

NATSPEC *STYLEguide*

NATSPEC *STYLEguide* is an alphabetical reference to the NATSPEC and AUS-SPEC style rules, including preferred spelling, grammar, punctuation, hyphenation, forms of expression, and method of citation and cross referencing.

Prepared by

NATSPEC

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NATSPEC *STYLEguide* is to assist all users of NATSPEC to produce clear, concise documents with precise and consistent language, structure and terminology both within NATSPEC and between NATSPEC text and project specific material. This guide sets out NATSPEC's preferred forms of expression. While alternative forms of expression may be valid, NATSPEC has standardised some forms to achieve clarity.

Preferred spelling and terms are based, in order of preference, on accepted usage in the Australian building industry, HB 50-2004, *Glossary of Building Terms* (Leslie and Potter 2004), terms defined in Australian Standards and the *Macquarie Dictionary*. There will no doubt be many outside NATSPEC who will dispute the adopted expressions and forms. There are also those inside NATSPEC who disagree. However, for pragmatic reasons, where there is no reason to choose one form over another, NATSPEC will be consistent with past practice. This avoids the need for trivial changes.

How to use the NATSPEC STYLEguide:

Entries that appear without an accompanying explanation indicate the preferred spelling, format and capitalisation only. It is suggested these spellings are included in your MS Word dictionary so Spellcheck does not flag them. For example:

in situ

This indicates the preferred form is two words (rather than a single or hyphenated word) and all lower case. For example,

In reactive clay: In sites classified M, M-D, H1, H1-D, H2, H2-D, E or E-D to AS 2870, re-use excavated site material at a moisture content within $\pm 1\%$ of that of the adjoining in situ clay.

Where an entry is not preferred by NATSPEC, the non-preferred term appears in ***bold italic*** text and the accompanying explanation states the preferred alternative word or expression in **bold** normal text. The **bold** word is also listed alphabetically in the NATSPEC *STYLEguide*. For example,

according to Use **conform to** instead.

This indicates the bold **conform to** is preferred over ***according to***. For example,

General: Make sure that the elapsed time between the wetting of the mix and the discharge of the mix at the site conforms to AS 1379 (2007).

A further explanation of an entry is given where necessary. Lengthy explanatory notes are shaded to make reading easier.

Detailed guides to citation, SI units and symbols, are listed alphabetically in the A-Z section.

NATSPEC STYLEguide for AUS-SPEC:

The preferred form of some terms differs between NATSPEC and AUS-SPEC text. Where this occurs, *STYLEguide* includes both forms with a note on appropriate usage.

A

AADT Annual Average Daily Traffic.

AAPA Australian Asphalt Pavement Association.

ABCB Australian Building Codes Board.

abbreviations Do not use full stops or apostrophes with abbreviations.

Abbreviations and acronyms must be defined. Once defined, both the abbreviation (or acronym) and full form may be used to suit the context. To improve readability, the use of abbreviations should be minimised and confined to common terms.

Unless it is a common abbreviation defined in the *General requirements* worksection, define abbreviations in the **INTERPRETATIONS** clause in the relevant worksection. An individual worksection might contain the following definition that applies only to that worksection, for example:

GPF: Gypsum plaster – finish.

In other cases, particularly when there is only one instance of a common abbreviation, text may read better if the abbreviation is defined after its first occurrence and thereafter the abbreviation used alone. For example:

In some states and territories, additional or alternative criteria may apply e.g. Registered Professional Engineer, Queensland (RPEQ)..

abbreviations (acronyms and initialisms)

Do not use full stops between letters if the abbreviation is an acronym or initialism. An exception to this principle is if the abbreviation is normally written with full stops such as in an Australian Standard. For example, d.c. (direct current).

Make initialisms and acronyms plural by adding an s (lowercase) to the end. Do not use an apostrophe. Acronyms are pronounced as a word e.g. ANZAC. Initialisms, e.g., ABC are abbreviations for which you say each letter.

abbreviations (organisations) Abbreviations are rendered in capitals with no full stops or commas. *STYLEguide* lists some abbreviations commonly used in NATSPEC. See *NATsource* for a complete list of organisations referred to by NATSPEC.

ABGR Australian Building Greenhouse Rating. Now known as NABERS Energy. Refer to the NATSPEC TECHreport, *Specifying ESD*.

Aboriginal

above-ground

absolute level tolerance

a.c. Alternating current.

access chamber Use instead of *personnel accessway* and *manhole*.

access cover

access door Larger than access panels.

access for maintenance

accessible This term is defined by the NCC and relates to people with disabilities.

Accessible housing Housing that includes features which enable use by people either with a disability or transitioning through their life stages. See NATSPEC TECHnote DES 037 *Accessible housing*.

access hole Use **access opening** instead.

access opening Use instead of **access hole**.

access panel Smaller than **access doors**.

access pit

accessway

accordion doors

according to Use **conform to** instead.

accreditation

Accredited Testing Laboratory Use instead of *Registered testing laboratory*.

accuracy

AccuRate Second generation of NatHERS software.

acknowledgement

acoustic insulation

acoustic material

acoustic underlay

Acrobat A family of software by Adobe System which uses PDF format files.

acronyms See **abbreviations**.

acrylic - liquid applied (membrane)

ACT Australian Capital Territory. Generally, write all states except **NSW** and **ACT** in full.

ACTHERS Australian Capital Territory House Energy Rating Scheme.

ActivFire Register of Fire Protection Equipment Not italics.

active voice Voice is a property of verbs. In an active voice, the person or thing that performs the action is the subject of the verb. In the preferred example, the contractor is the subject whereas in the non-preferred form the tiles are the subject:

Provide purpose-made border tiles..... not...
Border tiles are to be purpose-made...

The specification has a number of roles, apart from describing what the contractor is to provide, and will be read by a number of users. However, NATSPEC

STYLEguide

style assumes the contractual role to have the highest priority and the text is therefore addressed to the contractor who in effect becomes the subject of the verb.

activity centre

Activity contract requirement (ACR)
(AUS-SPEC)

Activity specification (AUS-SPEC)

Acts (AUS-SPEC)

acts and regulations (NATSPEC) Use lower case unless referring to a specific act or regulation in which case use the full title, including the year and jurisdiction, capitalised as published and in italics. Include the shortened form of the jurisdiction in parentheses. For example, the *Contaminated Land Management Act 1997 (NSW)*. Use the following shortened forms for jurisdictions:

Jurisdiction	Shortened form
The Commonwealth	Cth
Australian Capital Territory	ACT
Northern Territory	NT
New South Wales	NSW
Queensland	Qld
South Australia	SA
Tasmania	Tas
Victoria	Vic
Western Australia	WA

ACQ Alkaline Copper Quaternary.

adaptation

adequate Do not use if there is no verifiable value.

added filler

adhesion (paint)

adhesion agent

adhesive bedding

adhesives - cementitious (C)

adhesives - dispersion (D)

adhesives - reaction resin (R)

advanced plants (species)

after-hours

aggregate-filled textured latex coating

AGAM Austroads Guide to Asset Management.

AGBT Austroads Guide to Bridge Technology.

AGO Australian Greenhouse Office.

AGPD Austroads Guide to Project Delivery.

AGPT Austroads Guide to Pavement Technology.

AGRD Austroads Guide to Road Design.

AGRS Austroads Guide to Road Safety.

AGTM Austroads Guide to Traffic Management.

AHD Australian Height Datum.

AIA Australian Institute of Architects (formerly the Royal Australian Institute of Architects).

airblast

airborne

airborne sound

air conditioning Use instead of *airconditioning* and *air-conditioning*, except in the case of standards titles or organisation names in which there is some variation.

air cooled

air entrainment

air flow

air grille

air handling plant

air handling unit (AHU)

airspace

airtightness

allowable working time

alternating current Use **a.c.** not **A.C.** or **ac**.

ambient temperature

ambient water

AMCORD Australian Model Code for Residential Development.

ameliorant

amend Use **edit** instead when referring to making changes to a NATSPEC worksection to make it project specific.

amnioplastic

ampere (A) SI unit of electric current.

analog (Electrical and electronic) Use instead of *analogue*.

anchor trench

and Use instead of an *ampersand (&)* unless & is part of a company name.

and/or If using this expression in a specification, make sure the direction to the contractor is unambiguous.

and the like Do not use. Provide a complete list instead.

annexure

anionic bitumen

anodise

anti-bleed

anti-burst reinforcement

anti-condensation

STYLEguide

anti-corrosive**anti-drum, anti-drumming****antifreeze****antiglare****anti-graffiti****antimicrobial****anti-ponding**

anti-skid, anti-slip Use **slip-resistant** instead.

anti-splash**anti-stalling****antistatic****anti-tampering****anti-windup**

APAS Australian Paint Approval Scheme. NATSPEC has removed all references to the Australian Paint Approval Scheme and aligned the statement of quality and the recommendations for paint systems to Australian Standards following the APAS decision to charge a licence fee for anyone using an APAS™ designation. Subscribers who continue to reference APAS should check their position with APAS™ as licence fees may be payable.

apostrophes Do not use apostrophes with abbreviations. Avoid shortened forms of expression. For example:

Some do not... not... Some don't. . . .

Place the apostrophe correctly to indicate possession. In plurals, the apostrophe comes after the plural form of the word. For example:

The apartment unit's mailbox = the mailbox of the apartment unit.

The apartment units' mailboxes = the mailboxes of the apartment units.

The children's toilets = the toilets belonging to the children.

APP bitumen

Appendix/Appendices (AUS-SPEC) Bold when referencing AUS-SPEC appendices within the worksection.

appendices/Appendices (NATSPEC) Use appendices generally and Appendices only when referring to NCC Appendices or when following a standard. Not bold.

approach sight distance

approved As a generic technical specification, it is beyond the scope of NATSPEC to offer any management system to handle the approval process. Consequently, definitions and directions such as approved do not appear within the worksection text. Where appropriate, a prompt indicates an approval could be required. The extent of approval responsibilities should take into account the recommendations of the various professional bodies and should be covered in the agreement with the

client. If an approval is required, before implementation, consider nominating a **Hold point** to eliminate ambiguity. If a definition of approved is required, the following *Optional* style text is included in the *General requirements* worksection.

Approved: Approved, reviewed, directed, rejected, endorsed and similar expressions mean approved (reviewed, directed, rejected, endorsed) in writing by the contract administrator.

architect Use **contract administrator** as the default. If the general conditions of contract use another term, consider amending all references in NATSPEC.

AR&R Australian Rainfall and Runoff.

ARI Average recurrence interval(s).

arris Both noun and verb.

AS Australian Standard. Show as, e.g. AS 1379 (2007) (without title but with year of publication (2007)) in *Normal* style text and show in **Referenced documents** in *Guidance* as follows:

AS XXXX: Year Title.

For example:

AS 1379 2007 Specification and supply of concrete

Where the standard is part of the series, show in **Referenced documents** in *Guidance* as follows:

AS XXXX Title

AS XXXX.Part: Year Part title.

For example:

AS 2201 Intruder alarm systems

AS 2201.3 1991 Detection devices for internal use

Always include the parent standard above the child standard in in **Referenced documents** in *Guidance*.

Australian Standard Supplement. Show as AS XXXX Supp X (Year) in *Normal* style text and in **Referenced documents** in *Guidance* as follows:

AS XXXX. Supp X–Year Title. For example:

AS 3735 Supp 1 2001 Concrete structures retaining liquids - Commentary (Supplement to AS 3735-2001)

NATSPEC does not generally cite withdrawn standards.

See also **AS/NZS** and **citation** for guidance in citing Australian Standards in NATSPEC. See also **Referenced documents**.

as built, as-built Use when referring to GBCA As Built tools only. Generally, use **record drawings** (NATSPEC) and **work-as-executed** (AUS-SPEC) drawings instead.

ASD Approach sight distance.

as fitted drawings Use **record drawings** instead.

as installed drawings Use **record drawings** instead.

STYLEguide

as documented Use to cover the possibility an item might be on the drawings or somewhere other than the specification. Use instead of as nominated, as specified, as shown, as designated e.g. Provide IT components and systems, as documented.

AS/NZS Australian/New Zealand Standard. Show as AS/NZS XXXX (year) (without title and with year of publication) in *Normal* style text and show in **Referenced documents** in *Guidance* as follows:

AS/NZS XXXX Year Title. For example:

AS/NZS 5131 2016 Structural steelwork – Fabrication and erection.

In AS/NZS 3000:2018, the text is divided into two Parts. These are not parts of the standard and should be cited as follows:

AS/NZS 3000 Part 1 and AS/NZS 3000 Part 2 not AS/NZS 3000.1 and 3000.2.

See also **citation** for guidance in citing Australian/New Zealand Standards in NATSPEC. See also **Referenced documents**.

as per Use **conform to** instead.

asphalt

asphalt pavement

assessment

asset protection zone (APZ) / Defendable space

ASTM American Standard Test Method.

@ Use **at** instead, except in email addresses.

Atmosphere Non-preferred but convenient unit of pressure. Equal to 1012.25 kilopascals or roughly a megapascal.

atmospheric corrosivity category To AS 4312. The corrosivity categories included in the AS/NZS 2312 series for structural steelwork align with those of AS 4312. However, the AS/NZS 2312 series also nominates an additional corrosivity category of T (inland tropical), which was introduced to align with AS 4312-2008, but has been removed from the latest edition of AS 4312.

ATS Australian Technical Specification former name for **Watermark Technical Specifications (WMTS)**.

attendance

AUS-SPEC National specification system for the life-cycle management of assets.

AUS-SPEC Buildings AUS-SPEC package which covers planning and design, tendering and contract preliminaries, maintenance and operation of buildings and their associated services. It also includes the NATSPEC Building BASIC package for simple building projects where brevity is a priority. It covers site, structural, architectural, interiors, landscaping and mechanical, hydraulic and electrical services design and installation work. This package

is for Building, Asset, Property Services and Engineering Services Managers.

AUS-SPEC Complete AUS-SPEC package which covers planning and design, tendering, contract preliminaries, construction, maintenance and operations of open and urban spaces, buildings, roadworks, minor bridges for vehicle and pedestrian use, and public utilities. This package satisfies most Local Councils' needs and is used by design, maintenance and operational personnel.

AUS-SPEC Contracts AUS-SPEC package which covers tendering, contract preliminaries, quality checklists and quality requirements for the supply of projects and services. This package is for Contract, Supply, Asset and Works Managers, Purchasing and Legal Officers.

AUS-SPEC Maintenance (Non Parks) AUS-SPEC package which covers tendering and contract preliminaries, maintenance and operations buildings, roadworks, minor bridges for vehicle and pedestrian use and public utilities. This package is for Engineering Services, Environmental Services, Asset and Maintenance Managers.

