

ArchiAssist Sample Specification (Architectural – Full Spec)

Welcome to the ArchiAssist Architectural full-version lump-sum Master Specification...a VERY user-friendly, 'Read & Delete' Master...for any size project...done within a day.

ArchiAssist comes from my 35+ years in the building industry. I wanted a quality Master which was user-friendly, quick to edit, without hidden text, without endless blank spaces.

This sample uses the Architectural full-version Master (it starts on page 5). The description of the hypothetical project used for this sample is on page 4.

Other low-cost ArchiAssist products include; Schedules, Tender Conditions/Form, short 'Add-on' Specs, and Design & Construct (D&C) Specs.

This Master is full version about 130 pages, usually FINISHED to about 80 PAGES.

- No more rushing at the end with a big Spec and making mistakes,
- More time to work on other things,
- Save fees by fast editing, less on-site hassles, more accurate Tenders,
- Suits all size & type projects and all States & Territories!

Over 300 Practices both big and small, now have used ArchiAssist.

Selecting a Master

Your Master needs to protect you, and be fast to edit, accurate, readable, concise and...

- Another Master may offer customer support, which is only worthwhile if it is good support,
- Also, can the Master Producer immediately identify where the Spec can resolve on-site disputes,
- If you need to assemble the Spec or add to it, it is likely too complicated,
- ArchiAssist at least matches competitors in all areas...plus it is very user-friendly,
- ArchiAssist is updated twice a year (published 1st of April & 1st of October). See page 4 for more details.

Cost Considerations

1. **Low Initial Cost:** ArchiAssist products are low cost but high quality – a bad Spec can be very expensive,
2. **Fast Editing:** Compare a solid week of hard work to an easy single day. Savings here can be huge especially considering how this affects related tasks,
3. **Less On-Site Hassles:** A good Master is pre-written. Adding to a Spec by a hurried team who only sometimes write Specs, can create expensive mistakes.
4. **Good Reputation:** ArchiAssist quality = Less hassles = More repeat and referred work.

Some Success Stories

There are amazing results from some ArchiAssist users, many doing their first Spec within a day.

The BEST: a young Designer...her Boss told her to write her first Spec...and she was so excited about how easy it was, so much so she asked to be the Office Spec Writer!

This is GREAT news. No need to worry who will do the Spec...anyone qualified can now easily do it.

View the many testimonials (divided into Australian States) from happy users at www.archiassist.com.au

How the Specification Works

This Master uses an innovative 'Read & Delete' system – read the Master & delete unwanted detail. What's left is your Specification. Also, content quality is high for you work down from. It's safe, easy, fast, done within a day.

Draw/schedule job specific items. Don't bury them in the Spec.

'Read & Delete' means content is pre-written, so consider: **1)** Adding to the Spec takes time and is risky, **2)** Early drafts are very comprehensive, **3)** Text is formatted for easy deleting and proof-reading,

The Master is comprised of 27 element based Sections. Trade based Sections don't work (Builders all have different processes), and are inefficient (eg a Partitions Section can have glass, doors, linings, bricks, studs, services, painting, waterproofing, insulation, tiles).

Sections 1, 2 & 3 are common Sections (the other Sections rely on them). No 'General Requirements' Section is used, the Preliminaries has it all.

There is no hidden text to hinder and confuse you...content is self-explanatory.

The Master is a single Microsoft Word document. To set-up just change the footer.

This Master is suitable for all project sizes. Brickwork Spec detail for a hospital and a house are virtually the same – any differences are drawn. The same goes for basically all the other materials.

Critically, *italicized* 'defined' words are used (the first Master to use this). It's done in the BCA and all General Conditions of Contract and VITAL for very accurate, clear, safe and concise text.

IMPORTANT: You DON'T build using the Spec, the Builder does. You DON'T have to know all about its detail, the Builders does (and especially the Subcontractors who work with this detail every day). Just know this full-version Spec is very comprehensive.

The BCA and General Conditions of Contract

ArchiAssist does not repeat regulations, and it does not contradict them. BCA requirements need to be designed into the job by the Project Architect or Designer.

ArchiAssist is written to suit the common industry General Conditions of Contract (GCC), and also purposefully has technical, not contractual, content.

This is a Very Concise Spec

ArchiAssist is full version but very concise (FINISHED approx. 80 PAGES) so it's more likely to be read, limits price loading from large Specs, and easily read by Subcontractors.

A concise Spec is more easy to navigate, and ArchiAssist also has a systematic navigation system.

Also, this concise Master has; rationalized content, *italicized* definitions, no repetitions, and no cross-referencing items documented elsewhere.

Manufacturer detail is not repeated. The Contractor obtains that, making it their responsibility, and it reduces documentation time, Spec size, and likelihood of error.

Spec Safety Features For Great Protection

Spec safety features include:

- Deleting only from the Spec, not assembling it or adding to it,
- Exact wording (one lazy word can cause trouble), and content is not repeated,
- Master content is higher quality which avoids the writer considering lower quality alternatives,
- On finding discrepancies, errors or omissions; immediately notify the Superintendent,
- For discrepancies with other documents, a default path is given (see Clause 1.1 of Preliminaries, 'Documentation Discrepancies' (also referred in each page header)),
- If Site conditions and Site Info conflict, allow the Site conditions. If a item size is not available, allow the next size up. For an omitted colour/finish allow a standard colour/finish,
- The words **NOTIFY** and **SUBMIT** are in bold italics to stand out (and are defined). These are critical words not to be missed (scheduling these too is problematic),
- ArchiAssist is updated twice a year (published 1st of April & 1st of October). See page 4 for more details,
- User-friendly to read at approx. 80 PAGES FINISHED.

WARNING: The Spec cannot rescue you from poor documents or poor selection of a Builder.

Things to be Documented Elsewhere

Job specific things get drawn or scheduled. Spec descriptions are in one location only, so you know if you want more detail, draw or schedule it. Generally other documentation is to include:

- Job specific items and their extent; building details; general arrangements; colours/finishes,
- Job details (address & RPD), Site areas, extent of work, dimensions, levels and falls,
- Designed items affected by Regulation eg the BCA (Regs always change and, Regs are designed into the job – the Spec is kept technical only),
- Extensive Contractor Quality Assurance detail (the Spec only refers to AS/NZS ISO 9001),
- Swimming pool equipment, pool fence specific detail, water features,

- Roof walkways (usually proprietary items or designed/documentated by the Structural Consultant),
- Window furnishings, door protection/thresholds, skirting/architrave/trim selections, joinery layouts, fabric & upholstery detail; ratings and extent of slip-resistance/acoustic/fire resisting items,
- Specific metalwork items (eg bollards, handrails/balustrades, stainless steel benches) – general metalwork fabrication detail is in the Spec, the arrangements & detailing need to be drawn,
- Signage detail (general construction detail and general regulatory compliance is only in the Spec),
- Construction quality Services Specifications (see also 'Consultants & Greenstar Detail' below),
- Bushfire resistant regulatory and construction detail,
- Alternative construction (eg mud brick, straw bale, rammed earth) and specialist Heritage detail.

Consultants & Greenstar

This Master has full Civil and Structural Sections if you chose to use them which avoids having several Specs on the same thing (a dual authorship name in each page footer of these Sections ties the Consultant to the content).

If the Civil and Structural Engineers do their own separate Specs, you can edit out the Civil and Structural content from these Sections. ArchiAssist doesn't contain some specialist detail eg pre-stressed & post-tensioned concrete

The Hydraulic, Electrical (including fire, comms, security), Mech Engineers can do their own Specs OR you can use the ArchiAssist **Architectural 'Full Add-on' Services Spec** (a 'D&C' style Spec) where the Builder is responsible for design & documentation.

The Landscape Architect can do their own Spec OR you can use the ArchiAssist **'Full Add-on' Landscape Spec**.

The Master has no 'Greenstar' type detail as it's highly variable/job specific, so it is to be separately documented.

Use of Schedules

ArchiAssist provides 3 Schedules: the 'Door Schedule', the 'Internal Room Finishes Schedule' and the 'Project Detail Schedule' (the latter is very handy, replacing several other commonly used schedules).

The ArchiAssist Master works perfectly however with any Scheduling system you want to use.

Schedules are to be separate to the Spec because; **1)** they are started long before the Spec, and **2)** Schedules change a lot and you don't want to re-issue the Spec with each Schedule change.

Schedules are quick reference tools giving selections only – the Spec has the 'back-up' detail.

ArchiAssist does not provide the following Schedules because:

- Window Schedule: Windows are usually drawn,
- External Finishes Schedule: Materials can be shown on the Elevations with colours scheduled,
- Colour Schedule: Colour selections usually done by the Designer early and as matter of course,
- Fixtures & Equipment Schedule: These are simple lists,
- Door Hardware Schedule: This is often done by a Door Hardware Manufacturer,
- Paint Schedule (ie what paint on what substrate): This is often be done by a Paint Manufacturer,
- Warranty Schedule: ArchiAssist refers to standard manufacturer warranties (non-standard warranties need manufacturer agreement before being specifically documented),
- Submission & Notification Schedules: ArchiAssist avoids these time consuming and erroneous Schedules by using "**SUBMIT**" & "**NOTIFY**" in the relevant text which is easily seen.

High Quality Tender Conditions and Tender Form

The ArchiAssist **Tender Conditions/Form** is also concise, easy to edit, and accurate (get it on-line).

A great feature is the Tender Price Schedule for price break-up into the 27 Spec Sections – good to analyse Tenders (see pricing highs and lows), and for checking future Progress Claims.

Tenderers are to include rates for normal & rock earthwork rates, bored pier rates, and other items essential for good Tender practice.

On the Tender Form, Tenderers need to acknowledge and provide Services Rates (often hidden in Electrical and Mechanical Specs) so this critical item does not get missed.

Specification Updates

Specification updates are published every 1st April and 1st October. For you to get an update, simply re-purchase that document. There are no update fees.

Purchasing a product within 2 months before an update is due entitles you to get the next following update free if you just email to request that.

The Hypothetical Project of this Sample Spec

This sample is edited for a hypothetical project so not all Master Spec content is shown. The Master Spec is about 130 pages (this small sample Spec is 67 pages). Most Specs finish at about 80 pages.

This Sample Spec is for a small project and is typical of a preliminary draft (approx 90% complete). It uses “**TBC**” (deleted at final Spec) for unresolved items. In reality, the Copyright sign is also deleted.

The project is a medium size retail fit-out in a new Shopping Mall. The pre-Contract site conditions are the bare concrete floor, concrete block perimeter walls extending to the structural slab above, no ceiling, and a rough-in plumbing for a future sink.

New Work involves: shopfront glazing & glass doors, tile & vinyl flooring, a ceiling (suspended flush-set), steel stud plasterboard lined (acoustically insulated) partitions, flush doors, timber skirts, a Kitchenette, display-cabinet concrete plinths, painting, electrical and plumbing.

A WC & shower (with glass screen) is made by cutting a new floor (demolition) in the existing concrete floor and laying a new recessed Wet Area floor. New walls to the WC & shower rooms are reinforced concrete block.

A future fit-out (signs, decoration, fixed furniture, lighting) is separately Owner provided after Practical Completion.

Contract Documents are: Architect dwgs, **this Architectural (sample) Spec**, Schedules (see Spec Table of Contents ‘Appendix’), separate Structural/Hyd/Elect dwgs & Spec, and the General Conditions of Contract.

The Structural Spec detail is in this sample Spec ‘Concrete’ & ‘Masonry’ Sections (Note the use of dual names in the footer of these Sections).

The D&C Sample Specification, also available on the website, is based on the same hypothetical project. Also the D&C Master follows the same format as the full-version Master (which is the basis of this sample in your hands). This all means that you can compare the two sample Specs directly and quickly.

Now You Have 2 Spec Writing Options

First is to purchase the ArchiAssist Master and write your Spec yourself.

The second option is to **have ArchiAssist write your Spec for you**. The Specification Writing Service still operates as many Architects and Designers like to utilize it.

You not only get a great Spec done, but you get an experienced Architect on-board. The fees are **unbeatable** as the ArchiAssist Master is used (it’s fast to edit), and it is familiar.

Please call for our Agreement & Fee Table (fees are based on the number of anticipated architectural drawings).

A well written ‘Read & Delete’ Master is a great investment, making Spec writing easy and SAFE.

ArchiAssist is just that. It also avoids assembling and avoids ‘adding-to’ which is all time consuming, risky, and things can get confused or lost.

This is a Master you can even enjoy using!

Done WITHIN A DAY; for ALL size and type buildings; for ALL States & Territories.

