
AS/NZS 4672 (series) Steel prestressing materials Part 1 : 2007 - General requirements Part 2 : 2007 - Testing requirements						612 622	
AS 4678 : 2002 - Earth retaining structures						683	
AS/NZS 4680 : 2006 (R2017) - Hot-dip galvanized (zinc) coatings on fabricated ferrous articles					503	611 620 630 631 632 670 671 675 682 683 684	703 705 707 708 714 765
AS 4738.1 : 2007 - Metal castings – Ferrous sand moulded (withdrawn)						675	
AS/NZS 4791 : 2006 (R2017) : Hot-dip galvanized (zinc) coatings on ferrous open sections, applied by an in-line process							705
AS/NZS 4792 : 2006 (R2017) : Hot-dip galvanized (zinc) coatings on ferrous hollow sections, applied by a continuous or a specialized process							705
AS/NZS 4801: 2001 - Occupational Health and Safety – Management Systems – Specification with guidance for use	160						
AS 4848.1 : 2006 - Application specifications for coating systems Single coat inorganic (ethyl) zinc silicate – Solvent-borne						631	

**Table 175.061 Australian Standards (including test methods) ... continued**

Australian Standard	Standard Specification Section								
AS 5100 (series) : 2017 - Bridge Design Part 1 - Scope and general principles Part 2 - Design loads Part 3 - Foundation and soil-supporting structures Part 4 - Bearings and deck joints Part 5 - Concrete Part 6 - Steel and composite construction Part 7 - Bridge assessment Part 8 - Rehabilitation and strengthening of existing bridges Part 9 – Timber						603 604 605 606 607 608 610 611 612 613 614 619 630 640 652 653 656 660 671 682 683 689	705 715		
AS 5101 (series) – Methods for preparation and testing of stabilized materials Part 3.3 : 2008 (R2017) - Cement content of cement stabilized materials Part 4 : 2008 - Unconfined compressive strength of compacted materials			306 307						815
AS/NZS 5131:2016 – Structural steelwork – Fabrication and erection								760	
AS/NZS ISO 9000:2016 - Quality management systems – Fundamentals and vocabulary	160 161 162 163						630 691		
AS/NZS ISO 9001:2016 - Quality management systems - Requirements	160 161 162 163						630 691		
AS/NZS ISO 14001:2016 - Environmental management systems- Requirements with guidance for use	160								
AS/NZS ISO 19011:2014 - Guidelines for auditing management systems	161 163								



**175.07 VICROADS CODES OF PRACTICE AND BRIDGE TECHNICAL NOTES**

Table 175.071 lists the VicRoads Codes of Practice and Bridge Technical Notes that are applicable to the Standard Specification Section contained in this Specification.

**Table 175.071 VicRoads Codes of Practice and Bridge Technical Notes**

VicRoads Codes of Practice	Standard Specification Section							
VicRoads RC 500.00 : December 2012 : Code of Practice for Source Rock Investigations						610		801 812 815 818 820
VicRoads RC 500.01 : December 2018 : Code of Practice for Registration of Bituminous Mix Designs				404 405 407 409 410 417 421 423 427				
VicRoads RC 500.02 : June 2017 : Code of Practice for Registration of Crushed Rock Mix Designs								812 815 820
VicRoads RC 500.05 : June 2017 : Code of Practice for Acceptance of Field Compaction	173	204 205 290	304 306 307 308	407		682	701 706	
VicRoads RC 500.09 : May2018 : Code of Practice for Testing Aggregates for Sprayed Bituminous Surfacing				408				831
VicRoads RC 500.11 : September 2014 : Code of Practice for Surveillance and Testing of Materials and Work	160 161 162 163							
VicRoads RC 500.16 : June 2017 : Code of Practice for Selection of Test Methods for Testing of Materials and Work	160 161 162 163	204 290	304 306 307 308	407	503	610 682	701	801 802 811 812 815 818 820 831
VicRoads RC 500.20 : July 2019 : Code of Practice for Assignment of CBR Strength and Percentage Swell to Earthworks Fill and Pavement Materials		204 290	304			682		811 812 818
VicRoads RC 500.23 : April 2016 : Code of Practice for Lime Stabilised Earthworks Materials – Available Lime Content, Assignment of CBR and Swell		290						