AUS-SPEC Public utilities AUS-SPEC Public utilities package is applicable to both metropolitan and regional Local Government Councils for use in the design, construction and maintenance of stormwater drainage and regional Local Government Councils only for use in the design and construction of water supply and sewerage systems. It covers planning and design, tendering and contract preliminaries, construction, maintenance and operations of public utilities (water supply, water cycle management, sewerage systems and cleaning and waste management). AUS-SPEC **Public utilities** depends on a Maintenance Management Plan (MMP) and Activity Contract Requirements (ACR) to organise and ensure quality maintenance for various activities. AUS-SPEC TECHguides provide guidelines and examples for preparation of specifications. This package is for Engineering Services, Environmental Services and Maintenance Managers.

AUS-SPEC Roadworks and bridges AUS-SPEC package which covers planning and design, tendering and contract preliminaries, construction, maintenance and operations of minor roadworks and minor bridges for vehicle and pedestrian use. This package is for Design and Development, Contracts, Asset, Maintenance Business Unit and Strategic Planning Managers.

AUS-SPEC Rural roads AUS-SPEC package which equips councils to implement better practices for the design, construction, maintenance and operation of local roads. Across the asset lifecycle, the package covers documentation for planning, design, tendering, contract preliminaries,

STYLEguide

construction, maintenance and operation of regional and rural roads.

AUS-SPEC Urban and open spaces AUS-SPEC package which covers planning and design, tendering and contract preliminaries, construction, maintenance and operations of urban and open spaces (landscaping, pathways and retaining walls). It also includes the NATSPEC BUILDING Site package for site preparation works and all works external to the building, but within the site boundary, together with mechanical, hydraulic and electrical services design and installation work. This package is for Environmental Services, Recreation and Maintenance Managers and Park Superintendents.

AUS-SPEC styles Some terms found in AUS-SPEC worksections differ from the preferred NATSPEC style. These are noted in the alphabetical *STYLEguide* entry.

Australian Government

Austrroads

authority/Authority Use capital for official references only.

autoclaved aerated concrete (AAC)

autocorrect Correct spelling, writing of SI units and some symbols can be made easier and free from errors in MS Word by use of the AutoCorrect feature (found in Tools \ AutoCorrect). To prevent MS Word turning characters that are not present in some fonts into symbols deselect the following items from both the **AutoFormat** as you type and **AutoFormat** tabs.

- "Straight quotes" with "smart quotes"
- Ordinals (1st) with superscript
- Fractions (1/2) with fraction character (½)

The following are some suggested entries to include in the AutoCorrect replacement table:

Replace	With
+ - or +/-	±
KPa	kPa
KV.A	kV.A
KW.h	kW.h
m2	m ²
m3	m ³
mm2	mm ²
mpa	MPa
mu	μ

automatic numbering (headings) NATSPEC uses 4 levels of **heading** styles. Heading 2 and Heading 3 styles have automatic numbering and numbering will adjust automatically if a heading is added or deleted in either of these styles. Heading 1 and Heading 4 styles are not numbered. Numbers can be added to these headings in MS Word with *Customise Outline Numbered List* (under *Format\Style\Modify\Format\Numbering*).

autumn Seasons are lower case. See also **months** and **seasons**.

average ambient temperature

average recurrence interval (ARI)

Average specific extinction area

B

backcheck**backfill****backflow****backflow prevention device**

background Use **substrate** instead.

backlit**backmount frames****backnut****backplate****backup**

BACnet Building Automation and Control Network.

bad ground**balanced construction****balustrade****ball joints****base coat****base plate**

BASIC worksections NATSPEC worksections which have been cut down blackout from the full worksection for use in simpler projects. These worksections are designated by a lowercase b after the classification number e.g. *0331b Brick and block construction*. If clauses/subclauses have not been included in BASIC worksections, the following *Guidance* text is inserted:

CLAUSE name or Subclause name

This clause or subclause is not included in this BASIC version. The full worksection is part of the BUILDING Professional package.

If a subclause has been further cut-down, the following *Guidance* text is inserted:

Subclause name

This is a cut-down version of the subclause in the full worksection. The full worksection is part of the BUILDING Professional package.

BASIX Building Sustainability Index. Refer to NATSPEC TECHreport 01 *Specifying ESD* and TECHnote DES 013.

basket weave**batch****batter**

BCA National Construction Code (**NCC**) Series Volume One: Building Code of Australia Class 2 to 9 Buildings and Volume Two: Building Code of Australia Class 1 and Class 10 Buildings.

NATSPEC refers to BCA clauses, specifications and tables either directly or indirectly when a standard cited is one adopted by reference by the BCA.

NATSPEC defines the term in **INTERPRETATIONS** in the *0171 General requirements* worksection.

See **citation** for guidance in citing BCA clauses, specifications and tables in NATSPEC.

See also **Referenced documents** and NTN GEN 011 *Specifying NCC requirements* for more information on how NATSPEC incorporates the BCA requirements in the worksection *Templates*.

BCA terms Use BCA capitalisation.

BCA Volume 1 See **National Construction Code**.

BCA Volume 2 See **National Construction Code**.

bedding

before Use instead of *prior to*.

below-ground**benchmark****benchtop**

BERS Building Energy Rating Scheme. Refer to NATSPEC TECHreport 01 *Specifying ESD*.

biannual Use **twice a year** instead.

bicycle path (cycleway)**bi-fold**

billion AS ISO 1000 Appendix AA recommends that the term billion not be used as it can mean both 10^9 and 10^{12} . Use 10^9 or 10^{12} instead of billion.

Bill of quantities (AUS-SPEC)**bill of quantities** (NATSPEC)**binder****bioresistance****bioretention****bio-soluble****birdmesh****birdproofing**

bitumen Includes APP bitumen and SBS bitumen.

bituminous cold mix**blast-cleaning****bleed water**

blind rivet Use instead of *pop rivet*

blockout**Bluetooth**

BMS Building Management System

STYLEguide

boiling water**bond breaker****bond breaking****bonding conductor****bonding treatment****booster****borehole****borrow area****bound material****bound granular material****braille****branch**

branded worksection A worksection produced in NATSPEC format in conjunction with a **Product Partner** which provides specifiers with an alternative to the generic worksection where a particular product has been selected at design stage.

These worksections are designated by a lowercase p after the classification number e.g.

0423p COLORBOND® steel and ZINCALUME® steel in roofing.

BRANZ An accredited testing authority, for NCC evidence of suitability.

breakdown**breathability****breathable (vapour permeable) membrane****broad-leafed****bruinling** Material surface failure caused by stress.**BS** British Standard.

builder Use **contractor** as the default instead. If the general conditions of contract use another term, consider amending all references in NATSPEC.

building and facility data sheets**Building and Facility Maintenance Plan (BFMP)** (AUS-SPEC).**Building IT, Building IT system****building services****building maintenance unit (BMU)****built-in** Use instead of *in built, in-built, inbuilt*.**built-up air handling plant****bulking****bulleted lists** See **lists** for preferred arrangement.**bullnose, bullnosing****busbar****busduct****Bushfire Attack Levels (BAL) BAL-XX** e.g.**BAL-19** for Bushfire Attack Level 19**bushfire-prone area****butt joints (flooring and decking)***by means of* Do not use. Use **by** instead.**by-product**

C

cable support

CAD

Call out

calorifier

candela (cd) SI base unit of luminous intensity.

cannot

capability

CAPITAL letters Use a capital letter to start sentences and list items. Do not use capitals for nouns unless they are proper nouns or to match the capitalisation in a referenced document such as the general conditions of contract. Use the same capitalisation for the names of organisations as used by the organisations. For example:

The Queensland Government is a state government.

Use a capital for the first word only of a document title. For example:

Timber in context.

CAR Corrective Action Request

car park

car parking

car space/car spaces

carriageway

carriageway concrete pavements

cast-in e.g. cast-in elements.

cast-in-place

cast iron

catalogue

catchment

catchment area

Catchment Area Plans (AUS-SPEC).

CBR California Bearing Ratio

CCA Copper Chrome Arsenate. A timber preservative treatment.

ceiling-hung

ceiling unit

Celsius See also **temperature**.

cement matrix terrazzo

certification

Certification Report (AUS-SPEC).

chain of custody

chainwire Referred to as chainlink in AS 2423.

chalkboard

changeable letter systems

changeable plate systems

changeover

checker plate pattern Use **floorplate** when referring to the specific metal plate

checklist

check-out (ASHRAE)

childproof

chilled water

CIAL Carpet Institute of Australia Limited.

citations (and references) A citation is a reference to an external document that is included in the contract documents by reference in the same way that Australian Standards are included in the NCC by reference. In NATSPEC and AUS-SPEC worksections, citations and references (documents referenced in *Guidance* text but not included in the contract documents) are listed in **Referenced documents** in *Guidance* at the end of each worksection. **Referenced documents** are in *Guidance* text style and the specification writer may include the relevant standards from this list if required by changing the *Guidance* style text to *Normal* style text.

Within worksections, cite documents as follows:

- Standards: Where possible cite standards using keywords. For example: *Method: To AS 1234 (2008)*. If the standard is cited within a paragraph, use '**conform to AS 1234 (2008)**' not 'conforming to AS 1234 (2008)'. Do not include the title of the standard.
- If the standard is a guideline, use '**conform to the recommendations of AS 1234 (2008)**'.
- To cite a standard clause: Use AS 1234 (2008) clause 3.2 (no comma between standard and clause).
- See **AS** and **AS/NZS** for citation of Australian and Australian/New Zealand standards. See **AS/NZS** for citation of AS/NZS 3000 which is divided into parts which are not standard Parts of a standard. In NATSPEC, AS/NZS ISO standards are preferred over ISO standards, which are preferred over EN standards. Check NCC citations for preference.
- National Construction Code:
 - a) To cite a BCA section (excluding a clause or part number): Use **BCA (year) Section X**, not BCA (year) X e.g. BCA (2022) Section J.
 - b) To cite a BCA clause: Use **BCA (year) XYZ**, not BCA (year) clause XYZ e.g. BCA (2022) E1D4. Do not include

STYLEguide

- the clause name, which is provided in **Referenced documents** in *Guidance*.
- c) To cite a BCA table: Use **BCA (year) Table XYZ** e.g. BCA (2022) Table D3D15. Do not include the table name, which is provided in **Referenced documents** in *Guidance*.
 - d) To cite a BCA specification: Use **BCA (year) Spec XYZ**, not BCA (year) specification XYZ e.g. BCA (2022) Spec 6. Do not include the specification title, which is provided in **Referenced documents** in *Guidance*.
 - e) To cite a PCA section (excluding a clause or part number): As for BCA citations, Use **PCA (year) Section X**, not PCA (year) X e.g. PCA (2022) Section B.
- Books: Use author-date style (also known as the Harvard System or Harvard Style). For example, *Walker, Peter MB 1999, Chambers dictionary of science and technology, Chambers, London.*
 - Journals: Use author-date style. For example: Marchelier, PM & Hughes, RG 1997, *New problems with foodborne diseases*, Medical Journal of Australia, vol. 275, pp.771-5.
 - Acumen (formerly AIA Advisory notes): In introductory *Guidance* to a *Template* the following text may be included: Search acumen.architecture.com.au for notes on (subject using acumen keywords). List keywords in Instructions ident style each topic cited.
 - TECHguides: TG (prefix TECHguide) Classification Number (1= General, 4= Maintenance) and 2 digit identification number. For example: TG 101 *Guide to preparing technical specifications for contracts.*
 - TECHnotes: NATSPEC TECHnote XXX (Classification GEN, DES or PRO), 3 digit identification number and italicised title.
If citing a TECHnote in *Guidance* text, do not include the title. Instead, give an indication of the reason for the citation. For example, see NATSPEC TECHnote DES 001 on slip resistance.
 - TECHreport: NATSPEC TECHreport TR XX, 2 digit identification number and italicised title.
If citing a TECHreport in *Guidance* text, do not include the title. Instead, give an indication of the reason for the citation. For example, see NATSPEC TECHreport TR 01 on specifying ESD.
 - CodeMark Certificates of Conformity: Cite in branded worksections only. Include date of expiry in *Guidance* text. Only CodeMarks current at the publication of the *Update* are included.
- See also **cross reference** for reference to other material contained within the specification. See also **Referenced documents**.

circular stairs**cladding****clamp plate****class - air filter****Class** BCA or Australian Standard Classes**classification system** See **National Classification System****clause****clay pavers****clay segmental pavers****clean water****clean-out****clearance authority****clearances****clear-cut****clear-felling****clearing****clear zone****closed cell****closed circuit****closed out****close-fitting****close-out****closed system****CodeMark Certificate of Conformity** See **citations****co-dominant****coating contractor****coating manufacturer****coating specification** See **hot-dip galvanized and protective paint coatings** for preferred units.**coating system****cofferdam** (AUS-SPEC).**cold-finished****cold-formed****coldmix****cold-rolled****cold room****cold weather****Colorbond®** Use MS character symbol i.e. do not use superscript. Do not include symbols in file name.**colourback glass****colourfast****colourfastness**

STYLEguide

comma A comma should not be used before the words *and*, *but* and *or*. The exception to this principle occurs when one of the items in the list linked by commas itself contains *and* or a comma is needed for clarity. For example:

- Use: Provide bolts, nuts and washers.
- Use: Provide plastic, rubber or stainless steel.
- Use: Include delivery, inspection, and operating and maintenance instructions.

See also **quotation** for inverted commas.

commencement Use when referring to the start of the works, e.g. in Preliminaries. Elsewhere, use **start**.

commissioning

Common requirements Worksections for items common to more than one technical worksection. For example: *0181 Adhesives, sealants and fasteners*, *0182 Fire-stopping*, *0183 Metals and prefinishes*, *0184 Termite management*, and *0185 Timber finishes and treatment*.

Commonwealth (government) Use **Australian** instead e.g. the Australian Government. See also **federal**.

compactibility index**competent person**

completion Use **practical completion** instead.

completion date Use **date of practical completion** instead or **date for practical completion** instead as applicable.

completion tests Do not use. See the definitions for tests in *0171 General requirements*.