**** Better Tender pricing ** Reduced disputes and frustrations ** Win back time and FEES ****

GET THIS UNIQUE MASTER NOW AT WWW.ARCHIASSIST.COM.AU

If you have any questions, please phone on 07 3392 7212 or email admin@archiassist.com.au.

Thank you. All the very best.

Greg Blain Architect

Creator of ArchiAssist, a very user-friendly, ‘Read & Delete’ Master,
for any size project...done within a day.

Architectural Specification for: Shop 123 Fit-out

At: Happy Mall, Gladsville, NSW

1 PRELIMINARIES	6
2 FIXING & SEALING.....	17
3 METALWORK.....	20
4 DEMOLITION	24
5 EXTERNAL WORKS	26
6 CIVIL WORKS	27
7 CONCRETE	28
8 MASONRY	33
9 STRUCTURAL STEEL	36
10 TIMBER WORK	38
11 TERMITE BARRIERS.....	40
12 WATERPROOFING	41
13 ROOFING.....	43
14 CLADDING	44
15 GLAZING	45
16 DOORS	48
17 INSULATION	51
18 LININGS.....	53
19 JOINERY.....	56
20 FIRE STOPPING.....	60
21 FIXTURES.....	61
22 RENDER	63
23 TILING.....	64
24 RESILIENT FINISHES.....	67
25 CARPET.....	69
26 PAINTING	70
27 SERVICES	72

APPENDIX *TBC*

Appendix items are Contract *documents* (except for *Site information* & Reports which are for Contractor information).

MATERIALS, FITTINGS & COLOUR SCHEDULE.

DOOR HARDWARE SCHEDULE.

PAINT SCHEDULE (by the Paint Manufacturer).

****Notes for the Reader of this Sample Spec****

- The Appendix is used when there are separate documents bound into a hard copy Spec. If those documents exist as individual documents listed elsewhere, then you won't need this Appendix,
- For simplicity, these Appendix items are only listed and the actual Appendix documents are not included in the Sample,
- The Sample may not incorporate all minor recent Master Spec updates.

SPECIFICATION REVISION TABLE

Revision	Date	Revision Detail
P	[Insert date here]	Preliminary Issue

1 PRELIMINARIES

1 GENERAL

1.1 GENERAL

TBC This preliminary Specification is not for Tender or construction.

The Work

Provide Work as documented, compliant with NCC / related Regulations / A/O Standards / Statute, under reasonable, foreseeable on/off-Site, weather & Industry conditions.

Keep on-Site, copies of all *documents* & Regulatory Authority documents/correspondence.

Allow contingencies for risks for *Work* related impositions.

Documentation is presented diagrammatically or in written form in several *docs*, each one detailing only a specific part of the *Work*. Small items may not be specifically *doc*, consequentially *allow* to *provide* fully completed *Work* (including un-*doc* accessories, trim, framing, finishes, processes, methods) without Contract variation.

NOTIFY on discovery of incompletely *documented Work*, and *allow* to *provide* everything to fully complete *Work* (to the standards *documented*).

This Specification

Specification content is for, and directed at, the Contractor (*UDO*) & applies to all *Work including* that *documented* elsewhere.

This Specification does not reduce Contractor responsibility for *Work including* compliance with Referenced Documents (RD – refer below).

All SECTIONS must be read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, & 3 Metalwork.

Singular words may mean plural & vice versa, depending on context.

Documentation Discrepancy

A *documentation* discrepancy is conflicting detail about an item, from two or more different *documentation* sources. Different but non-conflicting detail about an item is not a discrepancy.

Immediately **NOTIFY** on finding a *doc* discrepancy *including* an omission.

For discrepancies within this Specification, firstly *allow* specific descriptions over general descriptions, then after it is found to be not suitable, *allow* the most expensive option.

Allow the following for Specification discrepancies with:

Architectural drawings, Schedules & other docs:

Allow drawings, Schedules & other docs.

Manufacturer advice: Refer Sub-SECTION 3 'Proprietary Products'.

General Conditions of Contract (GCC): *Allow* GCC (definitions in Clause 1.3 below apply to this Specification).

Consultant doc: *Allow Consultant doc.*

Referenced Documents (RD): Refer Clause below.

All *doc* detail presented in all the different *docs* is to be *provided*, with the exception of the *allowance* for *doc* discrepancies listed immediately above.

Contract Non-Compliance

Pay Owner \$250.00 +GST/hour (extra to the Contract Price) as reimbursement for the cost of time spent by the *Superintendent & Consultants* on Contract non-compliance issues & Contractor requested un-*doc* advice (refer also 'The Work' above).

1.2 REFERENCED DOCUMENTS (RD)

Referenced documents (RD) are those (current at time of *Work*) that; **1)** the *docs* refer to *including* A/O Standards (with associated Parts) and, **2)** are not *documented* but need to be complied with to complete the *Work* to Statutory & Industry standards.

RD & *Doc* Discrepancies: Immediately **NOTIFY** & *allow* the higher quality or more expensive option.

Where RD give options & it is not *doc* which option to use, immediately **NOTIFY** & *allow* the more expensive option.

Where extra detail is *doc* over-and-above the RD, *provide* as *doc*, in addition to that detail in the RD.

A/O Standards associated Parts are not necessarily specified herein. The Contractor is to assess & implement where required, the content of A/O Standards & associated Parts.

1.3 INTERPRETATION

Italicized text used in this Specification only, are defined in this Clause. Other *document* definitions apply only to those specific *documents*.

Refer to AS HB50 'Glossary of Building Terms' for definitions of other industry terms.

Defined words not italicized in the Specification text are to be taken as defined words & **NOTIFY Superintendent** for definition confirmation.

APAS: Australian Paint Approval Scheme	GMK: Grand master key
AS: Australian Standard	HWD: Hardwood
BCA: Building Code of Australia (& NCC)	LOSP: Light organic solvent preservative
BMT: Base metal thickness	MDF: Medium density fibreboard (moisture resist grade UDO)
CFC: Compressed fibre cement to AS/NZS 2908.	MK: Master Key
CHS: Circular hollow section.	NATA: National Assoc of Testing Authorities
Deg: Degree	NCC: National Construction Code <i>including</i> the BCA
Dia: Diameter	NZS: New Zealand Standard
EPDM: Ethylene propylene diene monomer	PVC: Polyvinyl chloride
FC: Fibre cement to AS/NZS 2908.	RHS: Rectangular hollow section.
FFL: Finished Floor Level	RTA: Registered Testing Authority as per the BCA.
FW: Floor waste drainage outlet	SHS: Square hollow section.
	UDO: Unless <i>documented</i> otherwise.

Advise, advice: In writing, promptly and construction program timed.

Allow/allowance: Plan & price to *provide* as specified. **NOTIFY** to confirm after making the *allowance*. If the allowance is not used, deduct its cost from the Contract Sum.

Aluminium/zinc coat: Factory applied *metallic coat* to mild steel, to AS 1397 *similar to* Lysaght Zinalume®.

A/O Standards: Australian & Overseas Standards.

Balanced construction: For timber-based panel construction, facings both sides, of equal thickness, grain direction, properties (to avoid leaf warp induced by moisture content changes).

Clear finish: Term for clear, translucent, oiled, sealed or stained coatings.

Consultant: Design Professional usually associated with Contract *document* drafting.

Cnrs: Centres (spacing).

Day: Calendar day, except National public holidays & the days between + including Christmas Eve & 7th day after New Years day.

Doc, documented: As per the Contract *documents* (*including* referenced *documents* & Manufacturer *advice*).

Drawn, drawing: As *drawn* in the Contract *documents*.

Engineer: Contractor *provided* Engineer with Statutory Registration & Professional Indemnity insurance & may be a material Manufacturers *Engineer* or a *Consultant*. *Engineer Work* to *includes* allowance for anticipated loadings.

Exposed to view: Visible/exposed without disassembly at Practical Completion (*including substrates* coated with a liquid applied finish).

External, exterior: Not weather protected by enclosing building skin or sarking *including* outside a DPC, exposed to the ground, under roof/awning/floor overhangs, under suspended floors, or in porous walls & their cavities.

Flush-set: Lining/cladding sheet recessed edge joints & fixings filled with multi-layer fill taped/reinforced compound, edges & corners with embedded beading.

Galv: Hot dip galvanized as per Metalwork **SECTION**.

Glazing material: Glass, glazing plastics & other translucent material, used in a *glazing system*.

Glazing system: Assemblies which use *glazing material* as the primary material.

If required: *Work* required by Statutory, physical, performance, Contractual, administrative needs.

Include/s: *Includes*, but is not limited to, the written list of items following this defined word.

Instruction, instructed: Written instruction or direction by *Superintendent* as defined by the Conditions of Contract.

Max, min: maximum, minimum.

Metallic coated: *Includes* zinc-coated, zinc/iron alloy-coated, & *aluminium/zinc* coated steel, to AS 1397.

Moisture exposed: In an *external* place, *Wet Area*, around wet fixtures, below a DPC or directly exposed to water.

NOTIFY: Contractor to **SUBMIT** written notification to *Superintendent* UDO, timed to suit the construction program. *Allow 7 days* for *Superintendent* *advice*. Confirm that the notification has been received.

Owner: Building Owner or Owners Representative or Principal (as per Contract).

Paint: Term for new Site applied coatings, but not waterproofing, render, sealer.

Proprietary: Manufactured product, identified by product name/code, refer this SECTION, Sub-SECTION 3.

Provide: Contractor to perform the following in relation to the Work (from Contract start to completion): plan, instigate, construct, demolish *if required*, administer, supervise, co-ordinate, comply with all applicable Statutory & Regulatory controls, order, check, program, pay fees/costs/wages/taxes, purchase, design *if required*, supply, confirm materials/Work compliance, transport, store, secure, protect, manoeuvre materials & personnel, fabricate/install, commission, clean/maintain, Work to complete & fully operational condition.

SECTION: Specification SECTION.

Similar to: Thing *documented* to communicate *min* requirements. A *similar to* thing may be *provided* other than the thing *documented*.

Site: Existing improved & un-improved property within the property boundaries, and the Work.

Site information: Site specific, non-Contract docs, eg asbestos & geotechnical reports, Site survey. Check Site information. Site information does not reduce Contractor responsibility for checking Site conditions.

SUBMIT, submission: Contractor to **SUBMIT** to Superintendent UDO, as per this SECTION, Sub-SECTION 5. Confirm that the *submission* has been received.

Substrate: The surface to which a material or product is to be applied.

Superintendent: Owners representative, defined by Contractual Conditions. Superintendent actions do not reduce Contractor responsibility for *providing* the Work.

Supply: Contractor to; instigate, administer, supervise, co-ordinate, order, program, pay fees/costs, purchase, transport, Site deliver/un-load, store/protect, clean/maintain.

Type test: Off-Site test by RTA, on a *proprietary* product, before Site delivery. Provide to Type test design.

Wet Area: An internal space where water supply & drainage is a predominant feature *including* that with a FW.

Works: Provide as *documented*. *Proprietary* items *provided* with the Work are subject to this Specification.

2 THE SITE

2.1 GENERAL

Site possession is for Work only.

Do not Work on any property outside of the Site, without the relevant Owners written consent & without *providing* that Owner with indemnity from damages claims caused by the Work.

Immediately **NOTIFY** on discovery of:

- Discrepancy between Site conditions and Site information or docs (*allow* the Site conditions).
- Unknown building/Site encroachments.
- Any un-doc or unexpected condition or thing found on the Site *including* that related to archaeology, palaeontology, forensic science, or any man-made thing. Protect these discoveries.

NOTIFY to confirm Site construction area.

2.2 OCCUPIED SITE

During the Work, the remainder of the property outside of the Work area will be occupied by people un-associated with the Work.

Do not access these occupied areas. Provide to these occupants continuous: **a)** Safety/security/*min* disruption, **b)** Site/building access/fire escape & Emergency Services access, **c)** Fire fighting facilities, **d)** Weather, dust, dirt, water, nuisance protection.

2.3 INFRASTRUCTURE & PROPERTY

General

Infrastructure & property *includes* Owner, Public & other privately owned fixed items *including* services & landscaping. Work affecting infrastructure & property to the applicable Owners written consent.

SUBMIT detail of proposed Work to existing infrastructure with 14 days notice.

Locate existing on/off-Site infrastructure at Contract start. Repair/divert/relocate *if required*.

Immediately **NOTIFY** if un-doc services found. Protect (regards Work) all infrastructure & property.