**Table 175.071 VicRoads Codes of Practice and Bridge Technical Notes...** continued

Bridge Technical Notes	Standard Specification Section							
VicRoads BTN004 : January 2018 - Bridge joints						660		
VicRoads BTN005 : January 2018 - FRP for strengthening of bridge structures					610	688		
VicRoads BTN006 : January 2018 - Bonded anchor					680			
VicRoads BTN007 : January 2018 - Noise attenuation walls					685	765		
VicRoads BTN009 : January 2018 - RC panels for reinforced soil structures					610	611	620	682
VicRoads BTN015 : January 2018 - Buried corrugated metal structures					610	623		
VicRoads BTN016 : January 2018 - Design of large box culverts					610	611	620	626
VicRoads BTN023 : January 2018 – AS 5100 Part 3					610			
VicRoads BTN025 : January 2018 – AS 5100 Part 3					610	611		
VicRoads BTN028 : January 2018 – AS 5100 Part 8					688			

**175.08 VICROADS TEST METHODS**

Table 175.081 lists additional VicRoads Test Methods to be used that are not mentioned in VicRoads Codes of Practice 500.05 or 500.16.

**Table 175.081 VicRoads Test Methods**

VicRoads Test Method	Standard Specification Section						
VicRoads RC 253.01 : June 2013 - Determination of Aggregate Moisture Content and Estimated Free Water (using microwave or hot plate)						610	
VicRoads RC 301.04 : June 2017 - Lime Stabilised Earthworks Materials – Available Lime, Assigned CBR and Swell	290						
VicRoads RC 316.00 : July 2019 - Density ratio and moisture ratio lot characteristics VicRoads RC 316.10 : March 2018 - Selection of test sites within a test lot (random stratified sampling method)	204 205 290	304 306 308 310	407 431			682	
VicRoads RC 316.14 : June 2013 - Moisture Ratio Determination for Assessment of Dry-Back of Granular Pavement Materials		310					
VicRoads RC 317.01 : October 2012 - Surface Texture by Sand Patch VicRoads RC 317.03 : December 2012 - Stripping of Aggregate from Sprayed Seals				408 427 428 430 431			
VicRoads RC 324.01 : July 2019 – Calculation of Assigned CBR and Assigned Percent Swell	290						
VicRoads RC 326.01 : April 2016 – Weighted Plasticity Index – PI x Percent passing 0.425mm sieve	290						
VicRoads RC 330.01 : December 2012 - Cementitious Binder and Granular Additive Content for the Stabilisation of Pavement Materials VicRoads RC 330.02 : July 2019 - Determination of the Maximum Allowable Working Time for a Cementitious Binder VicRoads RC 330.03 : July 2019 - Decay Correction Factor for Granular Materials Stabilised with Cementitious Binder	290	306 307 308					815
VicRoads RC 370.05: June 2013 - Degradation Factor - Fine Aggregate							801 812 815 820
VicRoads RC 372.01 : October 2016 - Coarse Aggregate Quality by Visual Assessment				407 408 410 423 427	520	701 702	801 802 812 815 818 820 831
VicRoads RC 372.04 : June 2013 - Foreign Materials in Crushed Concrete	204						820
VicRoads RC 374.01 : March 2014 - Polished Stone Value (based on BS EN 1097-8:2009)				407 430 431			801 831
VicRoads RC 376.03 : April 2016 - Potential Aggregate-Silica Reactivity (Accelerated Mortar Bar Method) VicRoads RC 376.04 : June 2013 – Alkali Aggregate Reactivity Assessment using the Concrete Prism Test						610	

**Table 175.081 VicRoads Test Methods ... continued**

VicRoads Test Method	Standard Specification Section							
VicRoads RC 421.02 : March 2018 - Skid Resistance of a Road Pavement using a SCRIM ® Machine				430 431				
VicRoads RC 422.03 : June 2001 - Pavement Roughness (Inertial Laser Profiler Method) VicRoads RC 422.06 : June 2001 - Pavement Roughness (ARRB TR Walking Profiler Method)	180							
VicRoads RC 423.02 : June 2004 - Measurement of Surface Levels of Pavement Layers VicRoads RC 423.02B : June 2018 - Selection of Random Sites for Surface Levels of Pavement Layers	173	204	304 306 308	407				
VicRoads RC 424.01 : December 2012 - Determination of Retroreflectivity of Pavement Markings (using the MiroLux 30 reflectometer)							721	

**175.09 AUSTRROADS TEST METHODS**

Table 175.091 lists Austroads Test Methods to be used that may not be listed in VicRoads Codes of Practice 500.05 or 500.16.