[complete/delete] Prompt in NATSPEC worksection to indicate project specific requirements or selections are to be included. Delete paragraph if not required. The **[complete/delete]** prompt, appearing in brown text in the *Template*, is a word style which the specifier can search for using the *Word Styles and Formatting* function.

comply with Use **conform to** instead.

comply with the BCA Do not use. It is the specifier's job to produce a BCA compliant specification. Establish if any Performance Solutions are being pursued.

compulsory intervention level**compressed fibre cement sheets****concept plan****concrete class****concrete class – normal****concrete class – special****concrete segmental pavers****condenser**

conditional sentences Put the conditions or qualifications first in sentences. This is to make reading the specification faster – if the condition

does not apply, the rest of the sentence can be skipped by the reader:

- Before tiling, [verb]. . .
- If there is a delay, [verb]. . .

conform to Use instead of **comply with**, **in accordance with**, **as per**.

connecting strap

constituent Use instead of component to describe part of a mix.

Consultant (AUS-SPEC)**consultant** (NATSPEC)**consumable****continuously-supported flooring****contract****contract administrator****Contract documents** (AUS-SPEC)**contract documents** (NATSPEC)**contractor****contractor's quality inspector** (AUS-SPEC)**contractor's quality plan** (AUS-SPEC)**contracts manager** (AUS-SPEC)**control system****controlgear****cool room****coordinate****core hole****corrective action****corrective action request (CAR)**

corrosion-resistant Use instead of **corrosion-proof**, **non-corrosive** or **non-corroding**.

cotton-backed**Council** (AUS-SPEC)

council(s) (NATSPEC) Use lower case unless matching the capitalisation in a referenced document such as the general conditions of contract. Use the same capitalisation for the names of organisations as used by the organisations. For example:

The local council spoke with the Green Building Council of Australia.

counterflow**critical radiant flux****cross bank****cross drains****cross flow****crossarm**

cross reference A reference to other text contained within the specification. See **citation** for

STYLEguide

reference to external documents. Cross reference as follows:

- NATSPEC and AUS-SPEC: Other worksections: Use the classification number and worksection name in italics with the initial capital for the first word of worksection name only. Include the reason for the cross reference where possible. For example, see *0802 Hydraulic design and install* for rainwater tanks.
- Clauses (Heading level 3) in the same worksection: Use the clause name in **BOLD** all capitals. For example:
Requirement: Conform to **SUBSTRATE PREPARATION**.
- Subclauses (Heading level 4) in the same worksection: Use the clause name as above, followed by the subclause name in **Bold** with initial capital for the first word only. For example:
Requirement: Conform to **SUBSTRATES, Substrate preparation**.
- Tables in the *Template* text: Do not cross reference a table if it is in the same clause as it is effectively a related subclause. If required, as for subclauses, use the table name in bold with the initial capital for the first word only.
- Clauses (Heading level 3) in another worksection (NATSPEC): Cross reference by combining the two methods above. For example, Conform to **CLAUSE NAME** in *Classification No. Worksection name*. For example:
Requirement: Conform to **FLOOD TEST** in *0621 Waterproofing - wet areas*.
- Subclauses (Heading level 4) in another worksection (NATSPEC): Cross reference by combining the methods above, including the clause (Heading level 3). For example, Conform to **CLAUSE NAME, Subclause name** in *XXXX Worksection name*. For example:
Requirement: Conform to **SUBMISSIONS, Errors** in *0171 General requirements*.
- SUBSECTIONS (Heading level 2): Include only if there may be confusion about which clause is being cited, for example if there is the same Heading level 3 in both PRODUCTS and EXECUTION. CAPITALS and non bold, for example, Conform to PRODUCTS, **CLAUSE NAME** in *XXXX Worksection*.
- It is usually unnecessary cross reference referring to keyword level.

See also **citation** for reference to other material not contained within the specification.

cross-section

crossfall

crossfall drainage

cubicle

culvert

curb Use **kerb** instead.

cushion head box

custom-built Use instead of *purpose built*.

custom-built assemblies

custom-built luminaires

custom-made Use instead of *custom-built* or *purpose made* for a product or assembly designed and created for a particular project.

cutback

cut-down e.g. a BASIC NATSPEC worksection

cutout e.g. type of switch

cut-out e.g. an opening in joinery

cutter oil

cycleway

D

d Day.

damp-proof

data (plural)

data sheets

date for practical completion Use if applicable.

date of practical completion Use if applicable.

date of worksection See **footer**.

daylight

daywork

Daywork rates (AUS-SPEC)

dB Decibel. Use in relation to sound and some electrical measurements. The bel, which is 10 dB, is not used.

dB(A) Preferred abbreviation of decibel weighted to the A scale.

d.c. Direct current. Use instead of *direct current*.

DCP Development Control Plan.

DDC Direct Digital Control.

decimal places The number of digits to the right of the decimal place. For example 0.000 002 has 6 decimal places. See also **significant figures**, **rounding numbers**.

decimal point The decimal point is represented by a period on the line, not a comma. Include a leading zero in values between minus 1 and plus 1.

Use: 0.2

See also **zeros** for guidance on trailing zeros.

decorative overlaid wood panels

decontamination

decking

Deemed-to-Satisfy Solution This is a defined term in the NCC. Use when directly quoting the NCC.

default/default terms

defect/defects liability period

defect notice

defined terms Words or phrases given special or limited meaning in NATSPEC worksections. If possible, use terms that are in common use in the building industry. If this is not possible, the common use is ambiguous or the terms are derived from a standard, use the **INTERPRETATIONS, Definitions** clause in the GENERAL subsection to define the term. Always use the **defined term** in the defined manner. For example:

- **provide** is defined as supply and install. Do not use **provide** to mean submit or supply. Do not use supply and install or synonyms, such as furnish or supply and fix.

Branded worksections may have defined terms which do not appear in the generic worksection.

degrees See **temperature** for °C meaning and **Symbols** for plane angle meaning.

descriptive specification The specification of an item by describing in detail the materials, workmanship, installation and sometimes construction procedures. For example:

Fabrics: Piping: 3 mm diameter beads with core.

See also **proprietary** specification for comparison.

de-index

delineator

demolition

density ratio (soil)

desiccant

designated bushfire prone area

Design and Construct

Design CBR (AUS-SPEC)

design life

design parameters

design review

designer

de-stress

destructive inspection (of trees)

detailed on the drawings Use **as documented** instead.

dethatching

developer

development assessment

dewater

diameter Use the full word instead of its abbreviation or symbol.

dieback Refers to a condition of plants starting at the outer leaf tips and causing gradual yellowing, loss of leaves and lifelessness.

diffuser

digital copy/digital files Use instead of *electronic copy/electronic files* or *soft copy*.

dilapidation record

DIN German Institute for Standardization (Deutsches Institut für Normung).

DIN EN European standard that has been published unchanged in Germany. NATSPEC does not cite the

STYLEguide

EN standard of a particular country (except in branded worksections. Use **EN** instead.

DIN rail Use instead of *Din rail* or *DIN type rail*.

direct current Use **d.c.** not *D.C.*, *dc*.

direct (or proprietary) specification The specification of an item by reference to a proprietary trade name.

disassemble

disconnectable

discrepancy

dismantle

dispatch

DN Nominal pipe size e.g. DN 25.

document

documentation conventions NATSPEC style uses the following conventions:

- Imperative mood and streamlined language: The words 'shall' or 'shall be' are implied where a colon is used following a keyword or within a sentence or sentence fragment.
(‘Shall’ or ‘shall be’ are not used in NATSPEC worksections.)
- Subject of sentences and phrases: Specification requirements are to be performed by the contractor, unless stated otherwise.
For example,
Requirement: Provide x, y, and z, as documented means the contractor shall supply and install x, y, and z, as documented in the general conditions of contract, special conditions of contract, drawings, schedules and/or the specification.

documented

Domestic/BUILDING Domestic/Domestic

Online See **NATSPEC** for a description of specification packages available by subscription.

don't Avoid shortened forms. Use **do not** instead. Minimise the use of negatives by stating what is acceptable rather than the unacceptable.

door-by-door

door frame

door jamb

doorset

doorway

.dotx file An attached MS Word Style template document holding style information about that document for example, fonts, margins, headers and footers. Refer to NATSPEC worksection *Template* for NATSPEC style (Natspec.dotx).

double detail joint

double/double seal

double glazed

double glazing

double-hung

drainage control measures

drainage structures

drainage types

draft Use when referring to a preliminary document.

draft Use instead of *draught* when referring to the movement of air or gas.

drawband

drawing(s) Use instead of *Drawing(s)*

dripline

dry process fibreboard

dual drainage

dual water supply

dustproof

E

early age strength

earth windrow

earthwork(s)

earthing boss

east

economic life

ecosystem

edge bonding

edge drains

edge line

edge strip

edition Use to distinguish between documents published at different times, such as the April and October editions of NATSPEC. See also **version**.

EEGO Energy Efficiency in Government Operations Policy.

EIFS Exterior insulation and finish system

effective pipe length

eg Use **for example** or **e.g.** instead. Use **for example** generally and **e.g.** for sentence fragments in *Guidance* only. Use full stop after each letter and don't follow with a comma, regardless of whether you would use a comma in the sentence. In SELECTIONS, Schedules Guidance, capitalise the following word, For example,

Finishing treatment: e.g. Wood float, Sponge, Ornamental.

elastomer

elastopressive

electrical kilowatt See **kilowatt**

electricity distributor Use instead of *local network service, provider, network operator* and *supply authority*. Use **Utility service provider** for other services including telecommunications. For water supply and drainage use **Network Utility Operator**.

electronic copy/electronic files Use **digital copy/digital files** instead

electromagnetic capability (EMC)

email

embedded generator

embedded material

emergency access way

emitter

enable Use **allow** instead

End Area Method (AUS-SPEC)

end-matched joints (flooring and decking)

energy consumption

energy efficiency

energy load

engineer Use **professional engineer**, a **defined term** in NATSPEC, instead.

engineering design

ensure Use **make sure**, or **for** (to ensure) if applicable to the context.

entrapped insulated safety glass assembly

entrapped laminated glass assembly

environment

environmental audits

environmental impact assessment (EIA)

Environmental Management Plan (AUS-SPEC)

environmental management plan (EMP)

environmental officer

EPA Environmental Protection Authority or Environmental Protection Agency depending on the state legislation.

equal to/ or equal Do not use these terms as they may be an invitation to the contractor to substitute without notification. Specify the quality and performance required instead. Refer to NATSPEC TECHnote Product specifying and substitution for NATSPEC's procedure for substitution of specified products.

equilibrium moisture content (EMC)

erosion

erosion and sediment control

erosion classes in relation to soil types

erosion control measures

error

essential electric power

ESA Equivalent Standard Axles.

ESD Ecologically Sustainable Development. Refer to NATSPEC TECHreport *Specifying ESD*.

ESD Entering Sight Distance (AUS-SPEC).

et al Do not use Latin expressions. Use **and others**.

etc Do not use. Provide a full list instead.

Exact values Express exact values for as many digits as required to give the complete value. For example:

- Use: 1 kW.h = 3.6 MJ exactly.

STYLEguide

- Use: 1 standard atmosphere = 101.325 kPa exactly.

See also **inexact values**.

EXECUTION Subsection of each NATSPEC worksection. See also **worksection** for outline of worksection structure.

extended design domain (EDD)

Extreme Stress Seal (XSS)

evaporative air cooler

evaporative efficiency

exfiltration

expansion joint See **joints**.

external inspection (of trees)

extra-low voltage

F

facade

faceplate

facework

fascia, fascias (plural)

fail-safe

fail-secure

fasteners Use instead of *anchors, fixings* for the holding down and securing connector(s) used for fixing. (Note that AS 1657 uses fixings as a noun.)

fault current limiters

FBS-1 (fibre-biosoluble) Australian insulation industry certification scheme for mineral wool

feature

Federal government (AUS-SPEC)

federal (government) Requires a capital only if it forms part of an official title, for example, a federal government initiative, the Federal Court of Australia. Use **Australian Government** in preference.

FFZ Fuel free zone.

fibre batts

fibre cement

fibre cement sheet linings

fibreglass

field working period

fill

filling

finish coat (plastering)

finish sanding

finishing treatment (plastering)

fire break

fire doorset

firefighting

fire hazard properties See NCC Schedule 1 for definition.

fire-rated Use **fire-resisting** instead.

fire retardant (noun)

fire-retardant (adjective)

fire-resistance level (FRL) From AS 1530.4 and NCC Specification 1.

fire resistant Use **fire-resisting** instead. (The exception is AS 1905.1 which uses fire-resistant.)

STYLEguide

AS/NZS 1668.1 also uses fire-resistant in addition to fire-resisting).

fire-resisting Use instead of *fire rated* when not referring to a specific FRL.

fire shutters

fire-stop

fire-stopping

fire trail(s) (AUS-SPEC)

fire wall

fitout

fitted flooring

fixing A verb meaning the act of holding and securing an object in place.

fixings Use **fasteners** instead. Fixing should be used as a verb to avoid confusion. (Note that AS 1657 uses fixings as a noun.)

flaking

Flammability Index

flatness

flexible guide post

flexible pavement

flexible pavements

floating flooring

floor board

flow path e.g. overland flow path

flow rate

fly ash

floor covering

floor waste

flush bolt

flush door

flush door panels

flush lined

flush mounted

flushplate

flux oil

footer Provide date of current *Update* (Month Year e.g. ©NATSPEC (Apr 23) in the footer of both the PDF and Word file. For TECHnotes the original date of publication followed by the date of any amendment (Month Year – Amdt Month Year e.g. Apr 18 – Amdt Oct 21) is provided. For TECHreports, the date provided is of the date of last amendment.

footpath (pathway)

formaldehyde emission class For AS 1859 series and AS 1860 series use E1 and E0. For AS/NZS 2269 series and AS 2270 series use E₁ and E₀.

formation drain (AUS-SPEC).

formwork

/ forward slash (solidus) Use without spaces when showing alternatives, e.g., round front/flat back, in some shortened forms and in mathematical expressions e.g., xxx/yyy.

foundation drains

foundation level

FPZ Fire Protection Zones.

fractions Express fractional values in decimal terms. For example:

Use: 0.5 . . . not. . . ½ or 1/2.

See **MS Word AutoCorrect** for instructions on how to prevent Word from creating unwanted fractions.

FRC Fibre reinforced cement. Do not use *fibro*.

free-to-air

freespan

freezer room

FRL Fire-resistance level.

FRZ Fuel Reduced Zone.

full scale

full size

full stops The following rules, while not necessarily generally acceptable punctuation, are intended to produce consistency across all worksections:

- End all sentences and paragraphs with a full stop, even if they consist of a single word in a list.
- Do not use full stops at the end of headings.
- Do not use full stops where the item in a list ends in a numeral. (This avoids implied accuracy or in some cases, ambiguity caused by the appearance of two decimal points).

functional performance test

fuse link

fuse holder

G

galvanize

gas-fired

Gas Network Operator use **Utility service provider**

GBCA Green Building Council of Australia. Refer to NATSPEC TECHreport *Specifying ESD*.

