NATSPEC// SPECnotes

Information Sources For Product Selection and Specification

Specifiers have several sources of information available to assist in the selection and specification of products. There are advantages and disadvantages to each approach related to speed, currency, maintenance costs and difficulty of use.

• Raw data

Raw data might be required where new or unusual materials, components or methods need to be described. Look for standards (Australian or international), impartial technical advice from industry organisations, journals, trade literature and advice from relevant manufacturers, fabricators and contractors.

• A previous project specification

Basing a new specification on a previous project specification, may save time but requires careful checking for irrelevant material, out-of-date standards, statutory requirements and technical information e.g. brand names. Though widely used, this approach is risky and not recommended.

• A proprietary specification from a manufacturer

Proprietary specifications from a manufacturer are useful but must be carefully assessed. The relationship between the specifier and the manufacturer will also have an impact.

NATSPEC **Branded worksections** are proprietary worksections, in NATSPEC format, based on the generic worksection of the same classification number. They are prepared by NATSPEC technical editors in conjunction with the Product Partner. Branded worksections require less editing than a generic worksection - saving time and reducing the risk of specification errors.

• An office master specification

Offices which repeatedly work on the same type of project e.g. single housing, office fitouts, schools, may use an office master specification tailored to the project type. The currency of the office master must be maintained to save time and risk. Office masters based on NATSPEC can take advantage of the *Update* service including the *Update* Summary and package pdf with highlighted changes.

• A national master specification such as NATSPEC

Using a national master specification, such as NATSPEC, as a base for creating project specifications or updating an office master has the advantage of consistent format, terminology, definitions and interpretations; currency of legislation, regulation, standards, technology, products and work practises; economies of scale; a national approach; low development and maintenance costs, and prompts and guidance to assist the specifier.

Whilst NATSPEC does not endorse any specific manufacturer's products we do encourage you to consider our Product Partner's products and branded worksections. As a not-for-profit organisation, NATSPEC keeps the price of the national building specification affordable with the assistance of Product Partners.

Regardless of the source of the information, it is the responsibility of the specifier to make sure the information is current, relevant and appropriate for the project and to allocate sufficient time and resources to the task.

- Air Conditioning and Mechanical Contractors' Association of Australia
- Australian Council of Built Environment Design Professions
- Australian Elevator Association
- Australian Institute of Architects
- Australian Institute of Building
- Australian Institute of Building Surveyors
- Australian Institute of Quantity Surveyors
- Commerce and Works Directorate (ACT)
- Construction Industry Engineering Services Group
- Consult Australia
- Department of Finance (Federal)
- Department of Finance (WA)
- Department of Housing and Public Works (QLD)
- Department of Infrastructure (NT)
- Department of Planning, Transport and Infrastructure (SA)
- Department of Treasury and Finance (TAS)
- Department of Treasury and Finance (VIC)
- Engineers Australia
- Master Builders Australia
- Office of Finance and Services (NSW)
- Standards Australia

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STANDARDS REVISING

Australian standards superseded, amended or withdrawn in March, April and May 2014 which are referred to in NATSPEC and will be taken into account in the October 2014 *Update*, include:

AS/NZS 1012 Methods to testing concrete.
Part 4.2:2014 Determination of air content of freshly mixed concrete – Measuring reduction in air pressure in chamber above concrete. ($76.95)

This standard supersedes the 1999 edition. The main revisions include amendments to; 10 Records, 11 Reports and to Appendix A Calibration of Apparatus (Normative).

Referenced worksections: 0161 *Quality (Construction)*; *1132 Lean mix concrete subbase*; *1133 Plain and reinforced concrete base*; *1134 Steel fibre reinforced concrete base*; *1135 Continuously reinforced concrete base*.

AS/NZS 1141 Methods for sampling and testing aggregates.
Part 17:2014 Voids in dry compacted filler. ($76.95)

This standard supersedes the 1995 edition. The main revision is to reflect current practice in the method for the determination of voids in dry compacted filler for asphalt.