Cut, seal, make safe redundant services as doc & to Authority requirements. Provide temporary infrastructure during infrastructure shut-down. Minimise interruptions. Immediately **NOTIFY**, record & rectify obstruction/damage/contamination of Public/Private infrastructure or the environment.

*Min 14 days before start of on-Site Work, **NOTIFY** adjoining property Owners & Occupants of Work start including Works description & duration. Advise adjoining property Occupants, within min 3 days, of noisy, dusty, smelly or polluting Work.*

Dilapidation Record

At Contract start, Record existing infrastructure/property on and around the Site *including* using digital colour, high resolution photos with time & date display, in electronic file format as *instructed*, each photo location labelled. **SUBMIT** 2 copies of the Record before on-Site Work start. Immediately rectify defects that cannot be proven from the Record to not be Work caused.

3 MATERIALS

3.1 MATERIALS GENERAL

Refer also SECTIONS 2 Fixing & Sealing, & 3 Metalwork which are common SECTIONS.

Provide materials, new, defect free (including discolouration), labelled, no deformation (straight with flat plane).

Provide materials made for the intended use, environmental conditions & expected loads.

Materials not to adversely affect other materials & to be compatible with contacting materials.

Consistency: Same type of material to be from one Source or Manufacturer for material quality & colour/finish consistency. Provide consistent colour/finish on all surfaces of the same element.

*Colour/Finish: If colour/finish is un-doc, **NOTIFY** & allow standard colour/finish closest to matching that colour/finish of the primary adjacent surface. Exposed to view colour/finish to be consistent & unblemished.*

*Un-availability: **NOTIFY**. Size – allow next standard size up. Material – allow to source a similar to alternative. No Contract variations given for material un-availability or late/long product order/lead times.*

Water: Potable, clean, free from deleterious matter.

Sand: Fine, sharp particles, clean, no salts or adverse chemicals, not from a marine environment, clay content 1-5%, to be dry when added to mixes.

Materials containing asbestos are not to be brought onto the Site.

3.2 PROPRIETARY PRODUCTS

Provide proprietary products to Manufacturer advice, UDO higher quality. If Manufacturer advice is unavailable provide as per Sub-SECTION 4 'Materials & Products (General)'. Keep on Site current Manufacturer advice & safety data.

Proprietary system components are not to be substituted with another Manufacturers components.

Supply: Label with Manufacturer/product name, ingredients/contents, safety/first-aid advice. Supply to point of use in new, unopened packaging/containers.

*Discrepancy: **NOTIFY**. Discrepancy between Manufacturer advice & doc, allow advice (**NOTIFY** if that advice seems poor quality advice). If this advice leaves options to be yet made, allow higher quality option. If product options are un-doc, **NOTIFY** & allow higher quality or more extreme option.*

4 BUILDING WORK

4.1 MATERIALS & PRODUCTS

General

Refer also SECTIONS 2 Fixing & Sealing, & 3 Metalwork which are common SECTIONS.

Provide Work to good quality industry standard as doc & if not doc, provide to an Australian Tertiary Technical College or to the applicable Trade Association advice.

Work to be undamaged without distortion, secured, maintained & protected.

Provide for permanence, min future maintenance, stability, min corrosion, optimum performance, material movement, uniformity, consistency. Allow for physical/climatic effects.

Provide materials square, centred, aligned, flush, plumb/level, straight, UDO. Curves to be smooth & even. Materials to be seasoned/cured & if not, allow for shrinkage/growth.

Conceal cut & drilled *exposed to view* edges. Cut straight & smooth with no end-cut over-run. Joints to be minimal, tight, scribed & neat. Patterned/textured surfaces of the same material to be installed in same direction.

Provide long shaped materials in the longest possible lengths & broad materials in the biggest possible size. Avoid where possible, joints in *exposed to view* single elements, *UDO*.

Un-documented changes in material/assembly alignment, level, appearance or other inconsistency: *Allow* to correct & **SUBMIT** method of correction.

Compatibility: Separate incompatible materials *including* for *moisture exposed* incompatibilities.

Ordering/Delivery/Storage: To suit *Site* conditions. *Site* measure before ordering associated materials. Keep *min* on-*Site* storage. Avoid concentrated storage loads. Store level & off ground, dry, out of direct sunlight, rain & other damaging weather.

Security: Secure *Site* from unauthorized entry until Practical Completion. Any *Works* damage from unauthorized entry is to be made good at the Contractors expense.

Materials on *Substrates*: *Provide* to consistent materials/colours/finishes to all *substrate* faces *including* reveals, edges, recesses, projections. Fix/bond fully to *substrate* (not loose or drummy). Junctions flush, *UDO*.

Support of Items: Support & fix fixtures, fittings and other items on structural substrates or framing.

Frames/Trim/Guides: Trim material edges at junctions. Frames to be full perimeter with mitre joints or be factory joints.

Floor/Pavement Surfaces: *Provide* flush finish. If flush finish is impossible, ramp to meet an adjacent floor/pavement finish, *providing* a ramp of solid transitional material *max* 1:20 gradient (**SUBMIT** proposed ramp detail).

Material projections to occur only 2000mm above pavement/floor level at that projection location.

Movement/Expansion Joints: Extend through all finishes & materials without bridging. *Allow* structural element deflection over non-load bearing structures to *Engineer advice*. *Provide* for materials to expand & contract without damage or deformation, under anticipated conditions.

If ambient temperature is outside 5-35 deg C, *provide* to *Engineer advice*.

If *Work* is *doc* to be finalised by *instruction*, **NOTIFY** for that *instruction*.

Superintendent Compliance Requests

At *Superintendent* request, **SUBMIT** detail demonstrating *doc* compliance on proposed or completed *Work*, regardless of *submission* status specified. This can *include*: compliance from Suppliers or Subcontractors, compliance with Referenced Documents (RD) as per Clause above.

At *Superintendent* request, **SUBMIT** detail of Contractors *Work* financial security and accountability.

Non-compliant *Work* is to be immediately rectified. No Contract variation given for certifications, demonstrations, *submissions* or rectifications.

Moisture Exposed Materials

Moisture exposed materials to be quality *similar to external* grade, corrosion resistant with protective coating. Seal *moisture exposed* material edges, openings, joints & fixings. Do not penetrate lapped *moisture exposed* materials & higher materials to lap over lower materials.

Tolerances & Measurements

Site measure before ordering associated materials. Do not scale off *drawings*. Confirm sizes of equipment, hardware & appliances to be housed in *Work*, before *Work* start. Measure to the 'Australian Standard Method of Measurement of Building Works' (ASMM).

Tolerances: Applied over the limited specified distance (ie not cumulative). Check tolerances before fixing other materials. Set-out consistently. Building set-out tolerance + or - 15mm.

Ingredient Mixing: Measure ingredients using measuring devices. Ingredients not to contain excess moisture. Mix using mechanical devices.

Substrate Preparation

Substrate: To be solid, clean, with no deposits/sealers/curing compounds/oil/grease/bond-breaker, or other thing to impair finish/adhesion. Allow for material shrinkage/growth/movement.

Prepare *substrates* so as not to affect the performance or visual appearance of any applied finish.

Cure & dry *substrates* before applying other materials. Fill hollows/voids using high strength, colour matched *proprietary* filler product. Remove projections. Prime/seal *substrates* as *advised* by the

Manufacturer of the overlaid material. Confirm *substrate* moisture content requirements with the overlay material Manufacturer.

Hardware & Operational Components

Provide proprietary hardware/mechanicals to achieve completed & operational condition.

*Supply as assembled as possible, in dust/moisture proof, individual & labelled packaging. Include templates, fixings, Manufacturer fixing advice. Provide for correct right/left handing. If exposed to view hardware colour & finish is un-doc, **NOTIFY**.*

Safety: Provide to not cause User injury, including by: a) sliding frames, no scissor action, b) hand operation not to result in injury against adjacent elements, c) min unrestrained clamping action.

Provide acoustic mountings to isolate structural vibrations where required.

Operable parts clean, smooth, balanced, effortless, quiet operation, no binding/excessive play/self-move, correct tension, lubricated if required. Operable parts not to impact adjacent surfaces.

Provide sliding components with min lateral (perpendicular to operational direction) movement.

SUBMIT operational component Operation & Maintenance Manuals.

Motorised Components

*Proprietary, electric powered, with manual over-ride (for unintentional hand-operation), optional manual operation facility, hard-wired (concealed) unless doc as radio remote operated, power isolation switch, obstruction auto-stop/reverse safety function. Locate control as doc or if not doc, allow to locate as close to the motor as practical 1000mm above FFL & **NOTIFY** to confirm location.*

Motor to be Manufacturer certified for the applicable use. Motor includes limiting switches, over-load cut-out, & metal encased/sealed in moisture exposed situations. Electrical Work Electrical Engineer certified. Provide services connection to enable full function.

*Provide a 1 year Installer/Owner Service Contract (from Practical Completion), for Installer to maintain & service equipment. Include a maintenance/servicing program **SUBMIT** a) copy of Contract, b) operation & maintenance manual c) Defects Liability Period Servicing program.*

Slip Resistance

*Before Practical Completion & at the end of the Defects Liability Period, Site test each area/room documented with a slip resistance rating, to AS/NZS 4663 'Existing Surfaces'. **SUBMIT** slip resistance maintenance methods.*

Make Good

Make good to original condition, new & existing materials & finishes damaged or altered due to; Work conduct, demolition, or previous damage/corrosion. If required, dismantle & reassemble elements to make good to concealed or partly concealed items.

Making good to damaged proprietary products to that product Manufacturer advice.

*Immediately **NOTIFY** of damage/corrosion to new & existing materials or finishes. Reinstate Work damaged Site & adjacent surrounds including planting, to pre-Contract condition.*

Chasing

*Chasing is not permitted, UDO. For chases, **SUBMIT** Engineer certified details including chase depth, path & repair (using a polymer modified, high-density, structural grade cement-based product).*

Temporary Facilities

Provide temporary facilities required to construct the Work including phone (land line & mobile), e-mail, office, amenities, storage, signage, lighting, water, electricity, fire-fighting equipment, barriers, support/bracing & as required by Statute, to be removed by Practical Completion.

Provide scaffolding to AS 1576 & to the 'Scaffolding Code of Practice'.

Provide a min 1800mm height, steel framed/mesh (max 100mm gap) temporary fence around Work.

Temporary Protection: Provide & remove at concealment/finishing, otherwise at Practical Completion.

Provide all separate temporary metered services including for water & electricity, installed by Service Authorities in Contractor name. Do not use existing on-Site services. Arrange, apply for & pay Service Authority applications. Disconnect at Practical Completion.

Cleaning

Clean on-Site continuously & clean off-Site immediately when contaminated/dirtied by Work. Remove rubbish & surplus vegetation, earthworks, water, surplus materials, samples. Pay disposal charges. Do not burn or bury anything. Do not walk dirt onto Work. For Practical Completion, clean all exposed to view parts. Clean to Manufacturer advice for proprietary products.

No wet waste to be put on the ground or in drainage systems. Remove debris in services.
Cleaning chemicals to be low volatile organic compound type and low environmental impact type.
Clean away all dirt types *including*: dust, smudges, markings, wrappings, grease, oil.

4.2 CONTRACTOR DESIGN

General

Provide material selections, design & *Work* where *Work* is not fully *doc*, compliant with the *docs*.
Provide materials suitable to function, load, location, finish, fabrication. Do not infringe on patents, registered designs, trademarks/names/copyrights or other protected rights.

Work which is load bearing or has uncommon loadings is to be *Engineer* certified.

Shop drawn elements are part of Contractor design.

Provide warranty periods & conditions for Contractor selected materials & systems to match those of other well-known *similar* to product materials & systems warranties.

Provide building elements to withstand earthquake loads compliant with AS 1170, *including* to secondary structures, partitions, ceilings, services pipes/trays/ducts/equipment/machinery. Refer to the Structural *Consultant docs* for earthquake loading parameters.

Contractor Material Selections

Contractor material selections *include* materials: **1)** Required but not specifically *doc*, **2)** *Doc* “*similar to*”, **3)** *Doc* without naming a Manufacturer.

Materials to be from reputable well known good quality Manufacturers with material warranty time-periods *similar* to the industry norm for that particular material.

Poor quality *Work* relating to Contractor selections is to be rectified without Contract variation.

SUBMIT detail of proposed selections (to the same detail as specified in Clause ‘Contract Alternatives’ below) for all products except those incorporated in Fixing & Sealing **SECTION** & minor items made in powder, liquid (except *paint* & waterproofing), tape or thin strip form.