GENERAL Subsection of each NATSPEC worksection. See also **worksection** for outline of worksection structure.

General conditions of contract (AUS-SPEC). Only italicise if referring to the *0147 Conditions of contract* worksection.

general purpose socket outlets Use instead of **general purpose outlet (GPO)**.

0171 General requirements Worksection covering administrative topics common to all the technical worksections, such as interpretation, inspection, tests, samples, submissions and completion. It also references the Common requirement worksections. Each technical worksection cross references it.

geotechnical site investigation

geotextile

geotextile reinforced seal (GRS)

GITA Geotechnical inspection and testing authority.

give notice

glass wool A form of mineral wool

glass fibre See also **fibreglass**.

gloss

gloss unit

glued laminated timber

going

government The federal government is a broad descriptive term for the Commonwealth or Australian Government and does not need to be capitalised.

GPO Use **socket outlet** or **general purpose socket outlet** instead.

GPT gross pollutant trap

grab rail

grade If used in a sentence and referring to a specific quality e.g.

1.6 mm galvanized grade G2 steel with Z275 coating.

gradient Use x(V):y(H)

granolithic topping

greater than To avoid confusion in paragraphs, where possible use **minimum**, **more than** or **not less than** in preference to the symbols > or ≥. For example:

Material: Metallic-coated steel, minimum 1 mm thick.

Construction: Provide extruded aluminium cove moulding not less than 25 mm radius, as a flashing moulding between the external wall skin and the external floor.

In short phrases/paragraphs use the symbol. For example:

Substrates, drains and sumps: > 1.5%.

Root inspection: If inspection is by the removal of soil test, such as investigative inspection, sample as follows:

- For > 100 samples: Inspect 1%.

- For < 100 samples: Inspect 1 sample.

In tables, symbols may be more appropriate. See also **less than** and **Symbols**.

green concrete

Green Star Rating system developed by the Green Building Council of Australia (**GBCA**).

greenhouse gas/emission Use lower case.

grille

Group number A BCA term.

groundwork, groundworks

GRP Glass reinforced plastic. Use for resin bonded glass fibre products.

GST Goods and Services Tax.

GTA Geotechnical testing authority.

guardrail

Guidance Text included in the worksection *Template* to assist or prompt the specification writer regarding content. It appears as boxed, green text unless hidden. *Guidance* can be displayed, hidden and/or permanently deleted using the hidden text Hide and Delete functions of your word processing system. Delete Hidden text before issuing the final document.

Avoid *Guidance* styles Indent 2 and 3.

For *Guidance* text which is provided as sample text for inclusion in a customised specification see

Optional style text.

guide post

gypsum plaster

H

ha Hectare. Equals an area of 10 000 m² or a square of 100 m sides.

halogen-free

handbook

handworked

hangar A building for housing aircraft.

hanger For hanging pipes, ducts.

hardboard

hard copy Use instead of *paper copy*. (see also **electronic copy/electronic files**).

hard space Prevents a bad turn in text such as the spread of numerals and associated units over two lines. Use Control+Shift+Space. Do not use in documents which will be imported into PageSeeder.

hardware

HDPE High density polyethylene (also known as PE-HD)

hatch Use **access panel** instead.

Headings NATSPEC templates have an attached .dotx file which holds information about headings. There are 4 main headings:

- Heading 1 – **WORKSECTION TITLE**.
- Heading 2 – Subsection title: **GENERAL, PRODUCTS, EXECUTION and SELECTIONS**.
- Heading 3 – **CLAUSE TITLE**.
- Heading 4 – **Subclause title**.

See also **word processing styles in NATSPEC templates** for notes on style differentiation of the headings and automatic numbering for guidance on numbering headings.

head rail

header unit

heat-treated

heated water

heatsink

heavy duty

hertz (Hz) SI derived unit for frequency.

hessian

HF welding

Hidden text Refers to *Guidance* text in NATSPEC templates which can be hidden using the NATSPEC toolbar and then be deleted from final document. Refer NATSPEC TECHnote GEN 029 *Design and specification Guidance text in NATSPEC*.

Do not use Normal Indent 2 and Normal Indent 3 in *Optional* and *Guidance* text as MS Word is unstable in this style.

high level interface

high pressure decorative laminates (HPDL)

high stress seal or reseal (HSS)

high voltage

high-build low profile latex coating

HMR High Moisture Resistant.

HOLD POINT(s)/ Hold Point(s) (HP)(AUS-SPEC): A defined position in the manufacture/construction stages of the contract beyond which work shall not proceed without mandatory verification and acceptance by the superintendent. Use **HOLD POINT** in text and **Hold Point** for table headings and *Guidance* text.

Hold point(s) (NATSPEC) A mandatory verification point beyond which a work process cannot proceed without authorisation by the contract administrator. NATSPEC provides *Guidance* where it may be appropriate to include a **Hold point**. For example,

Hold points, if required, should be inserted here. If the quality system relies on second part supervision or is subject to third party certification audit then provide the appropriate lists or Hold points.

Refer NATSPEC TECHnote GEN 009 *Hold points and witness points*.

horizontal alignment

hot-dip galvanized Australian Standards use both coating mass and coating thickness for specification of hot-dip galvanized coatings. The coating mass may be derived by conversion from coating thickness using a multiplying factor and vice versa.

NATSPEC uses coating mass for thin steel elements (purlins and girts) in line with manufacturer's specifications, and coating thickness for structural steel sections and reinforcing bars.

Nominate a zinc coating mass (not weight) or thickness as appropriate and in line with the standards as follows:

- For coating mass, use g/m² not gsm.
- For coating thickness, use µm.

hot-dipped e.g. hot-dipped sheet metal.

hot-rolled

hot weather

hour (h) Non SI unit of time.

house signage

hydrochlorofluorocarbons (HCFCs)

hydroseeding

hydromulch

hyperlink A NATSPEC text style: blue, underlined. As a rule, NATSPEC includes *Normal* text

STYLEguide

hyperlinks/web addresses in branded worksections only. In generic worksections, web addresses are included in *Guidance* text for information only. More details on organisations can be found in *NATsource*. AUS-SPEC does include *Normal* text hyperlinks.

hyphen Use as few hyphens as possible. Many adjective compounds consist of noun plus adjective; adjective plus adjective; or adverb plus adjective. Those in the first two categories are always written with a hyphen, e.g., self-tapping and metallic-coated.

Number-word combination nouns should be hyphenated. For example:

- Use 3-phase not three-phase or 3 phase.
- Use 25-year life not 25 year life or twenty-five-year life.

If the number-word combination originates in a standard or similar, follow the practice in the original document. For example:

- Use IP44 not IP-44 or IP 44. (AS 60529-2004).

Do not use a hyphen to indicate a range of values. For example:

- Use Monday to Wednesday ... not... Monday - Wednesday.
- Use 5 to 10 mm ... not ... 5 – 10 mm (not 5 mm to 10 mm).

ie Use **that is** generally and **i.e.** for sentence fragments in *Guidance* only. Use full stop after each letter and don't follow with a comma, regardless of whether you would use a comma in the sentence.

IEC International Electrotechnical Commission.

IFD Intensity Frequency Duration.

If x is ... Use instead of **where x is**.... See **conditional sentences** for preferred sentence structure.

illuminated signs

imperative mood Use the imperative mood, indicating a command or direction, for clarity and brevity. Mood is a feature of verbs to indicate the manner in which they are used. For example:

- Conform to AS 1234... not ... Conforming to AS 1234 or shall to conform to AS 1234 ...

in built, in-built, inbuilt Use **built-in** instead.

impact sound

import cost

imported topsoil

inadequate foundation material

incandescent lamp

incoming busbars

individual rung ladder

Inexact values Express to a level of accuracy appropriate to the accuracy of the measurement. For example:

- 24°C ± 0.5°C where 0.5°C expresses the uncertainty of the value.
- If the original information was 55.2 m it would be misleading to re-write it as 55 200 mm – this implies a greater accuracy than the original measurement.

See also **exact values**.

in-field

infill

Informative Text in Australian standards or other referenced documents which is for information only, i.e. not Normative.

infra-red

ingress protection

in-ground

in-house

in situ

STYLEguide

in the drawings Use **as documented** instead. Documented, as documented and similar terms mean contained in the contract documents.

inspection and test plans (ITP)

instead of Use instead of *in lieu of*.

instruction**integrated management manual****integrated management system****interlayer****intermittently-supported flooring****international****internet****intra-pavement drains****investigation inspection (of trees)**

IP International protection rating. IPXY. No spaces between letters and numerals. For example, IPX6.

IPWEA Institute of Public Works Engineering Australasia.

I section

ISO International Standards Organisation.

issue Use to distinguish between drawings and documents such as programs and schedules created at different times. See also **edition** and **version**.

IT Information technology.

italics Used when cross referencing another worksection within NATSPEC.

ITP Inspection and test plan.

its The possessive form of it. For example,

Metal prefinishes restoration: If the damaged surface can be satisfactorily restored to its original condition, submit proposals.

it's Do not use shortened forms. Use **it is** instead.

J**joinery door****joints**

joule (J) SI derived unit for energy, work, quantity of heat.

jump formwork

K

kelvin (K) SI base unit for thermodynamic temperature

kerb use instead of *curb*

kerb and channel (gutter)

keyed alike (locks)

keyed to differ (locks)

keyword, keyphrase Words or phrases that alert readers to the content of the paragraph. They are effectively a fifth level heading although MS Word does not recognise this. Every paragraph must start with a keyword followed by a colon. Capitalise the first word following the colon (except where the colon is followed by a number). For example:

Keyword: Xxxxx.

Standard: To AS/NZS 1664.1 or AS/NZS 1664.2.

If there is no obvious keyword, the default is General. Consider using the following words instead: Requirement, Description, Standard, Performance, Testing, Restrictions, Documentation, Notice, Operation, Method, Location, Position or Labelling. Product-related keywords for consideration include: Product, Type, Quality, Grade, Material, Profile, Section, Thickness, Gauge, Colour, Finish, Fixing and Accessories.

kickplate

kilogram (kg) SI base unit for mass.

kilowatt The electrical terms kVA, kVA_r and the kW are all aspects of electrical power but are not identical and must not be confused with one another. See **kVA, kWh, kVA_r, kW_r, kWe, kWe/kW_r**.

kL Kilo litre, actually a cubic metre (m³). **kL** is often used for volumes of water but concrete and most other materials are measured in **m³**.

kVA Kilovolt-ampere is energy generated.

kVAR Reactive kilovolt-ampere.

kWe/kW_r Measure of efficiency and is significant in rating cooling equipment. NATSPEC uses kW_r for refrigeration effect produced by the kWe input (typically about 4 times as much). The NCC units include subscripts e.g. BCA (2022) J6D12 uses Wr / Winput power where the r and input power are subscripts. Winput power is the same as NATSPEC's kWe.

kWh Kilowatt hour is energy that consumers use as useful energy.

L

labelling

ladder

ladder cage

laitance

lamp Light generating component which is fitted to the **luminaire**.

land use

landform

landing

large culvert unit

Large numbers To increase readability and decrease the risk of error, numbers with more than 4 digits should be broken up into groups of 3 separated by a non-breaking space. Do not use commas for this purpose.

- Use: 2000 not 2,000.
- Use: 20 000 not 20000 or 20,000.
- Use: 0.000 15 not 0.00015

This rule will sometimes be varied in tables to maintain consistent spacing with other large numbers.

latchset

latex extensible wall coating (or membrane coating)

Latin words Avoid Latin expressions and use the English equivalent instead. If latin words are used (for example as the name of a tree species), italicise the words.

lay

layflat delivery hose

laying patterns

LCA Life Cycle Assessment.

LCADesign Life Cycle Assessment computer application.

leaf/leaves Use when referring to masonry skins and the opening panel(s) of a doorset. When referring to doors, if possible, construct text to refer to each leaf rather than using the term leaves.

legibility distance

Legionella

STYLEguide

length The convention in the building industry is to express measurements in millimetres rather than fractional metres. Numerical values less than 1 metre should be expressed as whole millimetres with no decimal point, not in metres. Use Control+Shift+Space to create a hard space to keep numeral and units together.

- Use: 800 mm. . . not 0.8 m.

The use of small length dimensions in the building industry is normally limited to thicknesses. Express these as fractional millimetres.

- Standard sheet metal thicknesses include: 0.6 mm, 0.8 mm, 1.0 mm, 1.2 mm and 1.6 mm.

For very small lengths follow the convention for small numbers above and use an appropriate decimal multiple. Note that the μ symbol (the Greek letter mu standing for micro or 10^{-6}) is present in most fonts. Use the μ in NATSPEC's Normal style (Arial) not Symbol or some other font.

- Use: 75 μ m. . . not 0.075 mm or 75 microns.

LEP Local Environmental Plan.

less than To avoid confusion in text, where possible, use words in preference to $<$ and \leq .

is $>$ x Use **is more than** x.

is $<$ x Use **is less than** x.

is \leq x Use **not more than** x.

is \geq x Use **not less than** x.

at \leq x Use **or less**.

at \geq x Use **or more**.

In tables and short phrases, symbols may be more appropriate. See also **Symbols**.

- Thickness: $<$ 3 mm.

General: Provide pumps selected so that their respective documented maximum flow rate is less than 80% of the maximum flow for the pump shown in the manufacturer's catalogue.

letter of acceptance

levelling (topping function)

levelness

levels of gloss finish

lever set

life cycle

liftwell Includes shaft and pit.

light-emitting diode (LED)

lighting Refers to a complete system including luminaires, lamps, switches and controls.

lightweight

like Use **such as** instead.

line of influence Use **zone of influence** instead.

linemarking

link mains

lippage

Lists Precede bulleted lists with ... **as follows:** or similar expressions. Provide an initial capital and full stop for each item in the list. Use lists in preference to extended sentences which are cumbersome to format, edit and interpret. For example:

Present lists as follows:

- First list item.
- Second list item.
- Third list item.

litre (L) AS ISO 1000 permits both **L** and **l** as the abbreviation for litre. The custom in the Australian building industry is to use upper-case **L** for litre to avoid confusion of lower case **l** with the numeral **1** in fonts such as Times New Roman.

Use: 25 L not 25l or 25 l.

See also **kilolitre**.

load bearing

local area network (LAN)

Local Authority (AUS-SPEC).

local authority (NATSPEC).