Referenced worksection: *1141 Asphaltic concrete (Roadways)*.

AS 1172 Water closets (WCs).
Part 1:2014 Pans. ($182.03)

This standard supersedes the 2005 edition. The main revisions include the recognition of flushing devices other than cisterns, improved specification of test tolerances, apparatus as well as amended procedures to meet the requirements of the Water Efficiency Labelling Standards (WELS) scheme for greater consistency.

Referenced worksection: 0811 *Sanitary fixtures*.

Part 2:2014 Flushing devices and cistern inlet and outlet valves. ($260.85)

This standard supersedes the 1999 edition and replaces ATS 5200.016:2010, ATS 5200.017:2005, ATS 5200.020:2004 and ATS 5200.021:2004. The main revisions include amended procedures to meet WELS requirements for greater consistency and incorporate requirements and test procedures from ATS 5200.016:2010, ATS 5200.017:2005, ATS 5200.020:2004 and ATS 5200.021:2004.

Referenced worksection: 0811 *Sanitary fixtures*.

AS/NZS 1596:2014 The storage and handling of LP Gas. ($434.16)

This standard supersedes the 2008 edition. The main revisions include update of procedures in light of industry best practice, corrections and update of references. A significant number of minor changes have been made to also align the standard with New Zealand regulatory practice.

Referenced worksections: *0013 Bushfire protection (Design)*; 0802 *Hydraulic design and install*; 0824 *Fuel gas*.

AS 2670 Evaluation of human exposure to whole-body vibration.
Part 2:1990 Continuous and shock-induced vibration in buildings. ($205.02)

This standard has been withdrawn and has not been replaced. It provides guidance on human response to building vibrations and gives weighting curves of frequency response for equal conveyance of humans to continuous and intermittent. Measurement methods are also given. It is identical with and reproduced from ISO 2631-2.

Referenced worksection: *0136 General requirements*.

AS 3105: 2014 Approval and test specification – Electrical portable outlet services. ($134.32)

This standard supersedes the 2012 edition and AS/NZS 3197:2005. It has been revised to include requirements for control and conditioning devices previously within the scope of AS/NZS 3197:2005.

Referenced worksection: *0136 Workstations*.

AS 4685 Playground equipment and surfacing.
Part 1:2014 General safety requirements and test methods. ($336.73)
Part 2:2014 Additional specific safety requirements and test methods for swings. ($182.03)
Part 3:2014 Additional specific safety requirements and test methods for slides (EN 1176-3:2008, MOD) ($182.03)
Part 4:2014 Additional specific safety requirements and test methods for cableways (EN 1176-4:2008, MOD) ($152.87)

These standards supersede their 2004 edition. The revised standard is an adoption of the European Standard for Playground Equipment EN 1176:2008 Parts 1 to 6 with some minor deviations that take account of specific Australian safety and design requirements such as higher UV exposure.

Referenced worksections: 0261 *Landscape furniture and fixtures*; *1475 Playground equipment maintenance*.

AS/NZS 60598 Luminaires.
Part 2.1:2014 Particular requirements – Fixed general purpose luminaires. ($134.32)

This standard supersedes the 1998 edition. The main revision includes the essential safety requirements for double-capped LED lamps.

Referenced worksection: 0951 *Lighting*.

SAA HB 29-2007 Communications cabling manual.
Module 2: Communications cabling handbook. ($295.88)

This standard has been made obsolescent and there is no replacement standard.

Referenced worksections: 0702 *Mechanical design and install*; 0781 *Mechanical electrical*; 0782 *Mechanical electrical minor*; 0882 *Hydraulic electrical – minor*; 0901 *Electrical systems*; 0902 *Electrical design and install*; 0921 *Low voltage power systems*; 0961 *Telecommunications cabling*.