4.3 PERSONNEL

Engage & be responsible for on-*Site* & off-*Site* personnel; qualified, *Work* type experienced, licensed for the *Work* assigned. Engage a *Site* Supervisor to be readily contactable in business hours & contactable after-hours.

Provide personnel related awards/benefits *including* superannuation, redundancy schemes, wages/salaries/pay, applicable industry benefit schemes, site allowances, workers compensation, insurances.

Personnel to refer to & *Work* in compliance with the *docs* (*including* Referenced Documents as per Clause 1.2 above) applicable to their particular *Work* scope.

Engage 1 only Contractor Representative for *Superintendent* liaison.

SUBMIT when known, names & contact details of *Site* Supervisor/Manager, Subcontractors & Suppliers. *Include* Subcontractor License No_ & Class.

4.4 SAFETY & DISRUPTION

General

Provide *Work* related protection of persons & property. *Work* to *provide* as safe a *Site* as possible.

Contractor is the “Principal Contractor” re: Workplace Health & Safety Act. At *Work* start *provide* a Construction Safety Plan & Safety Reports, to be kept on-*Site*. Obtain Subcontractor Work Method Statements. *Provide* *Site* specific induction for persons on-*Site*.

Implement all *Work* safety precautions, assessments, education, programs, to minimise potential for injury & property damage. **NOTIFY** of *Site* accidents involving injury.

Minimise & keep away from on/off-*Site* persons, dust/spray/noise/exhaust, by either, stopping the activity, timing, or physical barriers, with consideration to wind direction & speed. *Site* music/radios/dogs not to be heard outside of the *Work* area. Use electric cement mixers. Connect temporary electrical power at Contract start (for *min* generator noise). Address immediately any safety & disruption complaints.

Do not drop any items from any height without a chute.

Monitor, minimize & control noise & vibration to AS 2436 & as *doc*.

Provide temporary support, fencing, shoring, access ways & lighting. Provide traffic control to Regulatory Authority written approval. Erect Regulatory safety/warning signs (to AS 1319). Display an after-hours emergency phone number, clearly visible from outside Site.

Provide for construction: **a)** adequate fire extinguishers/blankets (*include* for electrical & liquid fires to AS 1841 & AS 2444), **b)** first-aid kits, **c)** electrical Work Electrical Engineer certified, **d)** safe entry and exit, with emergency lighting & evacuation signage.

Comply with AS/NZS IEC 62198 'Managing Risk in Projects – Application Guidelines'.

Hazardous Substances

Provide hazardous substances *including* fuel to Manufacturer *advice*, safety *advice*, spill drills, storage, first aid. Maintain an on-Site Hazardous Substances Register which *includes* Manufacturer data sheets & record of persons using these substances.

Store hazardous substances in maintained, locked, banded/dammed/sealed areas & containers.

Do not burn or bury hazardous substances & immediately remove them from Site after use.

Hazardous gas producing materials to be mixed outdoors, otherwise mechanically ventilate if indoors.

4.5 ADMINISTRATION

General

Provide Work associated labour & administration *including* (as applicable) Accident/Income/Worker Protection, Superannuation, Redundancy, Works/Public Liability/ Professional Indemnity Insurance.

Provide on-Site, a copy of Statutory Authority Approvals, Contract documents, Instructions, the BCA, Manufacturer *advice*, Supplier delivery records.

Provide & **SUBMIT** the full range of effective insurances relating to the Work.

Work related personnel to secure Contract docs & not to disclose Work related information to the Media. Refer Media enquiries to Superintendent.

Statutory Authority Approvals & Instructions

Provide Statutory Authority approvals/submissions/inspections/tests except those doc as done by the Owner.

Provide Work to comply with Statutory Authority approvals/submissions/inspections/tests to Authority requirements.

SUBMIT Independent Building Certification for each construction stage as required by Statute.

SUBMIT on receipt, Authority approvals, submissions, instruction, Inspection & Test Certificates, copies of Authority correspondence/meeting minutes.

Immediately **NOTIFY** of discrepancy between Authority requirements & docs (*allow* Authority requirements).

Authority Approvals Done by the Owner

The Owner to instigate, arrange, pay for, lodge, coordinate, gain approval; the following approvals:

- Building approval, Plumbing & drainage pre-construction approval, Utilities pre-construction approvals.

Construction Program

SUBMIT a construction program at Contract start & at each update. Keep program updated & on-Site. Program to show (in days & weeks *including* holidays):

1. Sequence of Work.
2. Critical paths of Work activities.
3. Approvals & Work by Others.
4. Inspection & Testing Plan.
5. **SUBMIT** (submissions) & **NOTIFY** (notifications) program.
6. Start & completion dates of Trades/Supply.

Progress Photographs

Comprehensively & clearly photograph all on-Site daily-Work-in-progress with colour digital camera *min* 5.1 mega-pixel resolution with time & date on photos. **SUBMIT** 2 copies in electronic file format as instructed, at each Site meeting, for period from previous Site meeting.

4.6 INSPECTION & TESTING

NOTIFY (*min* 5 days notice) of inspections & tests. Attend all inspections & tests. Superintendent & Consultants have the option to attend.

Provide access to on/off-Site Work areas for: Superintendent, Consultants, Inspectors, Testers.

Do not proceed with or conceal, un-tested/un-inspected *Work*, which is *doc* to be inspected/tested. Do not alter *Work* after inspection/test (if altered *provide* new inspection/test).

Test fully completed *Work*, by independent *RTA* & instruments calibrated by *RTA*. This testing may be done by a Manufacturer for their own *proprietary* product or system.

Correct failed inspections/tests until a pass is achieved. Where number of tests are *doc*, the number relates to first-time passed tests. No Contract variations given for late/failed inspections/tests.

SUBMIT results of tests & non-*Superintendent* inspections *including* Certificates & observations, within 5 days of testing, *UDO*.

Inspection & certification by Parties other than Contractor, does not relieve/reduce Contractor of any responsibility for *Work*.

4.7 CONTRACT ALTERNATIVES

Proposed Contract alternatives to be *min* equal quality, detail & appearance to that *doc*, implemented only by *instruction*.

SUBMIT comparison detail of both the *doc* & alternative options *including*, cost, performance data, install & maintenance detail, Test Reports, *BCA* fire hazard compliance, material compatibility, samples, *Engineer* & *NATA* Certificate, warranty, reason for alternative, effect on *Work including* the Construction Program.

Superintendent may reject alternatives. No Contract variations given for alternative submissions or rejections or delays. Pay alternative proposal costs, *including* administration, testing, *Engineer* & *NATA* certification, Shop *drawing* changes & *Superintendents/Consultants* time.

4.8 COMPLETION

Refer Clause 'Cleaning' above. At Practical Completion retighten *exposed to view* threaded fixings.

SUBMIT Regulatory Completion Certificate to Local Authority format (for Practical Completion).

SUBMIT Defects Liability Period Maintenance & Servicing Program for all equipment & services.

5 SUBMISSIONS

5.1 GENERAL

Time *submissions* to suit the Construction Program. *Submissions* are to be accompanied by a dated transmittal listing items *submitted*. *Work* to comply with *submission* content.

Allow *min* 12 days for *Superintendent* response to any *submission*, after which *Work* relating to *submission* may start. Comply with *submission* related *Superintendent advice*.

Superintendent is not obliged to give *submissions advice*. If *advice* is given, it is for design intent only. *Submission* process does not reduce Contractor responsibility for *submission* content & related *Work*.

Superintendent may reasonably reject poor quality *submissions*. No Contract variations given for late or rejected *submissions*, for under-estimation of *Work* relating to *submissions*, or for *Work* relating to *Superintendent advice*.

Drafted *submissions* to be in English & metric units, labelled with: Project, Contractor, Subcontractor, Supplier, Manufacturer, date, product, model No_. Re-*submissions* re-dated with new Revision No_.

Drafted *submissions* to have Author signature, letterhead, ACN No_, Statutory State Licence No_ or *Engineer* Statutory Registration No_ (as applicable), to be legible & drawings to be legible at A3 size.

SUBMIT electronic & hard copies, both with same content. Electronic copies: Microsoft Word, PDF & *drawing* compatible CAD, latest versions in electronic file format as *instructed*. Hard copies: *Provide* 3 copies, *UDO*.

5.2 MANUFACTURER ADVICE

SUBMIT Manufacturer *advice*: to *include* (as applicable) technical & install detail (*including* for wind load, *substrate* preparation, maintenance), drawings, performance/rating data, safety *advice*, *Type test* reports, Certification Scheme compliance, *NCC* compliance, warranties & approved Installers.

Also, **SUBMIT** Binder of Manufacturer *advice* (irrespective of *submissions* previously made), 7 days before Practical Completion, for all *proprietary* products.

Binder content ordered as per this Specification, labelled, new, rigid cover, 3 ring A4 size. *Include* Table of Contents. Label tabbed dividers same as this Specification **SECTIONS**.

5.3 CERTIFICATES, TEST RESULTS & SITE ADVICE

SUBMIT all Certificates, Test Results & Manufacturer *Site advice*. Nominate providers name, Project name, A/O Standards, other as *doc*.

Also, **SUBMIT** Binders of all these documents (irrespective of *submissions* previously made), 7 days before Practical Completion.

Binders content ordered as per this Specification, labelled, new, rigid cover, 3 ring A4 size. *Include* Table of Contents. Label tabbed dividers same as this Specification *SECTIONS*.

5.4 SAMPLES

Provide labelled samples. **SUBMIT** 2 samples of each product type & colour & finish, either as the full product item sample, a *min* 450mm sample length or a *min* 450 x 450mm sample area.

If a sample is of a product or material of which a *doc* colour/finish comes in a range of colour/finish (typical but not exclusive to natural materials) provide samples showing both extremities of the range.

Successful samples are to be *Superintendent* endorsed. Keep one batch protected in *Site Office*, send the other to *Superintendent*. Samples form the basis of subsequent related materials.

5.5 SHOP DRAWINGS

Contract *docs* relating to items to be shop drawn, are intended only to show indicative design intent. *Provide Work* which is shop drawn, without Contract variation.

Shop drawings to be *doc* compliant, to scale, dimensioned & show the highest level of construction detail *including* plan & elevation detail, components, operational parts, fixing, sealants, finishes, connection to other elements & services.

Show how materials are to expand & contract without damage or deformation, under anticipated conditions.

Provide Engineer Design Certificate & *Engineer* Completion Certificate. *Provide* a list of A/O Standards complied with & related *Engineer* certification.

SUBMIT after all content is checked *including*, dimensions, calculations, quantities, manufacture, revisions marked. If *proprietary* products are incorporated, *provide* product Manufacturer Certificate with shop drawings. Update & **SUBMIT** shop drawings to Work as Executed status.

5.6 WORK AS EXECUTED DRAWINGS

Superintendent to issue drawings in electronic format for Contractor to produce the Work as Executed drawings. **SUBMIT** Work as Executed drawings promptly after related *Work* complete, no later than 14 days before Practical Completion. Update & **SUBMIT** shop drawings to Work as Executed status.

5.7 WARRANTIES

SUBMIT all Installer/Supplier & *proprietary* product Manufacturer warranties in the 'Manufacturer Advice' Binder. Installer warranty *min* same duration as product warranty. *Provide* Head Contractor & Subcontractor warranties for *Work*.

Within 7 days of Contract start. Name *Owner* as warrantee & register this with Manufacturers.

Warranties to be valid even if *Ownership* changes.

Commence warranty periods at Practical Completion.

Provide to Manufacturers warranty conditions. Do not *provide proprietary* products without warranties.

Warranty to cover cost of: **a)** Product replacement, **b)** Rectification of other damage caused by product defect, **c)** Un-covering & rectification *Work* to access product, **d)** Building User disruption.

5.8 OPERATION & MAINTENANCE MANUALS

SUBMIT no later than 21 days before Practical Completion, compiled by persons experienced in the *Work* type, hard copy manuals in new, rigid cover, 3 ring A4 size binders. Manual content order to be same order of this Specification.

Binders to include:

- Cover: Identify each binder with typed title. Identify Contractor, project, volume number, volume subject matter & issue date.
- Dividers: Durable divider for each separate element. Type titles under laminated plastic tabs.
- Drawings: Fold drawings to A4 size, bound to be unfolded without removal from binder. *Provide* with reinforced punched binder tabs.
- Text: Table of Contents, page numbered, typed on bond paper.