Local Council (AUS-SPEC).

local council (NATSPEC).

local environmental plan (LEP)

Local Government (AUS-SPEC).

local government (NATSPEC).

local government authority

logbook

login Into SPECbuilder for example.

longitudinal linemarking

long-term

looped mains

LOSPs Light Organic Solvent Preservatives used as an alternative to CCA for treatment of timber.

lost formwork

lot (allotment)

lot (measurement)

louvred door

louvres – continuous

louvres – horizontal

louvres – vertical

low density soil

low level interface

low voltage Several standards use low-voltage as the preferred spelling. NATSPEC follows AS 3000 (2018) clause 1.4.128(b).

LS Lump sum.

STYLEguide

lumen (lm) SI derived unit for luminous flux.

luminaire Refers to the complete assembly to distribute, filter or transform light including lampholder, reflector, diffuser, means of connection to the supply circuit wiring.

Lump Sum (AUS-SPEC).

lump sum (NATSPEC).

lux (lx) SI derived unit for illuminance.

M

main circuit supply busbars

Maintenance Activity specification (AUS-SPEC).

Maintenance Defect Register (MDR) (AUS-SPEC).

maintenance diary

maintenance history

Maintenance Management Plan (MMP) (AUS-SPEC).

Maintenance Management System (MMS)

major system

make sure Use instead of *ensure*.

make-up

mandrel Use instead of *mandril*.

manhole (AUS-SPEC)

manhole Use **access chamber** instead in NATSPEC.

manhour Use **work hour** instead.

man-made

manufacturer's recommendations Use to include both manufacturers' and suppliers' recommendations. Use instead of *manufacturer's published recommendations*.

marketplace

markup

masonry

master antenna television (MATV)

materials

material R-Value

material safety data sheets (MSDS) Use **Safety Data Sheet (SDS)** instead.

maximum allowable operating pressure

medical breathing air

medium density fibreboard (MDF) Also known as dry process fibreboard.

MELT Modified Eccentric Loader Terminal

membrane

membrane liner

membrane plate

membranes (waterproof)

metal faced board

STYLEguide

metallic-coated Use metallic-coated unless it is specifically zinc that is required and other alloys are not acceptable. For zinc, use **hot-dip galvanized**, not metallic coated.

metasediment

Method Statement (procedures, technical procedures, process descriptions, specific procedures) (AUS-SPEC).

metre (m) SI base unit for **length**. See **length** for guidance on when to use metres or millimetres.

metric units Express quantities in SI metric units. Do not use Imperial units like feet and pounds, older centimetre-gram-second system (CGS) units or exotic units like Sydharbs. If necessary, convert to appropriate SI units. See also **SI units** and **length** for guidance on when to use particular units of measurement.

microclimate**microcrack**

micron Use **µm** instead.

Microsoft Word or **MS Word****microsprays****microsurfacing****midway****mild flooring**

millilitre (mL) Volume. See **symbols** for guidance on use of millilitres.

millimetres (mm) Length. See **length** for guidance on use of metres or millimetres.

mineral wool (including glasswool and rockwool)

minimise**minimum gap sight distance****minor road****minor system**

minute (m) time.

minute (plane angle) See **symbols**.

misshape, misshaped, misshaping**mobile shelving****mock-up****modified material****moisture content**

mole (mol) SI base unit for amount of substance.

Monday to Friday Do not use a hyphen to indicate a range of values.

monel**monobloc**

Months and seasons Begin names of months with a capital: **January, February, March... December**. Season names are lower case.

more than see also **less than**.

mortar bedding**mortarless****mortice****mosaic parquetry panels**

MPa megapascal

mould

MS word auto correct See **auto correct**.

multi-component

must Do not use. See also **imperative mood**.

multicore cables**multipurpose****multispray shower****multizone****muntin**

N

NABERS National Australian Built Environment Rating System. NABERS measures the overall operational environmental performance of an existing building. Refer to NATSPEC TECHreport 01 *Specifying ESD*.

nameplate

NAMS.AU National Asset Management Strategy Committee

nanotechnology

N/A not applicable. Use instead of **NA**, **na** and **n/a** and only in non-*Template* documents. Do not use in a specification.

NATA National Association of Testing Authorities, Australia.

NATHERS Nationwide House Energy Rating Scheme or nationwide energy rating software. The software is named AccuRate to avoid ambiguity.

National Classification System NATSPEC worksections are classified and sequenced in a logical order corresponding to common work sequences in the Australian construction industry. The classification system provides locations for specification material provided by the civil and structural engineer, the architect and landscape architect, the interior designer and the mechanical, hydraulic and electrical engineers. The system has evolved in conjunction with the New Zealand Masterspec system. A modified version of the 1989 NATSPEC Classification system developed by Bryce Mortlock (the father of NATSPEC) was reintroduced in 2005. See also **worksection numbering**.

National Construction Code (NCC) National Construction Code series includes the Building Code of Australia (BCA) in Volume 1 and Volume 2, and the Plumbing Code of Australia (PCA) in Volume 3. See **INTERPRETATIONS** in 0171 *General requirements*.

AUS-SPEC Construction reference

AUS-SPEC Design reference

NATSPEC Maintenance reference is a reference specification that defines the minimum level of acceptable materials and workmanship for the maintenance works for all classes of buildings. It also covers corrective and preventative maintenance works for mechanical, hydraulic, electrical and fire services and lifts.

NATSPEC reference – Electrical services

NATSPEC reference – Fire services

NATSPEC reference – Hydraulic services

NATSPEC reference – Mechanical services

NATsource A listing of all standards and documents incorporated by reference in NATSPEC and AUS-SPEC worksections. It does not include documents that are only in the *Guidance* text. Each entry includes, if available, the abstract describing the standard or document provided by its publisher. The list includes Australian, British, American, ISO, IEC and other international standards and documents current the month before the date NATsource was published. Use italics if referring to the title.

NATSPEC see back page for corporate information.

NATSPEC packages currently available:

BUILDING Basic For architects and building designers, this is a cut-down version of the BUILDING Professional package. It is aimed at simple building projects requiring less technical content on products, execution and scheduling. It contains over 90 worksections selected from the BUILDING Professional package. Of these, approximately 30 have reduced content compared to BUILDING Professional relating to inspections, sampling, testing and shop drawing submissions. In addition, BUILDING Basic includes custom schedules for use with the NATSPEC Class 2 Reference Specification.

BUILDING Interior For architects, building designers and interior designers engaged on comprehensive interior projects. It covers interior building and finishing work together with design and installation work for mechanical, hydraulic, electrical and fire services. Demolition (interior), tendering and contract preliminaries are also covered.

BUILDING Professional For architects and building designers engaged on all building project types. BUILDING Professional is NATSPEC's definitive building specification containing over 160 worksections. It covers site, architectural, interiors, and landscaping and provides design and install worksections for mechanical, hydraulic, electrical and fire services. Demolition, tendering and contract preliminaries are also covered. In addition, BUILDING Professional includes the reduced content BUILDING Basic worksections, the BUILDING Domestic specification and access to the DOMESTIC online specification and custom schedules for use with the NATSPEC Class 2 Reference Specification. The reduced content BUILDING Basic worksections may be selected for the less complicated parts of specific projects.

BUILDING Landscape For engineers and landscape architects engaged on site preparation works and all works external to the building and within the site boundary, together with design and installation work for mechanical, hydraulic and electrical services. Demolition, tendering and contract preliminaries are also covered. It is not applicable to works outside the site boundary, such as vehicular crossings and works within local or state government road reserves.

BUILDING Structure For engineers engaged on structural work intended for occupation. It covers materials for components that are necessary for the

adequate strength and appropriate serviceability behaviour of buildings. It is not intended that the worksections should apply to civil engineering structures such as bridges, dams and roads.

BUILDING Domestic/Domestic Online For architects and building designers constructing, extending or renovating uncomplicated single detached dwellings. It covers site and architectural work and design and installation work for mechanical, hydraulic and electrical services. A subscription to BUILDING Domestic includes access to the DOMESTIC online specification.

SERVICES Combined For engineers and services consultants designing and documenting building services installations for small to large building projects. It contains all material in each of the SERVICES Mechanical, Hydraulic & Fire and Electrical specification packages. It includes the most commonly used building services and components, demolition, tendering and contract preliminaries.

SERVICES Electrical For engineers and electrical consultants engaged on the electrical installations of projects of all complexities. Demolition, tendering and contract preliminaries are also covered.

SERVICES Hydraulic and Fire For engineers, hydraulic and fire consultants designing and documenting hydraulic and fire services installations for small to large building projects. It includes the most commonly used hydraulic and fire services and components, demolition, tendering and contract preliminaries.

SERVICES Mechanical For engineers and mechanical consultants designing and documenting mechanical services for small to large building projects. It includes the most commonly used mechanical services and components, demolition, tendering and contract preliminaries.

Other NATSPEC specification products include:

NATSPEC Class 2 Reference Specification

Developed in co-operation with the NSW Government. It covers the majority of requirements related to Class 2 buildings and is intended for use as Part A of a two-part project specification where Part B is prepared by the designer.

Simple DOMESTIC NATSPEC reference specification for owner-builders constructing, extending or renovating their uncomplicated buildings covered by Class 1a and Class 10 of the Building Code of Australia. Simple DOMESTIC is a quality statement covering site, structural and architectural work and mechanical, hydraulic and electrical services design and installation work.

Simple Office Fitout This reference specification is a quality statement supplementing the drawings prepared by the contractor and has been designed to be a condition of contract between the client and the contractor. It has been prepared for a small tenancy fitout in an existing building that is complete with finishes, services and facilities.

NCC See **National Construction Code**.

NCR Non-conformance report.

necessary Use to indicate something essential for the specified outcome.

net Use instead of *nett*.

net continuous rated output (or prime rating)

net short-time rated output (or stand-by rating)

Network Utility Operator use only for water supply and drainage network operators. Use **Utility service provider** for other services including telecommunications. For electricity use **electricity distributor** instead.

newton (N) SI derived unit for force.

NNC Notice of non-conformance.

No. Abbreviation for number

nogging Use instead of *noggin*.

NOHSC Use **Safe Work Australia** instead (formerly the National Occupational Health and Safety Commission).

non accessible

non-air conditioned

non-aggregate textured latex coating

non-cellular

non-combustible

non-composite

non-conformance

non-conformance report (NCR)

non-corrosive, non-corroding Use **corrosion-resistant** instead. *Non-corrosive* is the 'agent' description.

non defrost

non-demountable

non fire-resisting

non-load bearing

non-load bearing construction (straw bale)

non-maintained

non-metallic

non-potable

non-pressure

non recoverable

non-rigid road safety barrier system

non-slip Use **slip-resistant** instead.

non-standard

non-staining

STYLEguide

non-toxic**non-trafficable****non type-tested**

nor use **or** instead.

North

Normative Text in Australian standards or other referenced documents that is mandatory, i.e. not Informative.

normal design domain (NDD)

Normal style text Black paragraph text which is not Hidden *Guidance* text.

nominal size (DN)**nominated mix****nosing****not-for-profit****notice**

NOTICES and LABELS Show the required text of notices and labels as ALL CAPITALS without italics or quotation marks. Short notices may be included within text. If the notices have multiple lines or require mixed upper and lower case characters write as separate paragraphs. Begin the text for notice or label on a new line as follows:

Use: Provide the following label next to the machine:

CAUTION! THIS MACHINE HAS NO BRAIN.
PROVIDE YOUR OWN.

Notice of non-conformance (NNC)

NSW New South Wales. Except in **Referenced documents** all states and territories, except NSW and ACT, are written in full.

NT use **Northern Territory** instead. All states and territories, except NSW and ACT, are written in full.

number formats See **decimal point, fractions, zeros, small numbers, large numbers, billion, exact values** and **inexact values**.

Numbers in text Use numerals in worksections as they are easier to read. Separate all numerals and their associated units with a hard space to prevent numeral and units separating at a line break. For example:

- Use: 3 mm. . . not . . .three mm or 3mm.
- Use: 2 days. . . not . . .two days.
- Use: 2 coats. . . not . . .two coats.

In documents such as reports containing few numerical values:

- Spell out the numbers if less than 3. For example: two green bottles not 2 green bottles.
- Use numerals if 3 or greater. For example: 10 not ten, 22 not twenty-two, 40 000 not forty thousand.

When a sentence begins with a number greater than 10, spell it out, using a hyphen between number words. For example: Ninety-nine luftballons . . .

Use a hyphen for compound adjectives involving numbers, whether cardinal or ordinal and whether expressed in words or figures. For example:

- 50-year.
- second-floor.

See also **ordinals** and **ratios**.

NZS New Zealand Standard. See also **citation** for guidance in citing standards in NATSPEC.

O

O-ring

obtain

offcut Use instead of *off-cut* or *off cut*.

Office edited worksection A NATSPEC worksection *Template* which has been pre-edited by the specifier for a specific project type. See *SPECbuilder Guide* for more information on naming, saving and compiling Office edited worksections.

one-way

offcuts

off-line

offset

off-site

ongoing

onsell

OH&S Use **Work Health and Safety (WHS)** instead. See also **Safe Work Australia**.

Ω or **ohm** SI derived unit for electrical resistance. Use instead of ohms.

onboard

on-line

on-site

on to

opacifier

opacity

open system

operable walls

Optional style text In worksections, *Guidance* text in blue font with a grey background covers items specified less frequently. It can be changed from *Optional* style to *Normal* style for incorporation into the specification where it is applicable to a project. Follow *Optional* style text with *Guidance* on application for use. For example, If xyz, consider changing *Optional* style text to *Normal* style.

Coil grilles: Provide corrosion protected grilles to prevent birds and foreign matter entering the coils.

Depending on location and condenser configuration, the entry of foreign matter may be a problem. For such situations, consider changing the *Optional* style text to *Normal* style.

Do not use Normal Indent 2 and Normal Indent 3 in *Optional* and *Guidance* text as MS Word is unstable in this style.

ordinal numbers For example: first and fifth. They should be spelt out, not written as a number-letter abbreviation.

- Use: first, second not 1st, 2nd.

organic soil

organic waste

organise

organisation Use instead of *organization*.

outgoing

out-of-date

out of hours Use **after-hours** instead.

outer separator

output

overall

overcurrent

overflashing

oversizing

overspray

owner Use **principal** as the default. If the general conditions of contract use another term, consider amending all references in NATSPEC.

P

p.p. [Latin per procurationem] When signing on behalf of someone else, place **p.p.** before your own name, rather than the name of the other person who has not signed.

packaged air handling unit

packaged air conditioning

PageSeeder XML based document management system used by NATSPEC.

paint or coating system

panel drain

paper copy Use **hard copy** instead.