**Table 175.091 Austroads Test Methods**

Austroads Test Method	Standard Specification Section						
Austroads AGPT/T101 : March 2006 - Method of Sampling Polymer Modified Binders, Polymers and Crumb Rubber				404 407 410 417 421			
AGPT/T103 : June 2006 - Pre-Treatment and Loss of Heating of Bitumen, Multigrade and Polymer Modified Binders (Rolling Thin Film Oven (RTFO) Test)				418			
Austroads AGPT/T143 : December 2010 : Particle Size and Properties of Crumb Rubber				421			
Austroads AGPT/T144 : March 2006- Morphology of crumb rubber – Bulk density test				421			
Austroads AGPT/T221 : May 2018 - Sampling of Bituminous Slurry				427			
Austroads AGPT/T231 : January 2006 - Deformation Resistance of Asphalt Mixes by the Wheel Tracking Test				418			
Austroads AGPT/T232 : January 2007 - Stripping Potential of Asphalt – Tensile Strength Ratio				409			
Austroads AGPT/T235 : June 2006 : Asphalt Binder Drain Off				404 410 417			
Austroads AGPT/T236 : June 2005 : Asphalt Particle Loss				410			
Austroads AGPT/T237 : June 2005 : Binder Film Index				410			
Austroads AGPT/T251 : January 2010 : Ball Penetration Test			310				
Austroads AGPT/T271 : May 2018 : Determination of Set and Cure for Bituminous Slurry (Cohesion Test)				427			
Austroads AGPT/T272 : May 2018 - Determination of Abrasion Loss of Bituminous Slurry (Wet Track Abrasion Test)				427			
Austroads AGPT/T274 : January 2016 - Characterisation of Flexural Stiffness and Fatigue Performance of Bituminous Mixes				418			
Austroads AGPT/T530: May 2015 - Calibration of Bitumen Sprayers – General Introduction and List of Methods Austroads AGPT/T531: November 2012 - Volumetric Calibration of Bitumen Pumps Austroads AGPT/T532: November 2012 - Transverse Distribution by Fixed Pit Facility Austroads AGPT/T533: November 2012 - Transverse Distribution by Field Mat Austroads AGPT/T534: May 2015 - Transverse Distribution by Portable Trough Austroads AGPT/T535: November 2012 - Road Speed Calibration Austroads AGPT/T536: November 2012 - Viscosity of Test Fluid Austroads AGPT/T537: June 2005 - Field Calibration of Aggregate Spreaders				408			

**175.10 OTHER STANDARDS AND TEST METHODS**

Table 175.101 lists standards and test methods, other than VicRoads, Australian Standards or Austroads, published by other authorities or agencies and which are applicable to the Standard Specification Section contained in the Specification. These include ASTM, BS and RTA Test Methods.