SAA HB 243-2007 Communications cabling manual.
Module 1: Australian regulatory arrangements. ($152.87)

This standard has been made obsolescent and there is no replacement standard.

Referenced worksection: 0702 *Mechanical design and install*; 0781 *Mechanical electrical*; 0782 *Mechanical electrical – minor*; 0882 *Hydraulic electrical – minor*; 0901 *Electrical systems*; 0902 *Electrical design and install*; 0961 *Telecommunications cabling*; *1391 Service conduits*.

OTHER STANDARDS

The most significant standards published in March, April and May 2014 which may be of interest to specifiers, include:

AS/NZS 1141 Methods for sampling and testing aggregates.
Part 7:2014 Apparent particle density of filler. ($76.95)

This standard supersedes AS 1141.7:1995. It sets out the method for the determination of the apparent particle density of filler for asphalt.

Part 8:2014 Water-soluble fraction of filler. ($35.14)

This standard supersedes AS 1141.8:1995. It sets out the method for the determination of the water-soluble fraction of filler for asphalt.

AS/NZS 1269 Occupational noise management.
Part 4:2014 Auditory assessment. ($182.03)

This standard supersedes the 2005 edition. The main revisions include replacement of the table of maximum acceptable ambient noise levels for particular makes and models of earphones/enclosures combinations with a method to calculate the maximum permissible ambient noise levels for any earphones/enclosure combination (Appendix C) and deletion of the informative appendix covering otoacoustic emissions (OAE). The purpose of the change to Appendix C is to replace the device-based specification with a performance-based approach.

AS/NZS 2891 Methods of sampling and testing asphalt.
Part 11:2014 Degree of particle coating. ($35.14)

This standard supersedes the 2005 edition. It sets out the method for determining the degree of particle coating of asphalt of nominal size 7mm or greater, based on the percentage of coarse aggregates particles that are completely coated with binder.

AS/NZS 60079 Explosive atmospheres.
Part 31:2014 Equipment dust ignition protection by enclosure. ($107.14)

This standard supersedes the 2011 edition. It is applicable to electrical equipment protected by enclosure and surface temperature, limitation for use in explosive dust atmospheres. It specifies requirements for design, construction and testing of electrical equipment and Ex Components.

Standards, Legislation and Regulations in NATSPEC

NATSPEC is sometimes asked why it does not include certain standards or reference legislation or regulations. There are a number of factors that influence the decision but the two most common are that the standard is legally mandated or that it does not relate to the quality of building. NATSPEC does not reference legislation, regulations or legally mandated standards because there is an implied warranty that the contractor will comply with all applicable laws, regulations and other legal requirements. The second reason is that NATSPEC concerns itself with the quality of building and so does not include standards that relate to the way builders go about their business such as workplace health and safety on the building site.

This said, NATSPEC does reference these in some situations:

- If a mandated standard has options, the specification provides scope for selecting the required option.
- Mandated standards are minimum requirements and NATSPEC may specify something that is greater than the minimum or to assist specification writers to do so.
- Some mandated standards are referenced in a specific circumstance or only referenced in part. NATSPEC may specify a wider or more comprehensive application.
- To provide completeness. For example NATSPEC references AS/NZS 3000 because it is such a fundamental and far reaching standard, even though contractors must comply.
- In a very few cases NATSPEC might include reference to a specific part of a standard if it is known that it is widely ignored.
- In *Guidance* to direct specifiers to provisions that may need to be designed in or to give background to related text.

NATSPEC Paper – Getting started with BIM

NATSPEC has released *Getting started with BIM* to provide guidance to architectural or engineering organisations wanting to implement BIM (Building Information Modelling). It will be useful for organisations that have decided to implement BIM practices but are not sure where to start. It assumes that the business case for BIM and the decision to implement it within the organisation have already been made and that the uses and benefits of BIM is understood. The paper aims to answer the question 'So what do we do now?'.