Content to include:

- Test Authority Certificates, Manufacturer warranties, product Certificates.
- Names, addresses, phone/email address/website of Manufacturers, Suppliers, Contractor, Subcontractors.
- Work as Executed drawings (if *doc*) & technical data/drawings.
- Schedules of equipment, locations, performance figures, manufacture dates, spares to be held (include name, model No_ & local sources), warranties.
- Manufacturer Specifications, assembly, operation, fault-find, repair, cleaning, adjustment, service.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2 FIXING & SEALING

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere. All SECTIONS must be read with this SECTION.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 3 Metalwork & all related SECTIONS.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text. Refer also to *Consultant documents* for other interpretations.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Detail & Samples: proposed fixings & sealants if *Superintendent* requested.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries & 3 Metalwork.

Adhesives, Sealants, Fixings to be *proprietary* products, non-staining to contacting materials.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 ADHESIVES

Mastic Adhesive to AS 2329. Timber Adhesive to AS 2754.2 & 3.

Do **not** provide: **a)** Cement-based adhesives on wood, metal, *paint*, glazed surfaces, gypsum-based plaster, **b)** Organic solvent-based adhesives on *paint*, **c)** Organic PVC-based, PVA (polyvinyl acetate) & organic natural rubber latex adhesives in *moisture exposed* situations.

Adhesives not to be visible at completion. Apply adhesives only to cured *substrates*.

2.4 SEALANTS

Single Component Silicone to TT-S-1543B. Elastomeric Joint Sealant to ASTM C920.

Seal *moisture exposed* junctions/penetrations/fixing points. Provide non-absorbent, non-sealant adhering, closed cell polyethylene bond breaker/backing rod. Design for anticipated joint movement. Colour match *exposed to view* sealant to adjacent *substrate* colour, *UDO*.

Do **not** apply: **a)** bituminous materials to absorbent surfaces, **b)** exposed to adverse weather **c)** outside *advised* working time, **c)** to unfixed materials. Apply sealants only to cured *substrates*.

Make smooth, concave surface. Protect curing sealant from adverse weather & direct sunlight. Clean excess sealant from surfaces, at application. Apply sealant during median joint movement conditions.

Provide sanitary grade anti-fungal, mould resistant sealant in *moisture exposed* situations.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Sealants; 1) contacting *painted substrates* to be paintable, 2) contacting naturally coloured metal to be clear.

2.5 FIXINGS

General

Steel Nails AS 2334.	Plain Washers AS 1237.1.	Metric Screw Thread AS 1275.
Self Drillers AS 3566.1 & 2.	Electroplating AS 1897.	Galvanize AS 1214 & AS/NZS 4680.
Powder Actuated AS/NZS 1873.4.	Nuts/Bolts/Screws AS 1110 / 1111 / 1112 & AS/NZS 1252 / 1390 / 2465.	Anchor Test Methods ASTM E488 & E1512.

All items to be fixed & fix to *Engineer advice* ceiling/wall hung/overhead/structural items, *UDO*.

Fixings to match quality of fixed material (eg stainless steel product, stainless steel fixings).

Provide fixings all metric sized, capable of taking expected loads, selected for the purpose to Manufacturer *advice*.

Fix to structural *substrates*, not to linings or claddings, except if necessary for the most minor fixings. For fixing over non-structural materials, eg claddings/linings, *provide* fixing extra length, for required depth into structure. Pack behind materials & *substrates* if required, to give solid fixing base.

Set-out fixings evenly, consistently, centred where applicable. Use regular set-out start points & straight edge/chalk lined guide lines. Clamp or pre-drill materials to avoid separation. Drill fixing holes *min* depth required for fixing length. Replace fixings with burred/damaged heads or nuts.

Seal behind or *paint* over, *moisture exposed* fixings, *UDO*. At concealment or *painting*, re-tighten fixings. For Practical Completion, re-tighten un-concealed/un-*painted* fixings.

Cord fixed or operated products to be *provided* with child strangulation safety warning labels.

Finish: *Exposed to view* fixing heads: **a)** at coloured *substrates*, same as *substrate* colour/finish, **b)** at metal *substrates*, same as metal colour/finish, **c)** at *clear finished substrates*, fixings finish to be stainless steel or brass (to match adjacent metal), *UDO*.

Nails

Nail fix only to timber. Punch *exposed to view* heads 2mm below timber surface & fill. Avoid timber hammer bruising. Remove bent nails & temporary holding nails. Nails not to penetrate structure/framing back face. Nails to be no less than 15mm from material edge.

Screws

Screws not part of a *proprietary* fixture to be *min* 3.5mm *dia*. *Provide* washers to un-countersunk screws. Pre-drill *substrates* & structure/framing, if required, to avoid material damage/splitting.

Embedment depth *min* 6x fixing *dia*. Screws not to penetrate structure back face. File blunt exposed screw points penetrating thin base materials. Screws to be no less than 15mm from material edge.

Bolts & Anchors

Masonry anchors to be *proprietary* expansion, friction or chemical type. Masonry/concrete edge distance to anchor, to anchor *Engineer advice*, unless dimensioned otherwise.

Do not fix into masonry mortar joints. Fix to solid or core filled masonry only. Holes for adhesive/epoxy fixed bolts cleaned out before fixing. Use *proprietary* plastic plug fixings only for lightweight, non-structural use.

Bolt protrusion past nut: Less than 2000mm above *FFL* - no protrusion, over 2000mm - *max* 4mm protrusion, *UDO*. *Provide* *proprietary* rounded-edge safety nuts & bolt heads in pedestrian areas up to 2000mm height.

Provide washers to bolts & nuts, except to cuphead timber bolts.

Anti-Tamper Fixings

Tamper Resistant Fixings

Tamper resistant fixings are designed for security, removable only by either: **a)** grinding or drilling-out (installed with a washer to protect *substrate*), **b)** using a tool/bit only available by lease from a fixing Manufacturer who keeps a Register of persons leasing the tool/bit or, **c)** using a tool/bit only available from an Trade Fixing Supplier selling only to Trades-persons. *Provide* tamper resistant fixings as *doc* & also to:

- Elements which are directly accessible 24 hours a day to the Public, from *FFL*/ground to *min* 2400mm above *FFL*/ground.

Items needing maintenance removal to be fixed by option **b)** above.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Corrosion Resistance

Self-drilling Fixings (to AS 3566): Class 4 if *moisture exposed*, otherwise Class 2.

Threaded Fixings/Anchors: *Galv* 50 microns thick if *moisture exposed*, otherwise electroplated zinc 12 microns thick.

Power Actuated Fixings: Stainless steel 316 grade if *moisture exposed*, otherwise electroplated zinc 12 microns thick.

Other: Fixings contacting concrete, masonry or chemically treated timber to be *min galv* mild steel.

Provide fixings & metal items to comply with AS 4312 'Atmospheric Corrosivity Zones in Australia'.

Compatibility

Provide fixings to materials as follows:

Fixing	Material
Aluminium	Aluminium, <i>aluminium/zinc</i> coated & pre-painted (eg Colorbond) steel, zinc coated steel.
Steel zinc plated	<i>Aluminium/zinc</i> coated & pre-painted (eg Colorbond) steel, zinc coated steel.
Monel or copper	Stainless steel, copper, brass.
Stainless steel (non-magnetic)	Stainless steel, copper, brass, aluminium, <i>aluminium/zinc</i> coated & pre-painted (eg Colorbond) steel, zinc coated steel.

3 EXECUTION**3.1 EXECUTION COMMON DETAIL**

Read with SECTIONS 1 Preliminaries & 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Substrate Preparation: Refer Preliminaries SECTION, Sub-SECTION 4 'Substrate Preparation'.

Mix hazardous gas producing materials outdoors otherwise mechanically ventilate if mixed indoors.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

3 METALWORK

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere. All SECTIONS must be read with this SECTION.

1.2 REFERENCED DOCUMENTS

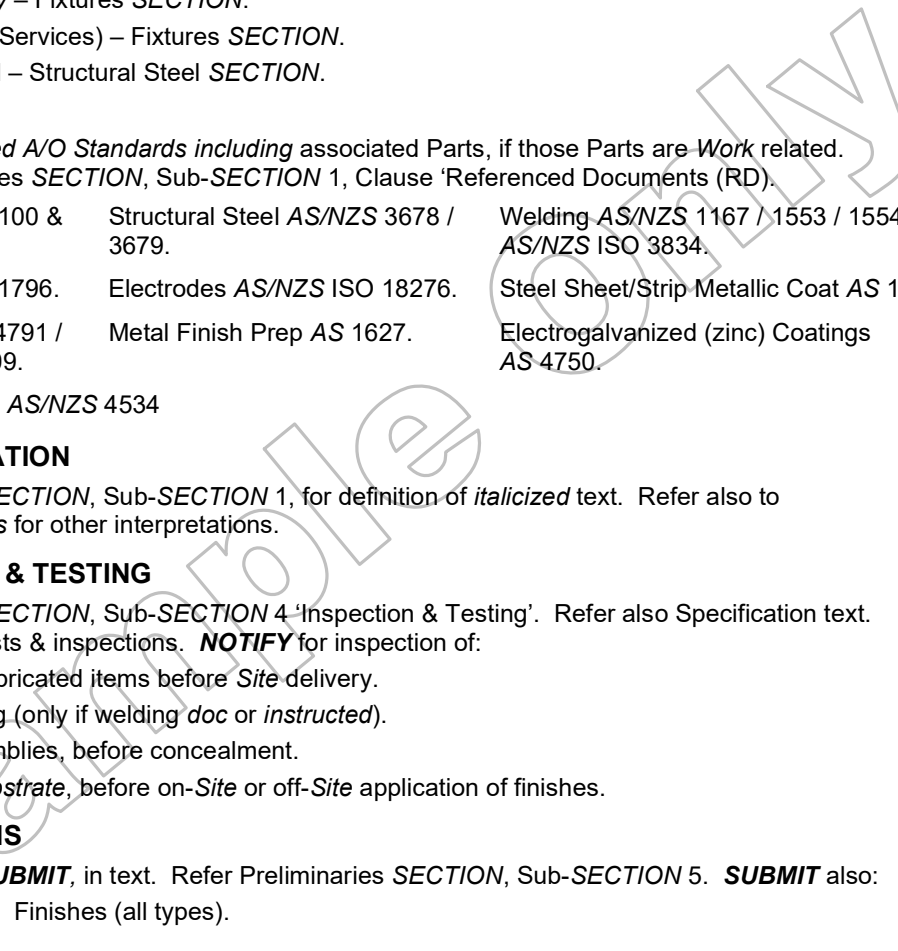
Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing & all related SECTIONS.

For specification detail of the following, refer:

- Fixtures, *proprietary* – Fixtures SECTION.
- Gratings & lids (for Services) – Fixtures SECTION.
- Stud framing, metal – Structural Steel SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.


Steel Structures AS 4100 & AS/NZS 4600.	Structural Steel AS/NZS 3678 / 3679.	Welding AS/NZS 1167 / 1553 / 1554 & AS/NZS ISO 3834.
Certified Welders AS 1796.	Electrodes AS/NZS ISO 18276.	Steel Sheet/Strip Metallic Coat AS 1397.
Galvanizing AS/NZS 4791 / 4792 / 4680 & AS 2309.	Metal Finish Prep AS 1627.	Electrogalvanized (zinc) Coatings AS 4750.
Steel Wire AS 2423 & AS/NZS 4534		

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text. Refer also to Consultant documents for other interpretations.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Completed shop fabricated items before Site delivery.
- Start of Site welding (only if welding doc or instructed).
- Site installed assemblies, before concealment.
- Prepared metal *substrate*, before on-Site or off-Site application of finishes.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Samples: Welding. Finishes (all types).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries & 2 Fixing & Sealing.

Provide metalwork to suit function, load, location, finish & fabrication.

Provide anti-tamper fixings as per Fixing & Sealing SECTION.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 METALS

Mild Steel

Hollow Sections: Includes CHS, RHS, SHS, min strength grade C350, to AS/NZS 1163. Moisture exposed members to be hot dip galv inside & out to min 300 g/m².

Cold Formed Members: Includes L, Z & C lipped & un-lipped sections, min strength grade G550, to AS/NZS 4600, metallic coated min Z350 (350 g/m²) to AS 1397.

Hot Rolled & Welded Members: Includes universal 'I' shape, channel, angle, rod & flat, min strength grade 1-300 to AS/NZS 3679. Moisture exposed members dip galv.

Sheet & Thin Plate: Sheet steel min 0.8mm BMT, UDO. Plate steel min 5mm thick.

If metal is doc 'corrosion resistant' & if mild steel is used, hot dip galv steel is the min level required.