**Table 175.101 Other Standards and Test Methods**

Document	Standard Specification Section						
American Public Health Association (AHPA), American Water Works Association (AWWA) and Water Environment Federation (WEF) : Standard Methods for the Examination of Water and Wastewater, Edition 23 : November 2017 - Part 2510 - Conductivity			306 307				811 812 815 818 820
AS/CA S009 : - Installation requirements for customer cabling (Wiring Rules)						733 751	
Australian Technical Infrastructure Committee (ATIC) ATIC-SP39 : September 2009 - Fasteners for Structural Purposes						765	
Australian Technical Infrastructure Committee (ATIC) ATIC-SP43 : November 2017 - Cementitious Materials for Use with Concrete					610		
Australian Paint Approval Scheme Specifications APAS 0041/2 : October 2015 - Road marking paint, solvent borne APAS 0041/5 : October 2015 - Road marking paint, water borne APAS 0042 : June 2014 - Glass beads for use in pavement marking paints APAS 2908 : November 2003 - Inorganic zinc coating for protection of steel APAS 2911/1 : September 2017 - Polyurethane coating for protection of steel, standard durability APAS 2916/1 : June 2007 - Organic zinc rich coating for protection of steel – primers APAS 2930 : December 2003 - Single pack moisture cure urethane coating for the long term protection of steel APAS 2971 : December 2003 - Epoxy two-pack durable primer for protection of steel in atmosphere APAS 2973 : December 2003 Medium build two-pack epoxy coating for the long term protection of steel in atmosphere					631	721	
American Concrete Institute (ACI) ACI 440.3R-12 - Test Method B.6 - Accelerated test method for alkali resistance of FRP bars ACI 440.3R-12 - Test Method B.8 - Test method for creep rupture of FRP bars ACI 440.6M-08(17) - Specification for Carbon and Glass Fiber- Reinforced Polymer Bar Materials for Concrete Reinforcement					683		
ASTM A802-95(2015) - Standard Practice for Steel Castings, Surface Acceptance Standards, Visual Examination					675		
ASTM A820/A820M-16 - Standard Specification for Steel Fibers for Fiber-Reinforced Concrete					684	705	
ASTM A1059/A1059M-08 (2013) - Standard Specification for Zinc Alloy Thermo-Diffusion Coatings (TDC) on Steel Fasteners, Hardware, and Other Products					683		
ASTM B265-15 - Standard Specification for Titanium and Titanium Alloy Strip, Sheet, and Plate					681		
ASTM C295/C295M-12 - Standard Guide for Petrographic Examination of Aggregates for Concrete					610		
ASTM C603-14 - Standard Test Method for Extrusion Rate and Application Life of Elastomeric Sealants				503			

**Table 175.101 Other Standards and Test Methods** ... continued

Document	Standard Specification Section						
ASTM C679-15 - Standard Test Method for Tack-Free Time of Elastomeric Sealants				503			
ASTM C793-05(2017) - Standard Test Method for Effects of Laboratory Accelerated Weathering on Elastomeric Joint Sealants				503			
ASTM C794-18 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants				503			
ASTM C940-16 - Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory					683		
ASTM C1116/C1116M-10a(2015) - Standard Specification for Fiber-Reinforced Concrete						705	
ASTM C1399/C1399M-10(2015) - Standard Test Method for Obtaining Average Residual-Strength of Fiber- Reinforced Concrete						705	
ASTM C1609/C1609M-12 - Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading)						705	
ASTM D5/D5M-13 - Standard Test Method for Penetration of Bituminous Materials							853
ASTM D36/D36M-14e1 - Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)							853
ASTM D92-16b - Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester							853
ASTM D146 / D146M-04(2012)e1 - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing					691		
ASTM D412-16 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers – Tension				520			
ASTM D792-13 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement – (Method A)				503 520		705	
ASTM D2171/D2171M-10 - Standard Test Method for Viscosity of Asphalts by Vacuum Capillary Viscometer							853
ASTM D2240-15e1 - Standard Test Method for Rubber Property – Durometer Hardness				503 520			
ASTM D2628-91(2016) - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements				503 520			
ASTM D2669-16 - Test Method for Apparent Viscosity of Petroleum Waxes Compounded with Additives (Hot Melts)							853
ASTM D2835-89(2017) - Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements				503 521			
ASTM D3822/D3822M-14 - Standard Test Method for Tensile Properties of Single Textile Fibers						705	
ASTM D4262-05(2012) - Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces					686		
ASTM D4263-83(2012) - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method					685 686 691		
ASTM D4414-95(2013) - Standard Practice for Measurement of Wet Film Thickness by Notch Gages					685 686 691		