PAR Preventative action request.

Park Facility Data Sheets (AUS-SPEC).

Park Maintenance Management Plan (AUS-SPEC).

parquet

partial inspection (of trees)

Part (Australian standards)

particleboard

particulars Use **details** instead.

partition - fully demountable

partition - glazed

partition - semi demountable

pascal (Pa) SI derived unit for pressure and stress.

passive voice Do not use. See **active voice**.

patch plate glass panel fixings

pathway

pavers

pavement/pavements

pavement marking

Pay items (AUS-SPEC)

PCA Volume 3 See **National Construction Code**.

PCA Principal certifying authority (AUS-SPEC).

PDF Portable document format.

PEC Pigment emulsified creosote.

people Use instead of *persons*.

per Avoid if possible e.g. use a year or each year instead of per year.

% percent. See also **symbols**

perform Use instead of *carry out, undertake, execute*.

performance audit (process audit, technical procedure audit, methods audit)

Performance Requirement(s) (AUS-SPEC).

performance specification States the desired end result and the criteria by which the result will be judged for its acceptability.

perimeter road

perimeter track

permanent marks

persons Use **people** instead.

personnel access way Use **access chamber** instead.

phase Use 3-phase not three-phase or 3 phase.

pintle hinge

pipe Use **pipe** if installed throughout the building. Use **tube** if in a heat exchanger, chiller or similar.

pipe surround

pipng Use instead of *pipework*

plan transition

plane angle See **symbols**.

planning

plant establishment period

plant room

plaster

plastering

plastering system

platform flooring

plenum box

pliable building membrane

plies Plural for ply, as in plywood.

plug-in

point fixed glazing

PMP Park maintenance plan

pollution incident

polyester insulation

polyethylene Use instead of *polythene*.

polymer modified binder

polysulfide

polyurethane

pop rivet Use **blind rivet** instead

portable operator's terminal

Portland (cement) Use **general purpose** cement instead.

post-assembly**post-consumer****post-tension****post-tensioning***potable* Use **drinking water** instead.**powder coat/powder coated/powder coating****pozzolan****Practical Completion** (AUS-SPEC).*practical completion* With regard to the context, use the **date for practical completion** or the **date of practical completion** instead.**pre-assembly****precast** Also used as a verb in NATSPEC.**precast box culvert****precharge****precast concrete****pre-clean****precoated****pre-commissioning****pre-completion tests****pre-construction****pre-consumer****pre-cut****pre-design****predrill****prefabricated, prefabrication****prefinish****preform****preformed shower base****preglazed****pre-install****Preliminaries** Cover project-specific overheads that do not constitute work that could be allocated to a particular worksection. NATSPEC provides generic *Preliminaries* and several customised contract specific preliminaries worksections.**pre-mixed****prepaint****pre-painted****preseal****prequalified****preselection****preservative-treated****preservative-treatment****preset****pressure-reducing****prestart****prestress****pretreated****pre-treatment****preventative action request (PAR)****pre-weathered****prewetting****primary treatment SQID****prime, primer, primer, prime coat****primerbinder****primerseal****principal****principal's representative** (AUS-SPEC).*prior to* Use **before** instead.**process audit****product audit (conformance audit, service audit)****product data sheet** Use instead of *technical data sheet***Product Partner** A building product manufacturer with an agreement with NATSPEC to include a purpose edited worksection in NATSPEC.See also **branded worksection**.**PRODUCTS** Subsection of each NATSPEC worksection. See also **worksection** for outline of worksection structure.**production assessment (concrete)****production tests** See **tests**,**professional engineer** A **defined term** in NATSPEC (in some states and territories, additional alternative criteria may apply e.g. Registered Professional Engineer, Queensland (RPEQ)). Use instead of *qualified engineer, structural engineer* etc. Include the engineering discipline only if relevant to the context.**proforma****program****project assessment (concrete)****project management plan****prompt** [complete/delete] Brown *Template* text indicating where the specification writer is required to either insert information specific to the project or delete a clause as inappropriate.

See also [complete/delete]

STYLEguide

proofing symbols Standard symbols used for editing and proofing:

Action	Symbol	Example
Insert space	Caret and hash	Space [#] missing ^
Insert text	Caret and insert 'text'	Text to inserted ^{be} ^
Delete space	Curves above and below space to be omitted	Sub contract
Delete text	Cross out	Cross out text to delete
Make ALL CAPS	Double underline	<u><u>Text to be made all caps</u></u>
Make lower case	Cross out and amend	Text to be ^{lower} LOWER case
Make <i>italics</i>	Underline	<u>Text to be made italicised</u>
Make bold	Wavy underline	<u>This text is to be bold</u>
Insert punctuation	Circle required punctuation mark	Full stop missing ◻
Delete paragraph	Z crossing out	Cross out paragraph to be deleted
New paragraph	Insert bracket	Insert [new paragraph
Correct spelling	Strike out and correct	spelling Replace bad spelling
Transpose words	Insert trs	words these
Characters to remain	Dashed or dotted underline with 'STET'	This text is not marked for deletion STET

property access

proprietary

proprietary assemblies

proprietary luminaires

proprietary names

proprietary specification Specification by naming manufacturer, supplier, installer, trade name, brand name, catalogue or reference number. Identification of a proprietary item does not necessarily imply exclusive preference for the identified item, but indicates the necessary properties of the item.

pro-rata

protected species

protective paint coating Nominate the required dry film thickness (DFT) in µm.

protective underlay and overlay

prototype

provide

Provide means supply and install and includes development of the design beyond that documented. The use of provide can vary within a worksection.

GENERAL subsection: Provide is used at the beginning of each worksection under

RESPONSIBILITIES and applies to the entire worksection, so its use in the remainder of the worksection can be redundant. For example:

RESPONSIBILITIES

General

Requirement: Provide x, y, and z, as documented.

PRODUCTS subsection: Provide is not necessary in this subsection, as the requirement to supply and install has already been stated in GENERAL, **RESPONSIBILITIES**. For example:

Doors

Requirement: Lockable doors with a circuit card holder.

EXECUTION subsection: Paragraphs in this subsection generally include complete sentences where a verb describes what is required of the contractor, e.g. cut, lay etc. The word is selected to describe the execution of the work as accurately as possible. For example:

Curing compounds

Application: Apply without visible breaks or pinholes which remain unbroken for the required curing period after application.

Where a material or product is ancillary or incidental and not documented in PRODUCTS, the use of provide in an EXECUTION clause indicates the requirement to supply and install. For example:

Bolt holes

Bolt hole filling: Provide material with durability and colour matching the concrete.

See **documentation conventions** on streamlined language.

public roads

pugmill

pumpset

purpose-made Use instead of *purpose-built* for a product or assembly, designed and fabricated for a particular purpose which may be mass produced and used for a number of different projects.

push-button

PVC membrane

PVC-M

PVC-O

PVC-U Use instead of *UPVC* and *PVCu*.

Q

QLD. Use **Queensland** instead. All states and territories, except NSW and ACT, are written in full.

QUICKstart A brief guide to the installation and use of NATSPEC and AUS-SPEC packages and SPECbuilder (compilation software). It is reissued at each update.

qualified surveyor

quality assurance

quality assurance representative

quality check lists

quality control

quality design check lists

quality management representative

Quality Management System (QMS)

Quality Manual (AUS-SPEC).

quality package

Quality plan (AUS-SPEC).

quality register

quality system (text in NATSPEC).

Quality system (heading in NATSPEC).

Quality management system

Quality management system requirements (or system requirement, quality management requirement)

quotation marks Use 'single quotation marks' not "double quotation marks". Quotation marks should be used only when directly quoting something or someone.

'This is a quotation'.

Do not use quotation marks to identify special words. The following is an incorrect use of quotation marks in NATSPEC style:

Thicker toppings need to be treated as independent slabs and may be merely 'separated' by a membrane or 'floating' on a resilient layer of some kind.

R

R-Value A defined term in the BCA.

radii Plural of radius.

rainhead

rainwater

ramp

ranges of values To avoid ambiguity, where a range is to be expressed, include the word **to** between the terms. For example:

- Use: Monday to Friday not Monday - Friday.
- Use: 4 to 20 mA not 4 - 20 mA.

rated currents

rated short-circuit currents

ratios Express ratios of mixtures as in the following example:

Mix proportions (cement:lime:sand) by weight:
1:1:6.

No space before or after colon in the ratio.

reaction time

readily accessible It relates to placement of equipment rather than access for people with disabilities.

ready-made

ready-mixed concrete

rebalance

recirculate

recommission

reconstruct

reconstruction

record drawings Use instead of work *as-executed*, *as-fitted* or *as-installed* drawings.

recording level

records

recover

recyclable

redefine

redevelopment site

redressing

referenced documents All standards, NCC references and documents referred to within a worksection are listed at the end of the worksection in *Guidance* text under the heading **Referenced documents**. The specification writer may include the relevant standards from this list if requires. They are grouped under the following headings:

"The following documents are incorporated into this worksection by reference."

Means documents that appear in *Normal* style text (the main body of the worksection, not *Guidance* text) are listed here.

"The following documents are mentioned only in the *Guidance* text."

Means documents that appear only in *Guidance* text, but not in *Normal* style text, are listed here.

References are cited in the following order under each heading:

1. Australian or Australian/New Zealand standards in numerical order.
2. Standards Australia handbooks in numerical order.
3. Non-Australian or Australian/New Zealand standards including NATSPEC documents and NCC references in alphabetical order, and in turn, numerical order.
4. BCA Volume 2 citations, in numerical order.
5. BCA Volume 1 citations, in alpha-numerical order.

In **Referenced documents**, use NATSPEC XXX (Classification GEN, DES or PRO), 3 digit identification number, date (original publication date, not amendment date which is shown on the document) and non-italicised title. For example, NATSPEC DES 001 2009 Slip resistance.

See TECHnote NTN GEN 002 *NATSPEC's use of standards* for more on standards referenced in NATSPEC.

See also NTN GEN 011 *Specifying NCC requirements* for more information on how NATSPEC incorporates the BCA requirements in the worksection *Templates*.

reference specification Method of specification which incorporates an identifiable document by reference to it. These may be Australian Standards or manufacturer's technical manuals or other NATSPEC documents such as NATSPEC Maintenance or Service references. Use instead of **reference text**.

reflective insulation**register****Registered Surveyor**

Registered Testing Authority (AUS-SPEC)

registered testing authority (NATSPEC) use

Accredited Testing Laboratory instead.

regrade

regulations See **acts and regulations**.

reinstall**relative compaction****relative level tolerance****render, rendering**

REP Regional Environmental Plans.

required**reseal****residual binder****resilient floor coverings classification****resin based seamless floor finish****resolution****response time**

RESPONSIBILITIES An introductory clause which defines the contractor's broad responsibilities in each worksection. This might include some or all of the following:

- Outcome statement.
- Performance statement defining.
- Scope/extent statement.
- Design role statement.

Scope/Extent statements are not a Scope of Works. NATSPEC has a policy of avoiding this term because of its potential for disputes.

re-order**resawn****re-shore****re-stake****retest****retrofit****retro reflective****re-trowel**

re-use A complex word consisting of a prefix and a short monosyllabic word is hyphenated so it is not read as a single syllable.

re-usable**reverse-cycle****rigid guide post****rigid road safety barrier system****rise****riser**

r.m.s. Root mean square - an electrical term.

road authority**road network****road reserve**

Road Reserve Maintenance Plan (RMP)(AUS-SPEC).

roadbase**roadmarking**

rock**rock wool****roll formed**

rooflight Use **skylight** instead. Use **skylight (rooflight)** in reference to bushfire zones.

roof water**room dividers****room fan coil unit (FCU)****rootball**

rotational speed The preferred SI unit is r/s (revolutions per second) but common industry usage is r/min. Do not use rpm (obsolete).

roundabout

rounding numbers Rounding interval is the smallest possible difference between two rounded values in the same series. A rounding interval of 0.01 means values are rounded to the nearest unit in the second decimal place. Rounding to two significant figures:

- 7.3499 rounds to 7.3
- 7.3501 rounds to 7.4
- 7.4499 rounds to 7.4

AS 2706 differs from common practice (for example, spreadsheets) when dealing with values ending in 5. It recommends that if the value is exactly midway between two alternative prospective rounded numbers round to the even round value even if this means rounding down.

- 7.35 rounds to 7.4
- 7.3500 rounds to 7.4
- 7.45 rounds to 7.4 (a spreadsheet would round to 7.5)
- +0.25 rounds to +0.2 (a spreadsheet would round to +0.3)

Rounding to three significant figures:

- 523.46 rounds to 523
- 523.54 rounds to 524

routine maintenance**rung ladder****runoff****rural land****rural residential land**

R-Value m².K/W Units used by NCC.

S

SA Except in a NCC citation, use **South Australia** instead. All states and territories, except NSW and ACT, are written in full.

Safe Intersection Sight Distance (SISD)

safety data sheet (SDS) Use instead of *material safety data sheet*.

Safe Work Australia Formerly **NOHSC** (National Occupational Health and Safety Commission).

Safe Work Method Statement (SWMS) Use in first occurrence in a worksection and then SWMS. Use instead of *Safety Work Method Statement, Work Method Statement, Proposed Work Method Statement*, etc.

sail track

same Do not use as a pronoun, as in for example, Builder shall replace **same**. See **active voice**.

sample, samples**sanitary ware****sanding****sarking membrane****sash/sashless****sawcut****SBS bitumen**

SCA Switchgear Control Assembly.

schedule An empty **table** which needs to be edited/completed by the specifier or deleted.

Schedules are similar to subclauses and must be located after a new heading (heading 4), e.g. **Fan schedule**, not a keyword/paragraph.

NATSPEC uses a one cell/one value format for the following reasons:

- The difficulty of editing schedules with merged cells in MS Word, for many people.
- Ready import/export of the scheduled data by digital applications such as database and BIM software.

See also **table**.

schedule of Daywork rates (AUS-SPEC)**Schedule of rates (AUS-SPEC)****screen****seal****sealer****sealing**

seamless membranes

second (s) time.

secondary treatment SQID

sediment

sediment control measures

selected backfill

select fill

selected material zone A defined term in AUS-SPEC.

SELECTIONS Subsection of each NATSPEC worksection if required. See also **worksection** for outline of worksection structure.

self- Use a hyphen with all "self-" compounds, whether they are adjectives or nouns.

self-adhesive

self-braced

self-cleaning

self-closing

self-contained

self-compacting

self-correcting

self-destroying

self-draining

self-drilling

self-expanding

self-finished

self-furring

self-indicating

self-levelling

self-locking

self-monitoring

self-powered

self-priming

self-propelled

self-sealing

self-smoothing

self-supported

self-supporting

self-tapping

semi-flexible guide post

semi-gloss

SEPP State environmental planning policy.

septicity

setback

service

Service and Installation Rules

service life Use **design life** instead.