Stainless Steel

Min grade 304, No 4 brushed finish.

Sheet & Thin Plate Stainless Steel: Sheet min 0.8mm BMT. Plate min 3mm thick.

Chromium/chromium-nickel stainless to ASTM A240/A240M. Bar, shapes, tube to ASTM A276/A554.

Finish grain/direction to run sheet length, 1-way, consistent between sheets. Use grit faced belts or fibre brushes for finishes. No carbon steel abrasives or materials containing chloride. Remove heat discolouration by pickling. Clean & rinse to be acid free & dry.

Joining: Weld to AS/NZS 1554.6 & ASTM A240/A240M. Sheet welded or folded, UDO. Rivet only for sheet less than 1mm thick. Drill only (not punch). Clean & passivate assembly.

Aluminium

Production, grades, types to AS/NZS 1865 / 1866 / 1867 / 1874. Weld to AS 1665 & min butt weld quality as advised in Appendix A. Aluminium structures to AS/NZS 1664.

Separate aluminium & mild steel with non-conductive EPDM washers or other compatible corrosion resistant material.

Aluminium not to be embedded in concrete. Aluminium contacting concrete to be separated. Provide so water running-off concrete does not pass over aluminium.

Copper & Copper Alloys

Comply with the following for copper & copper alloys: AS 2738 'Composition & Designations'.

AS 1566 'Rolled Flat Products'. AS/NZS 1567 'Rods, Bars, Sections'.

Copper grade to be to the copper Manufacturer advice for the application.

2.4 METAL FINISHES

General

Test 10% of each finish type. Test powder coat & paint related finishes to AS/NZS 1580 & include adhesion, permeability, film thickness, gloss level, colour.

Handle only cured finishes. Store above ground under weather-proof covers. Protect from damage.

Clean & repair finish as finish Manufacturer advised. Avoid contact with corrosive materials.

Painting & Shop Priming

Paint or shop prime coat non-proprietary mild steel fabrications/members, UDO. Coatings compatible with final decorative paint coatings. **SUBMIT** proposed shop primer detail & paint Manufacturer compatibility certification.

Coat concealed surfaces with the full doc coating system. Moving parts to be coated individually.

Round metal substrate edges slightly to stop coatings thinning at edges.

Refer to the Painting SECTION which also applies to metalwork.

Hot Dip Galvanizing

Definition: Protective zinc coating to AS/NZS 4680, alloyed to mild steel, applied by hot dip immersion in molten zinc minimum 98% purity. Coating mass min 600 g/m². Coating smooth, continuous, adherent, uniform, defect free (eg, no lumps, blisters, acids, black spots, dross, flux).

Extent: To mild steel moisture exposed or contacting concrete/masonry/treated timber surfaces, UDO.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Hot dip *galv* in concrete: Chromate passivate by submersion in 0.15-0.2% sodium dichromate solution. Fabrications: Avoid heat distortion. Hollow sections to have holes on fabrication underside. Fabricate size to suit *galv* bath & provide lifting facility. Do not cut, drill, weld after *galv*. Protect *galv* finish. Confirm suitability of items to be galvanized with the Galvanizer. If any items found to be unsuitable, do not *galv* those items & **NOTIFY**.

Repair: Protect *galv* finish. Significantly damaged *galv* is to be replaced. To repair minor *galv* damage, use zinc stick coat or hot zinc spray, thickness to match *galv*.

Powder Coating

Powder coat to aluminium/alum alloy materials to AS 3715.

Powder coat to metals other than aluminium/alum alloy materials to AS 4506. Powder coat to mill finish steel, remove rust to AS 1627.4 to grade Sa 2½ of AS 1627.9, pre-clean by immersing in trichloroethylene or alkaline solution, then iron phosphate coat.

Powder coat *galv* to BS 6497. Pre-clean by immersing in a suitable alkaline or acidic solution, apply a zinc phosphate chemical conversion coating, rinse & degas before coating.

Pre-treat, powder apply & oven cure to coating Manufacturer *advice*. Provide conversion coatings if Manufacturer *advised*. Applicator to be Manufacturer approved & Qualicoat© licenced.

If powder coat colour is not *doc*, allow powder coat colour from Manufacturer standard colour range, gloss level Satin. **NOTIFY** for final selection.

Powder coating not to be *provided* in chemically corrosive environments.

Warrant for full finish performance for *min* 10 years.

Anodising

Anodise only aluminium/alum alloys (to AS 1231) satin finish *UDO* (by polish, clean, etch, de-smut, anodise & seal). Same anodising finish in one area or connected areas to be the same batch finish (for consistency). Warrant for full finish performance for *min* 20 years.

Anodising thickness in *moisture exposed* situations 25 microns, otherwise 15 microns.

Electroplating

Nickel or nickel/chromium coatings on steel, iron, zinc alloy, copper, copper alloys, aluminium/alum alloys, to AS 1192. Zinc coatings on steel or iron by batch process, to AS 1789.

To repair internal minor damage, not *exposed to view*, prepare, clean & apply *min* 2 coats of 2-pack organic primer to AS/NZS 3750.9 or APAS-2916. Replace damaged *exposed to view* finishes.

Factory Applied Pre-Painting

General: Spray apply in controlled mechanically ventilated area, no dust or wind disruption. Provide full gloss finish. Refer 'Shop Priming' above for mild steel fabrication priming only.

Air Drying Enamel: For general use: Primer 2-pack epoxy to APAS-2971 & 2 top coats to APAS-0015/1. For oil resistant use: Primer 2-pack epoxy to APAS-2971 & 2 top coats to APAS-0024/1.

Equipment Painting: Undercoat: To APAS-0029. Primer: Zinc-coated steel to APAS-0134.

Primer: Other metal to APAS-0032 or APAS-0162/1. Enamel Finish: 2 coats to APAS-0024/1.

High Performance Organic Coats: On aluminium, includes polyvinylidene fluoride (PVF2).

Stoving Enamel: Internal use only. Primer: To APAS-0065. Topcoat: To APAS-0066/3.

2-pack Coating: Primer: 2-pack epoxy to APAS-2971. Topcoat: *Similar to proprietary* polyurethane.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries & 2 Fixing & Sealing. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Mix hazardous gas producing materials outdoors otherwise mechanically ventilate if mixed indoors.

Substrate Preparation: Refer Preliminaries SECTION, Sub-SECTION 4 'Substrate Preparation'.

At Practical Completion, re-tighten *exposed to view* threaded fixings.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

3.2 FABRICATION

SUBMIT shop drawings for assemblies not fully *documented* & as *doc* to be shop *drawn*.

Factory fabricate if possible. *Provide* members in single lengths. *Site* measure before fabrication. No cutting, drilling, welding after hot dip *galv*. Fabrications to suit function, load, location & finish.

Edges to be clean, neat, smooth, filed. Joints to be accurate & neat. Surfaces to be smooth. Do not *provide* materials with visible distortion or 'oil-canning effect'.

Form tube bends without deforming tube cross-section.

Design joints & fixings to accommodate thermal movement. Non-welded joints to be spigot & socket joints (to allow movement) with no increase in outside size.

No colour variations after cutting & joining. Identify each fabrication item without damaging finish.

Fixing strength & corrosion resistance *min* equal to that of the highest grade metal in the assembly.

Hollow Sections: Cap ends with fully welded *min* 3mm plate.

Moisture Exposed Hollow Sections: Fixings & penetrations to be sealed except drain holes. Drain via *min* 2/5mm *dia* underside holes @ 600mm *cnrs*. Non-structural vertical members may be capped with a *proprietary*, mechanically fixed corrosion resistant metal cap.

Welds: No cracks/slag/porosity, to be neat/smooth/ consistent. Welding to be continuous. Stitch welds consistent length, spacing. On-*Site* weld only if *doc* or *instructed*.

Brazed Joints: Lapped not butted. Brazing to be continuous. Filler metals to AS/NZS 1167 & as metal Manufacturer *advised*.

Fabrication Tolerances: + or - 1.5mm from *doc* dimensions & *Site* measurements.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

4 DEMOLITION

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
The Demolition of Structures AS 2601.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Demolition completion, after demolished materials removal.
- Services after reconnection or diversion.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 DEMOLISHED MATERIALS

Demolished Materials for Removal

Definition: Demolished building materials not salvaged for re-use or storage, to be the Contractors property once demolished, disposed of off-Site.

SUBMIT proposals for the demolition of materials not *doc* to be demolished.

Do not burn or bury on Site. No spillage both on-Site & in transit. Dispose of legally & to Local Authority & Statutory requirements. Remove demolished materials from Site, *including* dust.

Demolish so that existing concealed materials may be salvaged undamaged if *instructed*.

Salvaged Materials for Re-use

Definition: Demolished building materials, re-used by Contractor in the Works.

SUBMIT proposals for the re-use of demolished materials not *doc* but suitable for re-use.

Salvage demolished material for re-use, without demolition damage. **NOTIFY** if such damage is likely to occur or has occurred. Repair & re-finish to near new original condition. *Provide* with new fixings & sealants at the junction of re-connection to the new Work.

Provide temporarily storage in a dry, weather-sealed on-Site location. Store elevated & level above floor/pavement, each item fully supported to avoid storage damage.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Salvaged Materials for Storage

Definition: Demolished building materials, stored on-Site by Contractor, for future Owner use.

Salvage demolished material for storage, without demolition damage. **NOTIFY** if such damage is likely to occur or has occurred. Demolition damage to salvaged materials for storage, to be rectified.

Store in an Owner provided on-Site location. **NOTIFY** to confirm store location. Store elevated & level above the floor/pavement, each item fully supported to avoid storage damage.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

SUBMIT a Demolition Work Plan detailing stages, protection of adjacent elements, services Work, support, timing, equipment, methods, etc.

Demolition of a material *includes* associated items *including* fixings, sealants & membranes.

Demolish generally in the reverse order of how the structure was constructed. Do not use explosives & other highly destructive demolition methods. Demolish by controlled dismantling. Recycle as much as possible demolished materials, to Local Authority requirements.

Do not reduce the performance of that which remains *including* finishes, corrosion protection, services, structure, weather-proofing, security. When demolishing against other materials to remain, do so accurately & neatly. Seal exposed concrete faces to protect reinforcement.

Refer Preliminaries SECTION, Sub-SECTION 2 'Infrastructure & Property' for Dilapidation Record & rectification of Work caused defects.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

Support

Provide adequate temporary bracing & support for remaining materials & excavations. Provide permanent support for structures & if not *doc*, allow to support & **NOTIFY**.

Provide Engineer designed temporary support if un-*doc* support of structures is required. **SUBMIT** proposal and Engineer design Certificate.

Protection & Security

Protect remaining items & infrastructure. Prevent spillage onto areas outside demolition area.

Provide dust-proof screens & covers to protect existing finishes & the environment from dust.

Provide temporary covers to stop weather, water, wind ingress. Covers to withstand anticipated weather conditions. Rectify building and/or contents if damaged by weather ingress.

Provide security to prevent unauthorised access. Security *min* same level before demolition. Compensate for & replace contents lost as a result of security breach.

Make Good

Refer Preliminaries SECTION, Sub-SECTION 4 'Make Good'.

Structural Certification

SUBMIT independent Engineer Certification of structural demolition Work.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including **SECTIONS** 1-3, and in **this SECTION** – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer **also** Preliminaries **SECTION**, Clause 1.1 'Documentation Discrepancy'.***

5 EXTERNAL WORKS

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

The ArchiAssist Master is a single Microsoft Word document. If any Spec Sections don't apply to a project, they remain, but with content deleted except for the 2 lines provided above.

This: **1)** Speeds up Spec writing, **2)** Keeps the Spec order consistent and familiar job to job, **3)** Tells the Builder what is not in the job, making their work easier and more accurate.

This Sample Spec has 7 "un-used" Sections, which normally is excessive but is in no way a problem. In reality, the ArchiAssist Interiors Master could have been used.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

6 CIVIL WORKS

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

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*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

7 CONCRETE

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

This Concrete SECTION is for concrete Work not doc in the Structural Consultant docs.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Floor mats – Fixtures SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related.

Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
 Concrete Structure AS 3600. Concrete Supply AS 1379. Aggregates AS 1141 / 2758.
 Portland, Blended Cement AS 3972. Admixtures AS 1478. Res Slabs, Footings AS 2870.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections.