**Table 175.101 Other Standards and Test Methods** ... continued

Document	Standard Specification Section						
ASTM D5329-16 - Standard Test Methods for Sealants and Fillers, Hot-Applied, For Joints and Cracks in Asphalt Pavements and Portland Cement Concrete Pavements							853
ASTM D7205/D7205M-06 (2016) - Standard Test Method for Tensile Properties of Fiber Reinforced Polymer Matrix Composite Bars					683		
ASTM D7337/D7337M-12 - Standard Test Method for Tensile Creep Rupture of Fiber Reinforced Polymer Matrix Composite Bars					683		
BD 47/99 – Design Manual for Roads and Bridges, Volume 2 Section 3 Part 4 - Waterproofing and Surfacing of Concrete Bridge Decks					691		
BS EN 1109 : 2013 - Flexible Sheets For Waterproofing - Bitumen Sheets For Roof Waterproofing - Determination Of Flexibility At Low Temperature BS EN 1110 : 2010 - Flexible Sheets For Waterproofing - Bitumen sheets for roof waterproofing. Determination of flow resistance at elevated temperature. BS EN 12310-1 : 2000 - Flexible Sheets For Waterproofing - Determination Of Resistance To Tearing (Nail Shank) - Bitumen Sheets For Roof Waterproofing BS EN 12311-1 : 2000 - Flexible sheets for waterproofing. Determination of tensile properties. Bitumen sheets for roof waterproofing					691		
BS 1881-208: 1996 - Testing concrete. Recommendations for the determination of the initial surface absorption of concrete					686		
BS EN 1881: 2006 - Products and systems for the protection and repair of concrete structures. Test methods. Testing of anchoring products by the pull-out method.					686		
BS 6319 (series) - Testing of resin and polymer/cement compositions for use in construction. Part 1 : 1983 - Method for preparation of test specimens Part 2 : 1983 – Method for measurement of compressive strength Part 3 : 1990 – Methods for measurement of modulus of elasticity in flexural and flexural strength Part 7 : 1985 – Method for measurement of tensile strength					687 688 689		
BS 6744: 2016 - Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods					611		
BS 8006 (series) Part 1 : 2010+A1:2016 - Code Of Practice For Strengthened/Reinforced Soils And Other Fills Part 2 : 2011+A1:2017 - Code of practice for strengthened/reinforced soils. Soil nail design					683		
BS EN 1097-8 : 2009 - Tests for mechanical and physical properties of aggregate. Determination of the polished stone value			430				
BS EN 10088 (series) - Stainless steels Part 1 : 2014 – List of stainless steels Part 2 : 2014 – Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes Part 3 : 2014 – Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes Part 4 : 2009 – Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes Part 5 : 2009 – Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes					611		



**Table 175.101 Other Standards and Test Methods** ... continued

Document	Standard Specification Section						
BS EN 14490:2010 - Execution of special geotechnical works. Soil nailing						683	
CSA-S806-12 Annex H - Test methods for creep of FRP Rods Annex M - Test method of alkali resistance of FRP rods						683	
FHWA-NHI-14-007 : 2015 - Geotechnical Engineering Circular No. 7 - Soil Nail Walls						683	
AS/NZS ISO/IEC 17020:2013 – Conformity assessment – Requirements for the operation of various types of bodies performing inspection	160					630	
AS ISO/IEC 17025: 2018 - General requirements for the competence of testing and calibration laboratories ISO 9223:2012 – Corrosion of metals and alloys – Corrosivity of atmospheres – Classification, determination and estimation	160 161 162 163 170					682	765
ISO 6789 (series) - Assembly tools for screws and nuts - Hand torque tools Part 1 - Requirements and methods for design conformance testing and quality conformance testing: minimum requirements for declaration of conformance Part 2 - Requirements for calibration and determination of measurement uncertainty						660	
ISO 3549:1995 - Zinc dust pigments for paints – Specifications and Test Methods ISO 8501(series) - Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness. Part 1 : 2007 - Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings. Part 3 : 2006 - Preparation grades of welds, edges and other areas with surface imperfections. ISO 11127-6 : 2011 - Preparation of steel substrates before application of paints and related products – Test methods for non- metallic blast cleaning abrasives - Determination of water-soluble contaminations by conductivity measurements.						631	
ISO 10319:2015 - Geosynthetics - Wide-width tensile test ISO 10321:2008 - Geosynthetics - Tensile test for joints/seams by wide-width strip method ISO 13431:1999 : Geotextiles and geotextile-related products - Determination of tensile creep and creep rupture behaviour						683	
SAE International AMSS8802D (December 2015) - Sealing Compound, Fuel Resistant, Integral Fuel Tanks and Fuel Cell Cavities					520		
Manufacturers Standardisation Society of the Valve and Fittings Industry ANSI/MSS SP-55-2011: Quality Standard for Steel Castings for Valves, Flanges and Fittings and other Piping Components, Visual Method for Evaluation of Surface Irregularities -						675	
NACE WJ-2:2012/ SSPC-SP WJ 2:2012 – Waterjet Cleaning of Metals – Very Thorough Cleaning						691	