SERVICES Packages See **NATSPEC** for an outline of the various Services packages.

service pressure

Services Reference and Schedules. See **NATSPEC**.

service road

set-out (noun)

set out (verb)

set-down

sewage The matter flowing in the pipes.

sewerage The reticulation system.

shade fabric

shade structure

shadowline

shall Do not use. Use **active voice**.

sheen

sheet metal

shell worksection An outline of a full worksection not included in BUILDING Basic. It is provided with the BUILDING Basic package so that, if the specification writer wishes to add specific requirements or the specialist consultant's specification, this shell acts as a prompt. Alternatively, the worksection is available in full as part of the BUILDING Professional package and as a single worksection. These worksections are designated by a lower case 's' after the classification number e.g. *0812s Sanitary fixtures*.

short-circuit

shotcrete

should Do not use. See **active voice** and **imperative mood**.

shoulder

shoulder width

shower tray

STYLEguide

SI Le Système International d'Unités (the international system of units). It is a system of measurement which replaced the metre-kilogram-second system (MKS) which followed the centimetre-gram-second system (CGS). It has the three base units of MKS plus the ampere, mole, candela and Kelvin.

Full names of SI units: When written in full the names of all units start with a **lower case** letter regardless of whether or not it is derived from a person's name. The sole exception is Celsius. For example: newton hertz, pascal, joule, volt but Celsius.

Abbreviation of SI units: When written as an abbreviation, the names of units derived from the name of a person start with a capital letter. For example: N, Hz, Pa, J, V.

Units not based on a person's name do not use a capital letter except for litre. For example: m, kg, s etc. and L.

It is very important not to confuse upper and lower-case as SI depends on the distinction for its meaning. For example, nm means 'nano metre' (10⁻⁹ metre) whereas Nm means 'newton metre', a totally different unit.

AS ISO 1000 Table 1 – SI base units

Base quantity	SI base unit	
	Name	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

AS ISO 1000 Table 2 – SI derived units with special names, including supplementary units. (only units common to the building industry are shown)

Derived quantity	SI derived unit	Symbol
	Special name	
frequency	hertz	Hz
Force	newton	N
Pressure, stress	pascal	Pa
energy, work, quantity of heat	joule	J
power, radiant flux	watt	W
electric potential, potential difference, tension, electromotive force	volt	V
electric resistance	ohm	Ω (Use Normal font, omega symbol, or spell out ohm)
Celsius temperature	degree Celsius	°C (Must have the degree sign to avoid confusion with coulomb)
luminous flux	lumen	lm
illuminance	lux	Lx

Compound units: Compound units are created from the base and derived units. As with the names of units it is important to get the order and capitalisation correct.

density kg/m³. Fabric and sheet material weight g/m² not gsm.

Multiplied units: Units multiplied together should be separated by a full stop or a space. Given the complications involved with the use of a space, NATSPEC should not use this form and restrict usage of the full stop.

- Use **N.m** not Nm or mN

Divided units: Units that represent division are written using a power or solidus (/).

- Use **m/s** or **m s⁻¹** not m per s or meters/sec.

Units with multiple divisors: When the division involves multiple units the divisor should include parentheses. The use of negative superscripts would also be permissible but harder to type and they are more likely to get lost. For example the units for thermal conductivity (used with insulation) should be written as:

- Use **W/(m.K)** not W/m/K or W/mK or W/m.K
- The following would also be correct, but not preferred because of the superscripts: W.m⁻¹.K⁻¹ and W/(m.°C).

Multiples and sub multiples of SI units:

There are 20 defined SI prefixes to indicate multiples of the base unit running from 10²⁴ down to 10⁻²⁴. The preferred ones of use in the building industry are multiples of 1000. The following table from AS ISO 1000 lists the most common ones. Preferred prefixes are in **bold**.

AS ISO 1000 Table 4 – SI prefixes

Factor	Prefix	
	Name	Symbol
10 ¹²	tera	T
10 ⁹	giga	G
10 ⁶	mega	M
10 ³	kilo	k
10 ¹	deca	da
10 ⁻¹	deci	d
10 ⁻²	centi	c
10 ⁻³	milli	m
10 ⁻⁶	micro	μ
10 ⁻⁹	nano	n
10 ⁻¹²	pico	p

Preferred multiples: The practice in the building and engineering industries is to use multiples of a thousand. (i.e. μ, m, k, M, G, etc.).

- Use 10 mm not 1 cm.

Use 101 325 kPa not 1013.25 hPa (hectopascals are used in weather reports as they replace the older term millibars).

side friction factor (f)**side-hung**

significant figures The number of figures counting to the right from the leftmost non-zero figure. For example, the following each have 3 significant figures: 0.000 345, 345 000 and 3.45. Values should be expressed in terms of an appropriate number of significant figures, not a fixed number of decimal places.

- Example 1: If three lengths of a material are measured as 6.02, 5.99 and 6.01 m, use 6.01 m for the average length not 6.00666666667 m.
- Example 2: In a journey of 921 km 100 L of fuel is used. For the fuel consumption use 10.9 L/100 km not 10.85776 L/100 km because the three figure answer is consistent with the data.

Values should be expressed in units appropriate to the level of accuracy.

Use 241 MPa not 241 000 kPa as the latter suggests a misleading accuracy. See also decimal places.

sight distance**sign-off****sill-less**

silicone Used in sealants, adhesives, lubricants, etc. Not to be confused with the chemical element silicon.

Simple DOMESTIC See NATSPEC for a brief description of the various NATSPEC packages available.

Simple Office Fitout See NATSPEC for a brief description of the various NATSPEC packages available.

single/double seal**single-pack****single phase**

SISD Safe intersection sight distance.

site rock**site tests****site topsoil**

size (w x l x h) (width x length x height)

size index (for trees or shrubs)**skylight****slab**

slab on ground Use instead of *slab-on-ground* (As used in AS 2870)

slab dimensions**slab, odd-shaped****slab, mismatched slabs****slimline****slipform****slip sheet****slip resistance**

slip-resistant Use instead of *non-slip, non-skid*, etc.

small culvert unit

small numbers If possible use a whole number with a suitable decimal multiple for numbers between minus 1 and plus 1. Avoiding a decimal point also avoids the risk of it getting lost. Use 25 kPa not 0.025 Mpa.

SMATV - L Band**SMATV - QAM**

Smoke-Developed Index An NCC **defined term**.

smoke development rate**smoke-doorset****smoke growth rate index**

socket outlet Use instead of *GPO*.

softboard (insulation board)**soil blend****soldier course****solid core door****sound insulation****sound reduction Index (R_w)****space factor**

SPECbuilder A browser-based specification compilation program that allows draft specifications to be compiled from NATSPEC master files which are located online. This draft specification is then downloaded and edited locally. It is compatible with all versions of Windows, Macintosh and Linux operating systems. The file format is Word DOCX which can be used with MS Office.

special care locations**special processes**

specialise not *specialize* Note Australian Standards use *specialize*. For example, AS/NZS 4792:2006 *Hot-dip galvanized (zinc) coatings on ferrous hollow sections, applied by a continuous or a specialized process*.

specified Use **documented** instead.

specifier**specimen**

SPECnotes Newsletter produced quarterly for NATSPEC subscribers to explain and describe NATSPEC content, revisions and proposals as well as administrative and subscription matters. It includes reviews of new Australian building standards and code updates as well as providing key building industry information.

speed (85th percentile)

STYLEguide

spelling To be consistent, the same spelling must be used throughout NATSPEC worksections. The language to be used in MS Word documents is English (Australia) set through the menu: Tools \ Language \ Set Language. If in doubt, spelling should be determined from the following in descending order of preference:

- Spelling given in this document.
- Accepted usage in the building industry in Australia. For example the Macquarie Dictionary accepts both galvanise and galvanize as equal variants (denoted by the = sign in the dictionary) but the Galvanizers Association of Australia and several manufacturers use the -ize spelling in their names. NATSPEC has followed the manufacturers and adopted the -ize spelling. NATSPEC also follows the -ize spelling for the term Utilization category used in the AS/NZS IEC 60947 series. In all other cases NATSPEC uses -ise.
- HB 50-2004 Glossary of Building Terms (Leslie and Potter 2004).
- Terms defined in an Australian Standards for the respective item.
- If there is no consistency in the Industry or Australian Standards, refer to
- The Macquarie Dictionary but bear in mind that it is a general purpose not a specialist building industry dictionary.
- Other Australian dictionaries such as Collins (Collins Australian dictionary 2003).
- Oxford English Dictionary (OED 2003) and Chambers Dictionary of Science and Technology (Walker 1999).

spider fitting assembly

splashback

sponge (plaster finishing treatment)

sprayed to contour

spreadsheet

spring (season).

Spread-of-Flame Index

SSL Scientific Services Laboratory. Now named CSIRO Materials Science and Engineering

stabilise

stabilising agent

staining

stainless steel Type 316 (304) Use instead of *stainless steel grade XXX*.

stairway

stakeholder NATSPEC stakeholders comprise professional associations and government property groups. See back cover for a list of stakeholders.

stand-alone

standards and references See NATsource for suggested references appropriate to offices dealing with typical projects covered by the respective NATSPEC packages. See also **referenced documents, AS, NZS** and **citations**.

stand-by Use instead of *stand by, standby*.

star e.g. 5 star(s). Preferred expression follows the NCC.

start response time

start-up A **defined term** in NATSPEC (adopted in ASHRAE).

state/State (government). Use capitals for official or abbreviated but not for generic or plural references. For example, The South Australian Government initiated the project ... The state government will meet regularly to review progress.

State fire authority

State government (AUS-SPEC).

State Road Authority (AUS-SPEC).

states and territories

statutory authority

statutory signage

step-by-step

step ladder

stepping

stile

stone cladding

Stopping Sight Distance

stormwater management plan

straightedge A tool. Use instead of straight edge (a description).

straight edge A description. Use instead of straightedge (a tool).

strain alleviating membrane (SAM)

strain alleviating membrane interlayer (SAMI)

straw

straw bale

stretcher unit

strikeup

strip

structural sealant

structural silicone glazing

structure borne sound

subcooling

sub-annexure

subbase (subbase course)

STYLEguide

sub-branch

sub-catchment

subcircuit Use instead of *sub circuit, sub-circuit*.

subclause

Subconsultant (AUS-SPEC)

subconsultant (NATSPEC)

subcontract, subcontractor

sub-distribution board

subdivision

subfloor

subframe

subgrade

subgroup A smaller group of NATSPEC worksections within a workgroup e.g. concrete, partitions.

submain

sub-pavement drains

subsection

subsill

subsoil drains

substrate

substructure

subsurface

subsystem

sulfur, sulfide, sulfate Use instead of *sulphur, sulphide, sulphate*.

summer (season).

superelevation

Superintendent (AUS-SPEC)

superintendent (NATSPEC) Use **contract**

administrator unless this is inconsistent with the contract being used.

supersede

supply

supply Supply, furnish and similar expressions mean

supply only.

Supply Authority (AUS-SPEC)

surge

surveillance

survey mark

surveyor

suspended frameless glass assembly

switchroom

Symbols

Name	Symbol	Example
ampere (electric current)	A	5 A
cubic metre (superscript)	m ³	5 m ³
decibels 'A' scale weighting network	dB(A)	5 dB(A)
Degrees celsius (temperature).	°	5°C
degree (plane angle).	°	90°
dollars	\$	\$5.00
greater than or equal to	≥	≥ 50 m
hectares	ha	5 ha
inches (for screen size only)	"	50 "
kelvin	K	5 K
kilogram (mass)	kg	500 kg
kilonewton	kN	
less than	<	< 50 mm
Linear metre	Lin. m	5 Lin.m
Litre (volume)	L	5 L
Kilogram per meter squared (mass /unit area)	kg/m ²	50 kg/m ²
Maximum load current through the protected line	I _L	
metre (length)	m	5 m
micro	μ	50 μ
micron	μm	550 μm
Millilitre (volume)	mL	500 mL
millimetre (length)	mm	500 mm
minute (plane angle)	'	5° 22'
minus	-	-5
more than	>	> 50 m
nanometre	nm	5 nm
no more than	≤	≤ 50 mm
ohm	Ω	75 Ω
pressure - megapascal	MPa	5 Mpa
pressure - kilopascal	kPa	50 kPa
percent (use symbol)	%	25%
plus or minus	±	±5 m
plus	+	+5
R-Value	m ² .K/W	2.5
second (time)	s	
second (plane angle)	"	5° 22' 22"
shrinkage strain	ε	500 x 10 ⁻⁶ ε (500 με)
square metre (superscript)	m ²	5 m ²
text deleted from the current update PDF.	***	

STYLEguide

The symbols for greater than or less than may be used in short phrases following a keyword and tables unless there is ambiguity. Do not use within a complete sentence.

& Do not use.

Use **diameter** instead of the symbol/abbreviation.

Examples indicate a hard-space (Shift+Ctrl+spacebar) between number and unit symbol and do not include a trailing period (as these are symbols not abbreviations).

system audit

systems, subsystems, equipment and components

T

table In NATSPEC, a table contains completed information that does not normally change between projects, unlike a **schedule** which is completed with each project specification.

The tabulated form of **Schedules** and **Tables** makes it easier to reference information, particularly for groups of items of a similar type, with similar properties.

Tables and schedules in NATSPEC specifications look similar but, have different roles and respond differently to editing in *Domestic Online*.

Schedules have blank cells for entering project specific information.

Tables are complete with information that is typically not project specific and not meant to be edited.

Schedules in the Domestic Online Preview can be edited, allowing project-specific information to be entered.

Tables in the Domestic Online Preview cannot be edited – attempting to do so will prompt an error message “The following error occurred: Access forbidden”.

Domestic Online users with an Annual Subscription can edit both tables and schedules after download if they choose. Files downloaded under a Single Project Subscription are non-editable.

table drain

TAS Use **Tasmania**. All states and territories, except NSW and ACT, are written in full.

TECHguide AUS-SPEC guidance notes providing roadmaps and examples of compiling the documentation required for local government projects. They include information on contracts, technical specifications and tender submission requirements. They should be read before to commencing a project. They are included in the reference documents section of SPECbuilder Pro/Live in PDF format and can be printed as required. Numbering and classification of TECHguides is based on AUS-SPEC classification. See **citation** for correct citation of TECHguides.

technical data sheet Use **product data sheet** instead.

technical specification (AUS-SPEC).