The process and experience of implementing BIM within an organisation is likely to differ from one organisation to another - the paper provides some generic guidance to help the organisation's transition to BIM take place with the least disruption and to maximise the benefits to the organisation.

The paper outlines the phases of implementation including preparing for change, planning, execution and review. It covers some of the issues to be considered and decisions that need to be made during each phase plus guidance and tips on how to roll out the implementation.

Some of the issues covered include getting everyone on board with the implementation decision, tailoring the approach to your organisation, assigning responsibilities for managing the transition and obtaining assistance if necessary. Other topics include team and project selection, software and IT infrastructure requirements, office standards, office procedures and staff training.

Download *Getting started with BIM* from, www.natspec.com.au. Click on the BIM logo and see NATSPEC BIM Documents > Related Documents.

Sustainability Requirements in AUS-SPEC

The delivery, maintenance and repair of roads, parks, public buildings and amenities are the major responsibilities that challenge local government to continue to provide these services in a financially sustainable manner, over the long term.

AUS-SPEC, a national specification system, provides a consistent and uniform approach to contract documentation and enables sustainability related decisions to be embedded in the design, construction and maintenance of community assets. AUS-SPEC specifications are a system of Templates with supporting information used by local government for the life cycle management of assets.

AUS-SPEC supports Councils in improving the sustainability of their infrastructure assets in the following ways:

- Social/People: AUS-SPEC covers design, construction and maintenance of infrastructure to serve communities by providing roads, public utilities, urban and open spaces and buildings.
- Environment/Ecology: AUS-SPEC is concerned with life cycle management of infrastructure by looking at the whole-of-life, rather than the parts.
- Economic/Financial: AUS-SPEC is a national specification system which promotes standardisation and consistency across Council areas and is aligned to the National Sustainability framework, International Infrastructure Management Manual and Australian Infrastructure Financial Management Guidelines.

A paper titled *Improving sustainability of local infrastructure using AUS-SPEC* will be presented at the *2014 Sustainability in Public works Conference*, 27-29th July in Tweed Heads, and will be made available on www.natspec.com.au after the Conference.

Building Resilience to Extreme Weather Events

The ABCB's Discussion paper Resilience of Buildings to Extreme Weather Events released in April 2014 informs stakeholders of its preliminary views on the resilience of new buildings to extreme weather events.

New structures built in accordance with the National Construction Code (NCC) are designed to withstand extreme weather related events such as cyclones and extreme winds, intense rain, bushfire, snow and flood appropriate to their location. There are no provisions for new construction to resist the effects of hail, storm tide or to protect occupants from heat stress. The ABCB is seeking stakeholders' views on whether these hazards should be included in response to recent natural disasters and climate change.

NATSPEC offers prompts and guidance text for the specification of buildings in bushfire, flood, snow, hail and cyclone-prone areas as follows:

- Bushfire: Subgroups 017 General requirements, 033 Masonry, 038 Timber, 042 Roofing, 043 Cladding, 045 Windows, 080 Hydraulic General, 082 Hydraulic systems and worksections 0185 *Timber products, finishes and treatment*, 0701 *Mechanical systems*, 0723 *Evaporative air coolers* and 0901 *Electrical systems*. See also NATSPEC NTN DES 018 *Bushfire Protection*.
- Flood: *Guidance* text in 0310 *Concrete combined* and 0314 *Concrete in-situ* refers to CCAA Briefing 18 for information on design of concrete slabs for housing in flood-prone areas.
- Snow: Subgroup 042 Roofing references SAA HB 106 for the design of roofs in snow areas.
- Hail: Subgroup 042 Roofing allows for the specification of hail guards for box gutters. Worksection 0813 *Water heaters* allows for the protection of solar collectors.
- Cyclone: Subgroup 032 Earth and worksections 0343 *Tensioned membrane structures*, 0421 *Roofing – combined*, 0423 *Roofing – profiled sheet metal*, 0431 *Cladding – combined*, 0432 *Curtain walls*, 0436 *Cladding – profiled sheet metal*.