NOTIFY for inspection of:

- Completed base or sub-grade before covering.
- Completed formwork, cores, embedments & reinforcement before concrete placing.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Detail of proposed, un-documented concrete products.
- Certification of completion of structural concrete Work provided as doc in this SECTION & as doc elsewhere (certification may be done by the respective Subcontractor/s).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Concrete, concrete related materials & materials doc in this SECTION are not to contain chlorides.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 FORMED SURFACES

Formwork to AS3610. Temporary formwork *min* 18mm thick form-ply to AS 6669 or steel plate, UDO.

Clean forms & spaces of water, dust, debris, stains so as not to affect concrete finish/performance.

Apply form release agent (*proprietary* water based, compatible with subsequent finishes) to formwork.

Permanent formwork not to contain timber, chlorides, or to impair concrete structural performance.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Design & construct formwork: **a)** not to move during concrete placement, **b)** not to lose concrete, **c)** to allow load deflections/cambers, concrete shrinkage/creep, temperature changes.

Provide AS 3610 formwork Classes to concrete as follows, *UDO*:

- Exposed to view concrete – Class 2
- Non-exposed to view concrete & concrete to receive a waterproof membrane – Class 3

For surface finish Classes 3 and better, set out formwork to give regular arrangement of panels, joints, bolt holes, and similar visible elements in the formed surface.

Formwork Tolerances: Class 2 and better: -0, +5mm. Class 3: -0, +10mm. Class 4: -0, +15mm.

Remove supporting formwork only on *instruction*. Remove formwork to AS 3600 & AS 3610.

Provide a skim coat or repair medium to concrete formed surfaces where the surface needs to be up-graded to meet *doc* finish/colour. Coat/medium to be a *proprietary* high strength, structural repair grade polymer modified cement-based trowel-on coat with primer.

2.4 CONCRETE

General

Concrete of the same type to be of consistent colour, texture & finish.

Concrete generally to be Plant pre-mixed, designed for *min* plastic settlement & shrinkage cracking. Ingredients to be chloride, fluoride, breccia, dolerite, nitrate free & not negatively affect concrete workability, performance or finish. Admixtures to be *proprietary*.

Delivery Records: **SUBMIT** with each Plant pre-mixed batch to AS 1379, including, *doc* performance, mix detail, additives, cement binder type, post-mix water additions, *Site* allowed water addition.

Site Records: Keep *Site* Records of each concrete placement. Include date & concrete grade, source, volume, slump, placement location.

Concrete Properties

Refer to *Consultant docs*.

Batch accuracy % by mass: Cement + or - 1. Aggregates + or - 2. Water + or - 1. Admixture + or - 3.

Non-structural concrete to be *min* F'c N25 at 28 days, 80mm slump, 20mm aggregate, *UDO*.

2.5 REINFORCEMENT & EMBEDMENTS

Material

Provide *proprietary* reinforcement to AS/NZS 4671, Grade 250 N (250 MPa, Ductility Class N (normal)), Type N deformed (ribbed), *UDO*. Provide factory marked showing grade. No mill scale, rust, oil, grease, mud or other which may reduce concrete bond.

Reinforcement to be Australian Certification Authority for Reinforcing Steels (ACARS) certified.

SUBMIT Certification, plus Manufacturer Certificate of compliance with *docs*.

Galv & *galv* repair as per Metalwork SECTION. Mild steel embedments contacting the surface of concrete is to be hot dip *galv* & chromate passivated.

Tie Wire: Annealed steel *min* 1.6mm dia, *UDO*. Provide *galv* wire to *galv* reinforcement.

Reinforcement & Embedments Execution

Reinforcement/embedments not to move at concrete pour. Chair reinforcement (do not lift at pour).

At slab or pavement re-entrant corners, provide diagonal reinforcement. Lap, splice, weld reinforcement to AS/NZS 1554. Wire tie reinforcement at intersections. Tie bars to ligatures *max* 1000mm *cnrs*. Tie ends not extend into concrete cover.

Bend reinforcement as *doc* or to *Engineer advice*. Do not deform bar profile or reduce bar structural integrity. Do not bend *galv* steel. Do not heat steel to bend.

Reinforcement/embedments temporarily protruding to be safety capped & corrosion protected.

Services to be sleeved. Isolate embedments from reinforcement. Do not cut reinforcement to position embedments, displace as *instructed*.

Provide electrical earth to AS 3000 to conductive concrete reinforcing of building elements which are *moisture exposed* as *doc*, or if not *doc* to Electrical *Engineer* design.

Cover

As per Structural *Consultant docs* or *advice*.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Tolerances

Embedments: Cored & embedded items generally + or - 10mm, fixings + or - 3mm, anchor bolts to AS 4100. Dowels: Alignment 2mm in 300mm, 90 deg to joint face, location + or - half the dowel dia.

2.6 UNFORMED SURFACES

General

This Clause applies to both concrete slab & floor topping surfaces. Screed & consolidate surfaces.

Tolerances

Concrete tolerance: + or - 3mm, *UDO*. Refer specific SECTIONS for floor finish tolerances.

External pavement: Non-ponding & free draining when wet, level tolerance + or - 5mm from *doc*.

Class (AS 3600)	Straight edge length, any direction.	Tolerance (max)
A (Interior floors resilient finish eg vinyl, rubber). <i>TBC</i>	3000mm straight edge	3mm
B (Interior floors except as specified for Class A).	3000mm straight edge	6mm

Machine Float

To all slabs, top surface. Float when concrete is cast, then re-float to a uniform, smooth, granular texture. Hand float in locations inaccessible to machine float.

Wood Float Finish

Provide to internal concrete finished floors & floors to receive applied finishes, *UDO*. After machine float, use wood or plastic hand floats for final finish, free of float marks, uniform texture/appearance.

2.7 FLOOR TOPPING

General

Surface & Tolerance: As per Clause 'Unformed Surfaces' above.

Provide control joints for the full depth of the topping, located to coincide with *substrate* joints & subsequent overlaid finish joints.

Topping surfaces *if required* to fall. **NOTIFY** to confirm fall.

Self Levelling Topping

Extent: Under a subsequent applied/laid floor finish, on cementitious floor *substrates* to attain required tolerance.

Topping to be a *proprietary* high strength polymer modified concrete self-levelling liquid mortar, self-smoothing & able to be feather-edged.

Internal Wet Area Topping

Extent: Under a subsequent applied/laid floor finish on cementitious floor *substrates*, to attain required levels & falls to *FW*.

Topping to be applied as a moist sand:cement (3/4:1 ratio) mixed with a *proprietary* additive to increase strength & *substrate* bond. Wood float finish.

If topping over 40mm thick, lay in 2 equal layers, reinforcing between each. Reinforcing to be *galv* welded mesh (to AS 2423) wire spaced 40 x 1.5mm *dia* wire. Lap reinforcing 40mm, no 4-way laps.

Applied flooring surface to be flush with top of *FW* grate. Make horizontal wall junctions. Lay topping to fall to drainage outlets.

Topping not finishing against a solid vertical element, to finish against a mechanically fixed corrosion resistant metal angle waterstop (finish to match adjacent metal, *UDO*), top flush with *FFL*.

Concrete Floor Substrate Surface Ramping

Extent: Under a subsequent applied/laid floor finish, to ramp a cementitious floor *substrate* to be flush with a slightly differing height, adjacent floor finish.

Provide a *proprietary* high strength, structural repair grade polymer modified concrete mortar with primer. Apply thickened self-levelling compound to achieve surface tolerance, *if required*.

If mortar cannot be feather-edged, saw cut & scabble *substrate* *max* 3mm deep (to Manufacturer *advice*). Mitre splay return ends. Ramp *max* 1:20. Saw cut using physical depth & line guides to give constant & accurate cut depth & line, cut with no end-cut over-run.

*** Read **specific** Specification detail with **common** detail including **SECTIONS 1-3**, and in **this SECTION** – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer **also** Preliminaries **SECTION**, Clause 1.1 'Documentation Discrepancy'.***

2.8 ANCILLARY CONCRETE ITEMS

Curing Compound

Curing compound to AS 3799 & to be solvent free, self-dissipating, 1 coat, liquid acrylic emulsion compatible with subsequent applied finishes (do not use wax or chlorinated rubber based products). After concrete has cured, remove compound or test (to Manufacturer *advice*) to confirm dissipation.

Covering Sheet

White opaque polyethylene film, or white burlap-polyethylene sheet, to ASTM C171.

Moisture Barrier Film & Bedding

Extent: Under slabs on ground.

Polyethylene film to AS 2870, medium impact resistance, *min* 0.2mm thick, labelled continuously "AS 2870 Concrete Underlay 0.2mm Medium Impact Resistance". No punctures, tears or openings.

Installation under new small infill in existing slabs: Lay film between sand bed & new slab infill and sealed against, the existing film. Lap joints 200mm facing away from concrete pour direction.

Waterproof adhesive tape seal laps/penetrations.

Film edges to be combined with & sealed against other moisture/water resistant materials to provide a complete moisture-proof/water-proof system.

Sand bed 50mm thick, smooth, graded surface, no hard projections, wet just before laying film.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Keep traffic off concrete during curing. Keep construction plant off concrete for *min* 28 days. **NOTIFY** before allowing access or loading concrete structures.

Refer Preliminaries **SECTION**, Sub-SECTION 4 'Building Work' for more execution detail.

3.2 CONCRETE

General

Transport to prevent segregation, material loss, environmental contamination, adverse placement.

Placement: Do not place during hot, windy, rain times (program weather forecasts into Construction Program). Limit free-fall to 1500mm. Avoid segregation & concrete loss.

Pumping: Pump concrete only if mix design is suitable for pumping.

Compaction: Mechanically vibrate concrete to remove trapped air & fully compact mix. Vibrators not to touch set concrete, formwork, reinforcement, embedments. Avoid segregation by over-vibration. Provide a reserve vibrator.

Water: Do not add extra water to mix, & if *required* to do so, comply with AS 1379. **SUBMIT** detail including date, quantity & location of water addition. Do not place concrete in water.

Time Between Pours: Do not exceed the *doc max* time between pours to a single building element. **NOTIFY** if this time is un-*doc*.

Tolerances: Refer 'Formed Surfaces' & 'Unformed Surfaces' above. Other tolerances to be -0, +5mm, *UDO*.

Delivery Times

Time from Plant batch wetting to Site placement (concrete temp (C *deg*) at placement = *max* time):
 10-24 *deg* = 2 hrs. 24-27 *deg* = 1.5 hrs. 27-30 *deg* = 1 hr. 30 *deg* = 0.75 hr.

Curing

Cure concrete continuously, 3 days for non-structural concrete, *min* 7 days for structural concrete.

SUBMIT proposed cure methods. Maintain curing concrete at approx 15 *deg* C during cold weather.

Keep concrete temperature constant, *min* moisture loss, no rapid drying, protect from wind. Covers (if used) to be lapped/taped, covering concrete edges. Water (if used) to be fine spray.

SECTION 7 CONCRETE (ARCH - FULL)

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Testing

Test & record to AS 1012 'Methods of Testing Concrete' by RTA.

Do 1 slump test from first delivery of each batch, before placement. Do not use test failed concrete.

Conduct sample (in cylinder) Laboratory tests, 4 samples each concrete batch. Test for transfer strength & early strength @ 7 days & 28 days. Test for dry shrinkage, **NOTIFY** to confirm test detail.

Chasing & Cutting Concrete

Refer Preliminaries SECTION, Sub-SECTION 4 'Chasing'.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

8 MASONRY

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

This Masonry SECTION is for masonry Work not doc in the Structural Consultant docs.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
 Masonry Structure AS 3700 & 4773. Masonry Units AS 4455. Portland Cement AS 3972.

Masonry Cement AS 1316 Pigment BS EN 12878. Lime AS 1672.1.

Mortar Admixtures AS 1478. Built-in Components AS/NZS 2699.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections.

NOTIFY for inspection of:

- Core holes & reinforcement fixed ready for grouting.
- Control joints, ready for insertion of joint filler.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Certification of completion of structural concrete Work provided as doc in this SECTION & as doc elsewhere (certification may be done by the respective Subcontractor/s).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

Corrosion Resistance Table

External or moisture exposed masonry Exposure Category to AS/NZS 4456.10.

Location	Metal components (<i>min</i> protection).	Min mortar Class.
Internal	Galv steel (including wire) 470 g/m ² .	M3

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 MASONRY MATERIALS

Masonry Units

Concrete Blocks: *Min* strength Grade 15 (F'uc 15), *min* age 14 days. Smooth finish, colour grey, UDO. Use pre-made ½ & ¾ units as required. Vertical rods: 190mm high units – 3 courses to 600mm.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Face Masonry Work

Exposed to view masonry to be high quality uniform texture & colour masonry, accurate laying & plane face, uniform joints with variation in colour evenly mixed over the masonry element.