TECHnote A one- or two-page note prepared by NATSPEC providing professional knowledge to the subscriber on current issues in the building industry and the related provisions made by NATSPEC. TECHnotes contain guidance of a general nature that either relates to several worksections or does not fit into a generic worksection. TECHnotes are grouped

STYLEguide

into three categories: GEN (General and miscellaneous), DES (Design and strategy) and PRO (Products and materials). See **citation** for correct citation of TECHnotes.

TECHreport An in-depth report prepared by NATSPEC to give general information on specification writing, and technical information that relates to more than one worksection, for example, *Specifying ESD*.

tee-off

tee-off busbars

temperature Use °C (degrees Celsius). The °C must have the degree symbol to avoid confusion with **C** meaning coulomb, the unit of electrical charge. Do not provide a space between the numeral and the degree symbol.

The preferred unit for temperature interval (i.e. the difference between two temperatures) is **the kelvin (K)**. Kelvins are never written with a degree symbol. For example:

- The difference in temperature between the internal temperature of a refrigerator at 4°C and the outside room temperature at 24°C is 20 K.
- Rate of heat transfer depends on temperature difference so units of heat transfer per unit area are W/(m²K).

Template NATSPEC worksections are *Templates* provided in the form of MS Word documents for editing by the specifier to include project specific information.

tender, Tenderer (AUS-SPEC).

tender, tenderer (NATSPEC).

the tender is a pre-contract document. Items covered in NATSPEC's worksection include:

- Site description.
- List of tender documents.
- Contact details.
- Tender information. For example: tender period, procedures.
- Tender requirements.
- Tender form.

AUS-SPEC worksections also include Schedule of Rates.

Tendering is a separate self-contained transaction which terminates with the awarding of a contract. The technical worksections make no reference to tendering.

tender documents (AUS-SPEC and NATSPEC).

tensioned membrane

tensioned membrane structure

terminal (mechanical services)

termination bar

terracotta

terrazzo

terrazzo tiles – cementitious

territory/Territory (government) Use a capital for official or abbreviated specific titles but not for generic or plural references. In some contexts the Territory refers to a semi-official term for the Northern Territory and would have a capital letter.

tertiary treatment SQID

text, number in See **numbers** in text.

that or which? Use of which (surrounded by commas) adds non-restrictive information. Use that, to limit or restrict the set of things you are talking about.

thermal resistance Use m².K/W

thermoset powder coat

thimble

third-party certification

thrie-beam

throughout

thrown (plaster finishing treatment)

tiles

tiles – cementitious

tiles - dry-pressed

tiles – extruded

tiles - industrial cast

tiles - natural stone

tiles - terrazzo – cementitious

tiles - terrazzo – resin

tilt-up

tilt-up units

timber-framed

time See **minute, hour** and **day**.

time frame

time of concentration

tolerance

tolerances Tolerances are maximum values or limits – do not use these symbols: > < ≤ ≥. For example

Flatness: Maximum deviations from a 3 m straightedge laid in any direction on a plane surface:

Class A: 4 mm from a 2 m straightedge.

Carpet tolerances: Conform to the following:

Edge dimensions ± 2 mm.

tonne (t) mass.

top dressing

topping

topping function

topping method

topsoil**top-up****torch-on****total air quantity****total system SHGC****total system U-Value****touch up****traceability****trenchstops****trademark****traffic lane****traffic lane width****transfer main****transition beam****transverse lines****treatment train****trim** Use instead of *trims*.**true-to-species****trunk drains****two-pack**

two-part specification A project specific specification comprising a separate, unedited NATSPEC Reference document and Schedules which have been customised by the specification writer to suit the particular project. See NATSPEC TECHnote GEN 033 *Understanding two-part specifications*.

two-stage**two-way**

tube Use tube if in a heat exchanger, chiller or similar. Use **pipe** if running through the building.

tubes or plant cells**turnbuckle****Type****type A mats****type B mats****type - air filter****type tests****type-tested**

U

ultraviolet**ultrasonic****unbound material****undercoat****undercut****underflashing****underfloor****underground****underlay****underlayer****underslab****understructure** Refers to access floors.**undervoltage****uninterruptible power supply (UPS)****units** See **SI** units.

unless otherwise specified Do not use. An alternative example is:

Entrance doors and side lights: Toughened glass.

Other locations: Clear float glass.

Universal design The design of buildings, products or environments to make them accessible and usable to all people of different ages and abilities over time, without the need for adaptation or specialised design. See NATSPEC TECHnote DES 038 *Universal design – Introduction*.

unopened**un-painted****un-pasted****un-reinforced****unscreeeded****un-sprinklered****unsuitable material****un-switch**

Update used to mean the NATSPEC April *Update* and October *Update*.

upstand**up-to-date****urban residential land****useful life**

use The verb **use** in NATSPEC (and those related to it such as 'using') generally applies primarily to the use of tools, consumables, persons and methods.

It does not apply to products unless 'provide' would be incidental or clumsy. The following are preferred verb structures:

- Construct . . . from [product].
- Cure . . . using [consumable].
- Eliminate . . . by [of] [product].
- Flush . . . using [consumable such as water, air].
- Provide [product].
- Seal . . . with [product].
- Support . . . by [product].
- Test . . . using [person].
- Test . . . using [tool].

UPVC Use **PVC-U** instead.

up-slope

Utility service provider Includes **Network**

Utility Operator, Gas Network

Operator and organisations providing other reticulated utilities including data and telecommunications services.

See also **electricity distributor**

Utilization category

V

validation

values see **ranges of values**

vandal-proof

vapour permeable (breathable) membrane

Variation to the Works (AUS-SPEC).

variable room identification systems

variable refrigerant flow (VRF) system

VAV box

verb Start the sentence with a verb. Use the **active voice** and the **imperative mood**:

Use: Lay tiles... not ... Tiles shall be laid...

Use verbs in preference to constructions based on nouns. For example:

- Explain ... not... Provide an explanation...
- Submit ... not... Make a submission...

See also **use** for preferred verb structures using the active voice and imperative mood.

verge (rural)

verge (urban)

verification

verticutting

version Use to distinguish between documents published in different formats. For example, the basic version of the *Windows and glazed doors* worksection is cut down from the full version.

vertical alignment

VIC. Use **Victoria**. All states and territories, except NSW and ACT, are written in full.

volt (V) SI derived unit for electric potential, potential difference, tension, electromotive force.

V-joint

W

w-beam

WA Use **Western Australia**. Generally all states and territories, except NSW and ACT, are written in full.

waffle raft slab

walkway

wall covering

wall-hung

washout

Water Agency (AUS-SPEC)

water age

water-based

waterborne

watercooled

water dispenser systems

water resistant (WR)

water sensitive urban design (WSUD)

waterproof (WP)

waterproofing systems

water soluble

waterstop angle

watt (W) SI derived unit for power and radiant flux.

wearing course (wearing surface)

weather – cold

weather – hot

weathering

weather proof, weather proofing

weatherseal

weatherstrip/weatherstripping

weathertight

web link

web page

weep hole

website Do not include https:// in address.

weed

weir

well-being

well-developed

well-rotted

well-rounded

WERS Window energy rating scheme.

west

wet area

wet process fibreboard (hardboard)

where x is ... use **If x is....** 'Where' indicates a location and 'if' indicates a condition. See **conditional sentences** for preferred sentence structure.

whole-of-life

wide area network (WAN)

wickets

will Do not use. 'The contract administrator **may...**'

winter

withdrawable

WITNESS POINT(S)/ Witness Points(s)

(AUS-SPEC only) A nominated position in the manufacture/construction stages of the Contract where the option of attendance may be exercised by the Superintendent, after notification of the requirement. Use **WITNESS POINT** in text and **Witness Point** for table headings and in *Guidance* text.

NATSPEC *Templates* use **INSPECTIONS**, **Notice** in lieu of Witness points.

Refer NATSPEC TECHnote GEN 009 *Hold points and witness points*.

WLL Working load limit.

WMTS Watermark Technical Specification (formerly ATS)

wood-based

woodchip

woodchipping

wood float

woodgrain

wood stain

word processing

Word processing styles in NATSPEC

templates Worksection *Templates* are structured into a hierarchy of subsections, clauses, subclauses, paragraphs, prompts, tables and schedules with **Guidance** on editing provided in **Hidden text**. Each of these elements is differentiated as follows:

- **Heading 1 (worksection heading):** all uppercase, no full stop at the end, boxed.
- **Heading 2 (subsection heading):** All uppercase, no full stop at the end. Underlined.
- **Heading 3 (clause heading):** all uppercase, no full stop at the end.
- **Heading 4 (subclause heading):** Generally, first letter only capitalised, no full stop at end.

STYLEguide

- **Normal style:** used for most text.
- **Normal indent style:** used for list items within a clause.
- **Normal indent 2 style:** used for sub-lists within lists.
- **Optional style:** used for less common requirements. To be changed to Normal style for inclusion in a specification
- **Instructions style:** provides guidance to the specification writer and not to be included in final document.
- **Instructions indent:** Used as list item within an instruction.
- **Header style:** all uppercase and italicised.
- **Footer style:** name and date italicised.
- **Keyword:** First letter capitalised and followed by a colon.
- **Table title style:** for heading in tables.
- **Table text style:** for most text in tables.
- **Table indent style:** for indented items in tables.
- **Table indent 2 style:** for second level indented items in tables.

See also **automatic numbering** for numbering of Headings.

Line and page breaks: Do not use double line returns between paragraphs, spacing is provided automatically within the respective styles. The only exception to this rule is that a blank line is required after a table.

- **Tabs:** Use standard tabs in the respective style where possible. Avoid adding new tabs as they may be lost in style changes.
- **Spaces:** Do not use spaces between text to space out or double spaces between sentences.

Table formatting:

- **Width:** 12 cm – full width between margins.
- **Row:** Height: at least 15 pts.
- **Indent from left:** 0.
- **Justification:** Left Allow row to break: No.
- **Columns width:** To suit table but preferably equal.
- **Space between columns:** 0.
- **Borders:** Continuous lines, 0.75pt above and below rows only.
- **Headings:** Repeat at top of table if table split across pages.

work-as-executed (WAE) (AUS-SPEC) Use instead of *work as executed* or *work as fitted*.

Work Health Safety (WHS) Use instead of *OH&S*

work hour Use instead of manhour.

work instruction

Work Order (WO) (AUS-SPEC)

workgroup Major group in NATSPEC National Classification System hierarchy, for example,

General, Site, Structure, Enclosure, Interior, Finish, Mechanical, Hydraulic, Electrical etc.

Works, the Works (AUS-SPEC)

worksection NATSPEC uses the term *worksection* to describe the foundation unit of a specification. Some worksections are trade based (e.g. brick and blockwork), others follow processes (e.g. windows, lining) or systems (e.g. insulated roofing systems).

Worksections *Templates* are MS Word documents. They must be edited to include project information and together with other edited worksections form the project specification.

Each worksection *Template* is divided into GENERAL, PRODUCTS, EXECUTION AND SELECTIONS, where such divisions are relevant:

GENERAL clauses set out material applying to the worksection as a whole including: cross referencing, standards, definitions, submission and inspection requirements, tolerances, samples and testing.

PRODUCTS describe the basic materials, components and fabricated items to be brought to site.

EXECUTION sets out the performance criteria to prepare the substrate, assemble materials to produce an installation and complete the works.

SELECTIONS contains schedules that refer to the selection of proprietary products or to generic products by their properties. These schedules may be made within the text, in schedules within the worksections or provided separately. With simple projects, all selections may be on the drawings.

worksection names Use a dash to indicate that a worksection is part of a worksection series. For example *Roofing – slate, Roofing – tiles*. Use parentheses to indicate that a worksection belongs to a specific workgroup or worksection package. For example, *Masonry walls* (AUS-SPEC). See also **cross reference** for guidance on referencing other worksections in the specification.

worksection numbering NATSPEC worksections are numbered in conformance with the National Classification System. Each worksection has a 4 digit number. Branded worksections will have the same number as the associated generic worksection. Office edited and generated worksections can be incorporated into the National Classification System by assigning an appropriate number.

workstation

WSAA Water Services Association of Australia.

Work Variations (WV) (AUS-SPEC)

X

XML eXtensible Markup Language. A markup language is a set of annotations, or 'tags', placed in a digital text file that instruct a computer application how that text should be structured, laid out and formatted. XML is a markup language that is widely used, supported and flexible, allowing users to define their own tags and document schema.

Y

Z

zeros Generally trailing zeros should be omitted from fractional units (see also **significant figures** in relation to implied accuracy). Where the value is part of an actual or implied series in which some of the items are expressed in a greater number of significant digits use a consistent number of significant digits.

- Use: 0.2 . . . not 0.20
- For series use: 0.25, 0.50, 0.75, 1.00
.....not...0.25, 0.5, 0.75, 1

zinc see **metallic-coated**

zincanneal

zone of influence

zones

Corporate Information

NATSPEC is the trading name of Construction Information Systems Limited, ABN 20 117 574 606.

NATSPEC, founded in 1975, is a national not-for-profit organisation that is owned by the design, build, construct and property industry through professional associations and government property groups. It is impartial and is not involved in advocacy or policy development.

NATSPEC's major service is the provision of the comprehensive national specification system endorsed by government and professional bodies. NATSPEC, the National Building Specification, is for all building structures, with specialist packages for architects, interior designers, landscape architects, structural engineers, service engineers and domestic owners. AUS-SPEC is the Local Government specification for the life-cycle management of assets. Packages include Contracts, Urban and Open Spaces, Roadworks and Bridges, Public Utilities, Rural Roads and Maintenance. NATSPEC is also the publisher of the National BIM Guide and its associated documents.

NATSPEC's objective is to improve the quality of construction in Australia through its updating services and via the provision of information, tools, products and other services.

STAKEHOLDERS

// Air Conditioning and Mechanical Contractors' Association of Australia
// Australian Elevator Association
// Australian Institute of Architects
// Australian Institute of Building
// Australian Institute of Building Surveyors
// Australian Institute of Quantity Surveyors
// Construction Industry Engineering Services Group
// Consult Australia
// Department for Infrastructure and Transport (SA)
// Department of Energy and Public Works (QLD)
// Department of Finance (Federal)
// Department of Finance (WA)
// Department of Infrastructure, Planning and Logistics (NT)
// Department of Treasury and Finance (TAS)
// Department of Treasury and Finance (VIC)
// Engineers Australia
// Major Projects Canberra
// Master Builders Australia
// Public Works Advisory (NSW)
// Standards Australia

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