NATSPEC specifications allow specifiers to provide for the resilience of buildings to climate related hazards by referencing standards, the BCA and various other publications in its subgroups and worksections. Download the ABCB's review of the NCC from www.abcb.gov.au.

Incorporating Client Specific Worksections into Your Specification

NATSPEC encourages everyone to use the NATSPEC National Classification System to organise specifications, regardless of whether they are subscribers or if their specification is based on NATSPEC content. It classifies and sequences worksections in a logical order corresponding to common work sequences in the Australian construction industry and provides locations for specification material provided by the civil and structural engineer, the architect, landscape architect, interior designer and services engineers. Download from www.natspec.com.au.

The design, construction and maintenance of the built environment requires collaboration and extensive exchanges of information between large numbers of people for extended durations. Depending on their role, each participant has different information needs and responsibilities at different times during the process.

Classifying information in a consistent way, agreed by all participants, facilitates clear communication of intent and reduces misunderstanding, conflict, and wasted resources – this is particularly important in the construction industry because the parties involved usually change from project to project. A national classification system such as NATSPEC's provides the required consistency. Using individually – developed classification systems – no matter how good they are technically – introduces inconsistency and undermines the primary value of classification to the industry.

Many government departments require consultants to use NATSPEC specification *Templates* for government projects. These departments and other clients may also require consultants to incorporate additional standard requirements into the specification in place of NATSPEC generic worksections e.g. preliminaries and general requirements. In other, non-government projects, various consultants may contribute specification material using a different classification system. The National Classification System is flexible enough to accommodate these requirements.

For consistency, NATSPEC recommends reclassifying this material using the National Classification System. The four digit numbers are for classification purposes only and do not need to be successive.

A TECHreport on classification can be downloaded from www.natspec.com.au. Click on the BIM logo and see NATSPEC BIM Documents > Related Documents. The NATSPEC classification system can also be used for other purposes other than organising specification content, including organising technical literature (see TECHnote NTN GEN 015), project information and Building Information Models (BIM). For tools to assist these uses, visit www.natspec.com.au and click on the BIM Logo.

Local Government Specifications

AUS-SPEC Complete INCLUDES

- **Contracts**
- **Urban and open spaces** includes NATSPEC Landscape
- **Buildings** includes NATSPEC Basic
- **Roadworks and bridges**
- **Public utilities**
- **Maintenance (Non Parks)**

"Instead of reinventing the wheel, Councils should consider adopting nationally consistent civil specifications. AUS-SPEC, developed by IPWEA, is updated annually and provides national consistency of documentation, such that all involved in the design, construction and maintenance of Council assets are using the same language. It provides a library of design, construction and maintenance templates and allows the flexibility to edit and add Council specific and project specific information"

Chris Champion, IPWEA National CEO

NATSPEC// Construction Information

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DTAC pioneered the Architectural floor tactile industry in Australia, offering aesthetically designed products that deliver on form and function which can be seen in some of the most iconic buildings throughout Australia.

Among DTAC's latest projects is the Deakin University, Burwood Highway Frontage Building, where a variety of DTAC floor tactiles and stair nosing's were installed across the site. Over 43,000 "DTAC's" including its urethane polymer range in black and the DTAC 316 stainless steel tactile were installed. Various utility areas were fitted with integrated rubber tactile mats and DTAC Brass infrastructure markers were also installed on the concrete ceiling of the building.

Almost a kilometre of DTAC Pleat stair edging in black anodised went in to the project using a combination of unique DTAC edging profiles for specific stair areas. A late change to the specification of one stairwell allowed DTAC to work closely with Hansen Yuncken to provide a clever solution to an unusual angled stair riser.