**Table 175.101 Other Standards and Test Methods** ... continued

Document	Standard Specification Section						
RMS-NSW T534 : November 2012 - Residue on sieving of bituminous material and bitumen emulsion					520		
RMS-NSW T865 : November 2012 - Non-volatile content of concrete admixtures and curing compounds					520		
RMS-NSW T1005 : November 2012 - Recording the infrared spectrum of materials					520		
RMS-NSW T1192 : November 2012 - Adhesion of sealant					503		
RMS-NSW T1193 : November 2012 - Accelerated ageing of cured sealant					520		
WTIA TN05(1994) - Flame cutting of steels					503	630	670

**175.11 VICROADS TECHNICAL BULLETINS**

Table 175.111 lists the VicRoads Technical Bulletins either referenced in the Standard Sections or if not referenced, documents that may be used to obtain additional information.

**Table 175.111 – VicRoads Technical Bulletins**

VicRoads Technical Bulletin	Standard Specification Section							
VicRoads TB 38 : April 2001 - Guide to Geotextile Reinforced Sprayed Seal Surfacing				408				
VicRoads TB 40 : December 1995 - Pavement Investigation – Guide to Inspection and Testing	160							
VicRoads TB 42 : June 2000 - Curing of Concrete						610	703	
VicRoads TB 45 : April 2004 - Bituminous Sprayed Surfacing Manual				408				
VicRoads TB 46 : November 2003 - Guide to Surveillance of Structural Steelwork	160					611 630 670 671	708	
VicRoads TB 47 : November 2003 - Guide to Surveillance of Precast Concrete	160					620	704	
VicRoads TB 48 : November 2003 - Guide to Surveillance of Protective Coatings of Structural Steelwork	160					630		

**175.12 AUSTRROADS GUIDES AND SPECIFICATION FRAMEWORK DOCUMENTS**

Table 175.121 lists all Austroads Guides and Specification Framework Documents applicable to the Standard Section contained in this Specification and other relevant Austroads Guides for further information.

**Table 175.121 Austroads Guides and Specification Framework Documents**

Austroads Document	Standard Specification Section						
AGPT04B-14 - Guide to Pavement Technology Part 4B : Asphalt				410			
AGPT/T190-14 - Specification Framework for Polymer Modified Binders				407 408 410 417			
AP-R569-18 – Guidelines and Specifications for Microsurfacing				427			
AP-T68-06 - Update of Austroads Spray Seal Design Method				408			
AP-T236-13 : Update of Double/Double Design for Austroads Sprayed Seal Design Methods				408			
AGRS 06-09 - Guide to Road Safety – Part 6: Road Safety Audit	160						

**175.13 OTHER REFERENCE DOCUMENTS**

Table 175.131 lists all other documents applicable to the Standard Specification Section contained in this Specification or required for further information.

**Table 175.131 Other Reference Documents**

Document	Standard Specification Section						
AASHTO MASH 2:2016 - Manual for Assessing Safety Hardware							711
AASHTO LRFDLTS 1:2015 - Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals							760
ABS Catalogue No. 6427.0 - Producer Price Indexes, Table 17, Output of the Construction industries, subdivision and class index numbers - 3101 Road and Bridge Construction Victoria	199						
Standards Australia CCM Volume 1-2007 - Communications Cabling Manual Volume 1 - Handbooks, Codes and Regulations CCM Volume 2-2007 - Communications Cabling Manual Volume 2 - Standards							733 751
Australian Seed Federation National Code of Practice: September 2013- Labelling and Marketing of Seed For Sowing							720
Australian and New Zealand Environment and Conservation Council and New Zealand and the Australian and New Zealand Environment and Conservation Council (2000) - Australian and New Zealand Guidelines for Fresh and Marine Water Quality	177						
Country Fire Authority (CFA) - Roadside Fire Management Guidelines (2001)							752
Department of Sustainability and Environment (June 2006) - Native Vegetation Revegetation planting standards – Guidelines for establishing native vegetation for net gain accounting.	177						
Department of Environment and Primary Industries (September 2013) - Permitted clearing of native vegetation - Biodiversity assessment guidelines	177						
Energy Safe Victoria (ESV) publications and safety alerts							751
Energy Safe Victoria (ESV) The Blue Book 2017 - The Code of Practice on Electrical Safety for Work on or Near High Voltage Electrical Apparatus							751
Engineers Australia (2006) - Australian Runoff Quality A guide to Water Sensitive Urban Design	176 177						
EPA Victoria Publication No. 275 - Construction Techniques for Sediment Pollution Control (May 1991)	176 177						
EPA Victoria Publication No. 347.1 - Bunding (October 2015)	176 177						
EPA Victoria Publication No. IWRG701 - Industrial Waste Resource Guidelines -Sampling and analysis of waters, wastewaters, soils and wastes (June 2009)	176 177						
EPA Publication 448 – Classifications of Wastes (May 2007). Replaced by IWRG621 - Soil hazard categorisation and management (2009)	176 177						720
EPA Victoria Publication No. 464.2 - Guidelines for Environmental Management - Use of Reclaimed Water (November 2003)	176 177						
EPA Victoria Publication No. 480 - Environmental Guidelines for Major Construction Sites (February 1996)	176 177						

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EPA Victoria Publication No. 669 - Groundwater Sampling Guidelines (April 2000)	176 177						
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EPA Victoria Publication No. 960 - Doing it Right on Subdivisions - Temporary environmental protection measures for subdivision construction sites (September 2004)	176 177						
Florabank Guidelines and Codes of Practice <a href="http://www.florabank.org.au/">http://www.florabank.org.au/</a>						720	
International Erosion Control Association (IECA Australasia) - Best Practice Erosion and Sediment Control (BPESC) document (2008)	176						
Melbourne Water (2005) - Water Sensitive Urban Design Engineering Procedures: Stormwater	176 177						
VicRoads Biodiversity Guidelines	176 177						
VicRoads Contaminated Land (Planning, Construction and Maintenance) Guidelines (September 2013)	176 177						
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VicRoads ITS Group: Standard Drawings and Specifications						751	
VicRoads Road Design Guidelines Standard Drawings for Roadworks Final Drawing Presentation Guidelines (2013) VicRoads Supplement to Austroads Guide to Road Design (series)						708 711 720	
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VicRoads Road Design Note 06-04K (October 2017) – Accepted safety barrier products						708 711	
VicRoads Road Design Note 06-09A (January 2018) – Accepted frangible post systems						714	
VicRoads Road Design Note 06-10C (August 2015) – Accepted guide posts						709	
VicRoads Road Design Note 06-11A (August 2015) – Accepted retro-reflective sheeting materials							860
VicRoads Road Management Plan (April 2014)						752	
VicRoads Roads Structures Inspection Manual (RSIM) (June 2014)						750	
VicRoads Roadside Handbook See Road Management Act and codes on VicRoads website						752	
VicRoads Safety Requirements for Traffic Devices Works on Traffic Signals and on Road Electrical and Communication Devices						751	
VicRoads Supplement to AS 1742.3:2009 – Manual of uniform traffic control devices (October 2015)	166					750	

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VicRoads Technical Guidelines - Noise Guidelines - Construction and Maintenance Works 2007	176 177						
VicRoads Temporary Sedimentation Basin Design Tool V1.05	176 177						
VicRoads Traffic Engineering Manual Volume 2 (April 2014)	160					708 709 711 714 721	
Victorian Stormwater Committee Urban Stormwater: Best Practice Environmental Management Guidelines (October 1999), published by CSIRO Publishing	177						
Water Services Association of Australia WSA 05-2013 Version 3.1 – Conduit Inspection Reporting Code of Australia						701	