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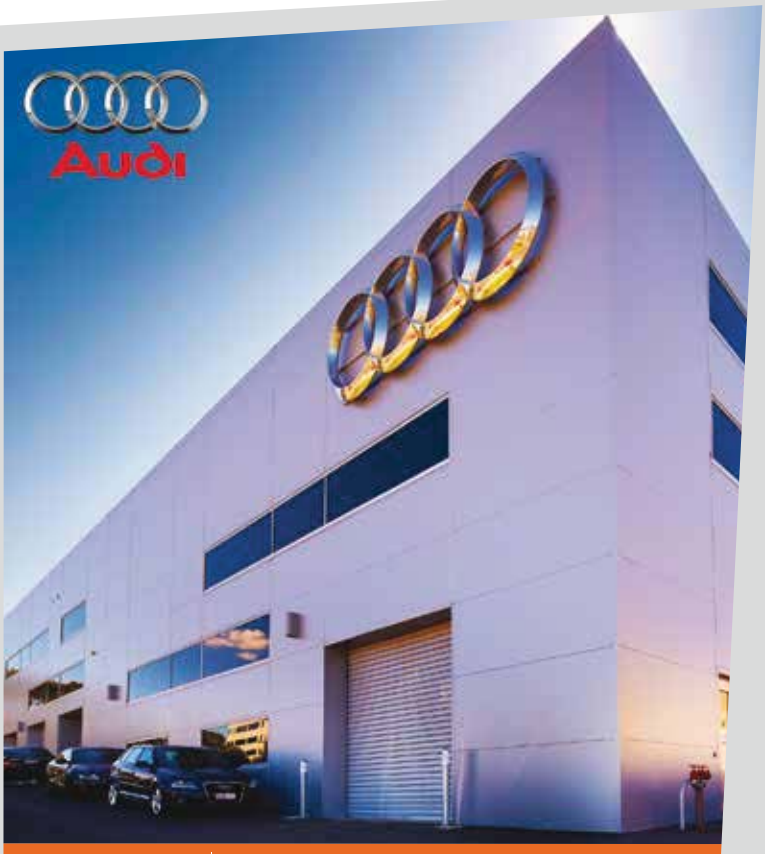

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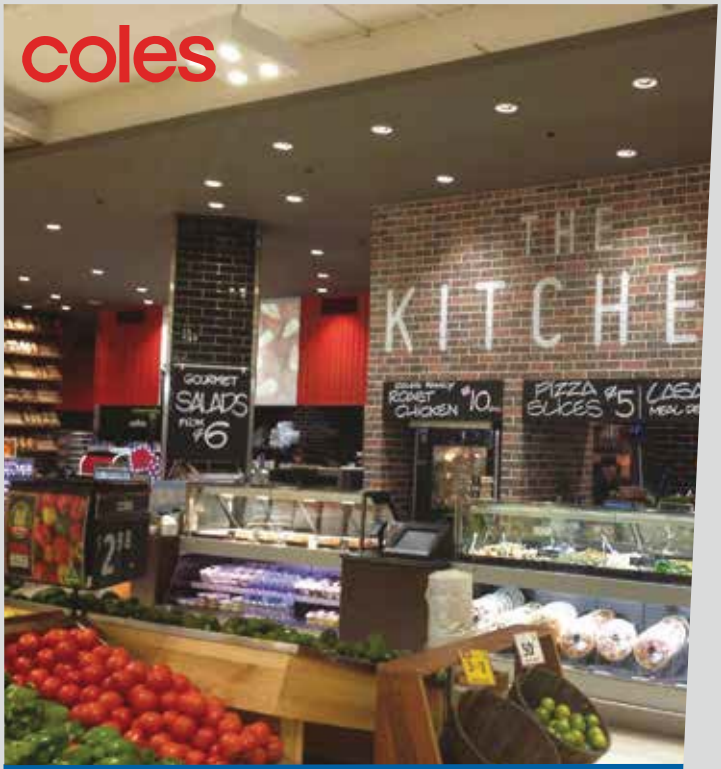

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