Single Skin Face Masonry: Uniform width, double-face quality units.

Masonry Mortar

Provide natural grey colour mortar, *UDO*.

Mortar joints to be fully solid & contacting the whole masonry unit throughout the joint.

Water: Clean, potable, no deleterious matter. Cement: Portland type: GP (AS 3972).

Pigment: Less than 10% cement content. Sand: Fine, low clay content, efflorescing salts free.

Mortar Class (refer Corrosion Resistance Table above): M3 – 1:1:6 (cement:lime:sand) without additives, M4 – 1:0.5:4.5 (cement:lime:sand) without additives, *UDO*.

Machine mix mortar for 5-7 minutes. Use mixers with electric motors for *min* noise.

Reinforced & Grouted Blockwork

Grout Core Fill: Material & testing, refer Structural *Consultant docs*.

Reinforcement: Refer Concrete SECTION & Structural *Consultant docs*.

Provide proprietary cleanout blocks at grouted core bases, located on wall side *not exposed to view*.

Remove excess mortar from masonry & mortar droppings from reinforcement.

Do not grout until cores & core bases are clean & mortar joints attained strength to resist blow-outs.

Wet cores immediately before grouting. Limit masonry height to enable grout to fully compact, fill all voids & bond to masonry. Compact by vibration or rodding.

10-30 minutes after pour completion, top up grout & compact to mix with the previous pour.

2.4 COMPONENTS

Wall Ties

Provide masonry ties (to AS/NZS 2699.1) to connect masonry to the building structure. Ties stainless steel wire (*min* 3.5mm *dia*) or plate, water drip groove, built into mortar or mechanically fixed. Embed *min* 50mm into mortar & maintain outside mortar cover of *min* 25mm.

Strength Class: No light duty ties. Medium duty for cavities up to 60mm wide. Heavy duty for cavities 60-200mm wide. **SUBMIT** proposed tie detail & samples.

Provide min ties as follows:

- At joints (not mortar joints) & vertical supports: 200-300mm vertical spacing.

Connectors & Accessories

Provide connectors & accessories as *doc* or *if required*. Material to be non-moisture absorbing, corrosion resistant (do not use aluminium). At cavities *provide* drip facility.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Tolerances: Conform to AS 3700. Other tolerances to be -0, +5mm, *UDO*.

Build-in accessories, connections & embedments as construction proceeds. If embedment is required in hollow masonry, fill grout cores or use solid blocks. Mortar fill steel door frames as *Work* proceeds.

Regulate construction rate to eliminate joint deformation, slumping, instability. If masonry to be connected to other structural elements, temporarily support & brace masonry until connected.

Keep masonry *Work* top covered to prevent rainwater entry into cores & cavities.

Provide gap at top of non-load bearing masonry to allow structures over the masonry to deflect to *Engineer advice*.

Clean masonry progressively when mortar is wet & clean again for Practical Completion. Clean without acid, wire brush or water blast.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Monolithic Structural Action

If 2 or more adjoining masonry elements (*including* intersecting walls) are constructed at different rates or times, rake back or tie intersections to achieve monolithic structural action.

Joints

Stretcher bond pattern, *UDO*. *Provide* full width 10mm thick (+ or - 2mm) mortar beds & perpend. Align perpend vertically. Set-out for uniform joints. *Min* cutting & avoid cut units less than ½ standard masonry unit.

Exposed to view mortar joints to be rounded smooth concave (ironed).

Mortar joints to hollow unit masonry construction to be rounded smooth (ironed) at *exposed to view* locations, or flush struck at concealed locations, **NOTIFY** to confirm joint type for the location.

Concealed mortar joints *including* those covered by a non-paint membrane or sheeting, to be flush struck.

Mortar joints in different planes which intersect, are to align with each other.

Control Joints: *Provide* vertical control joints as *doc* & where joined to other structure. *Min* joint width 15mm, sealant filled. If extent not *doc*, *allow* every 6 metres & **NOTIFY**. *Provide* expansion wall ties.

Allow adjacent materials growth/shrinkage & movement with clearances at masonry junction.

Chasing

Refer Preliminaries SECTION, Sub-SECTION 4 'Chasing'.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

9 STRUCTURAL STEEL

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

This Structural Steel SECTION is for timber Work not doc in the Structural Consultant docs.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Metal, metal pre-finish & general metal fabrication – Metalwork SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related.

Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections. **NOTIFY** for inspection of:

- Completed shop fabricated items before Site delivery.
- Completed framing & fixings before concealing.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Steel Supplier Certification of steel quality as doc.
- Certification of completion of structural concrete Work *provided* as doc in this SECTION & as doc elsewhere (certification may be done by the respective Subcontractor/s).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 STEEL STUD FRAMING

Framing to be a *proprietary* system to AS/NZS 4600, with lipped studs, width as *drawn*, nominal size *min* 35 x *min* 0.55mm BMT *metallic coated* to AS 1397, compliant with the National Assoc of Steel Framed Housing (NASH) requirements.

Stud spacing 450mm, *UDO*. Nogging vertically spaced 900-1200mm & also for fixture/fitting support. Provide *min* 2/studs at control joints/openings/corners. Fix with flat head screws.

Provide top/bottom track friction stud joints. Top & bottom tracks and end studs fixed over resilient pads to minimize acoustic transfer.

Walls in *moisture exposed* situations, provide polyethylene film (*min* 0.2mm thick, joints lapped, no punctures, tears or openings) between frame & concrete/masonry.

SECTION 9 STRUCTURAL STEEL (ARCH - FULL)

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Fix bottom track to floor *max* 600mm *cnrs* & 100mm from wall ends. Separate non-load bearing walls from higher structure (to allow structure deflection) via a laterally stable deflection head to *Engineer advice*. Brace walls. Fix to suspended ceiling to Manufacturer *advice*.

Control Joints: Locate over structural joints & to lining area limitations.

Services: Studs to have factory made, bell-mouthed holes for services passage. *Site* drilled holes to have *proprietary* grommets to prevent services damage. Holes size *max* 30% of stud width.

Do not install or fix to, timber which is green or chemically treated.

Provide electrical earth connection of steel framing to AS 3000.

Clean all studwork.

SUBMIT *Engineer* Certificate for framing supporting fixtures exceeding 20kg.

Tolerances (*max*): Plan deviation: 3mm. Alignment: 1mm. Wall thickness: 1mm.

Length: 1mm. Flatness: 1.5mm (1.5 metre straightedge any direction).

Load bearing walls & walls over 3000mm height: *provide* to *Engineer* design.

Provide partitions/walling to withstand earthquake loads compliant with AS 1170. Refer to the Structural *Consultant docs* for earthquake loading parameters.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Members continuous, un-spliced, *UDO*. *Provide* camber up, if natural camber exists.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

10 TIMBER WORK

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Cabinet Work – Joinery SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD).

HWD AS 2796.

Softwood AS 4785.

Cypress Pine AS 1810.

Structural timber AS 1720 / 3818.

Grading AS 2082 / 2858.

Moisture testing AS/NZS 1080

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Provide plantation timber, Forest Stewardship Council (FSC) Certified, **UDO**. **SUBMIT** Certification.

Timber selections as per the 'Timber Utilisation and Marketing Act'. Timber to be naturally termite resistant or preservative treated against termite attack, to AS 3660.

Supplier Dockets: For all timber. Dockets to include timber quality, grade & treatments.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

Durability

Provide no timber with Lyctus susceptible sapwood. Provide natural or treated timber with durability (to AS 5604) as follows:

Class 1: Timber in contact with ground.

Class 2: Timber above ground, un-clad, *min* moisture exposed, well ventilated.

Class 3: Timber above ground, *min* moisture exposed, well ventilated, protected with a finish, well maintained.

Class 4: Timber fully moisture protected, indoors, above ground, well ventilated.

Exposed to View Timber

Extent *includes* decorative timber & exposed feature framing in habitable areas, and excluding typical *exposed to view* framing, **UDO**.

Exposed to view timber to be appearance grade, no knots, seasoned, sanded, edges bevelled.

Factory joints not to be visible at completion. Fixings countersunk matching colour filled, **UDO**.

Decorative timber to be select grade & dressed. Timber to be *provided* with natural features visible to be dressed with consistent species & appearance, **UDO**.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'. ***

All *exposed to view* timber to have finish coating applied.

Moisture Content

Timber (except landscape timber) to be seasoned or kiln dried to 3% of the equilibrium moisture content & 10-15% moisture content (appropriate to species & application).

Preservative Treatment

Treatment to AS/NZS 1604 & AS 3660. Timber to be branded & **SUBMIT** Treatment Certificates. LOSP treat all softwood to AS 1684, Hazard Class H3 where *moisture exposed* & H2 otherwise.

Timber Trim

Provide timber trim as *doc* & as required to conceal joints, *UDO*. Trim to be *min* 19mm thick (as per 'Exposed to View Timber' above). Scribe-joint vertically orientated trim. Fix @ *max* 450mm *cnrs*. Remove sharp edges/corners from outward facing corners.

Timber Coatings

Refer to the Painting SECTION which also applies to this Timber Work SECTION.

Repair & sand timber smooth, & chamfer/round edges. Fixings countersunk & filled, *UDO*. Clean oil rich & aged timber with a compatible *proprietary* timber cleaner. Before fixing *moisture exposed* timber, apply 2 primer coats to concealed surfaces & cut ends.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note ***

2.3 SHEET PRODUCTS

Plywood General

Provide *min* 18mm thick structural grade plywood screw fixed, *UDO*.

Plywood to AS/NZS 2269 – 2271 & AS/NZS 2098, *balanced construction*, *min* stress grade F14 with Plywood Association of Australia (PAA) Quality Control & Product Certification compliance & branding. Structural Plywood to be AS/NZS 2269 & JAS-ANZ Accreditation branded.

Exposed to view faces A-grade, otherwise C-grade. *Moisture exposed* applications Type A bond, otherwise Type C bond. Marine grade to AS 2272, A-grade faces (both faces).

If plywood is to be used in stud frame walls to support fixtures/appliances, provide to *Engineer* design.

Particleboard & MDF

Thickness: 16-18mm, *UDO*. Material to be *min* emission type (*similar* to E0 grade)

Particleboard: To AS/NZS 1859.1. Where *moisture exposed* use high performance (HP) grade, otherwise use moisture resistant (MR) grade.

MDF: To AS/NZS 1859.2. Where *moisture exposed* use high performance (HP) grade, otherwise use moisture resistant (MR) grade. *Min* MDF cutting on-Site & cut to WH&S requirements, warn others, wear face masks, vacuum dust immediately after cutting, no cutting in windy conditions.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Clean framing & other spaces/voids of rubbish, off-cuts, sawdust before concealment.

Bevel timber edges to be *painted*.

Tolerance: Plane, edges & straightness 2mm over a 2000mm straight edge any direction. Other tolerances to be -0, +5mm.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including **SECTIONS** 1-3, and in **this SECTION** – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer **also** Preliminaries **SECTION**, Clause 1.1 'Documentation Discrepancy'.***

11 TERMITE BARRIERS

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

Refer Timber Work **SECTION** for treated timber detail.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

The ArchiAssist Master is a single Microsoft Word document. If any Spec Sections don't apply to a project, they remain, but with content deleted except for the 2 lines provided above.

This: **1)** Speeds up Spec writing, **2)** Keeps the Spec order consistent and familiar job to job, **3)** Tells the Builder what is not in the job, making their work easier and more accurate.

This Sample Spec has 7 "un-used" Sections, which normally is excessive but is in no way a problem. In reality, the ArchiAssist Interiors Master could have been used.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

12 WATERPROOFING

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Floor toppings – Concrete SECTION.
- Gratings & lids (for Services) – Fixtures SECTION.
- Moisture barrier, under-slab – Concrete SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
Wet Area Membranes AS/NZS 4858.

Waterproofing Wet Areas Res Buildings AS 3740 (applies to all building Classes & Types).

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized text*.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Completed *substrate* preparation.
- Site Testing: 1 test each waterproofing type per 10m² or part thereof. **NOTIFY** to confirm test type.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Samples: All waterproofing systems. Include membrane, junctions, terminations, protection, movement joints, penetrations, corners, flashings.
- Certification of completion of Work provided as doc in this SECTION (certification may be done by the respective Subcontractor/s).
- Manufacturer approval of each test type methods (refer Clause 1.4 above).
- Manufacturer advice (after Manufacturer receipt of Contractor docs & after Manufacturer Site inspection) including waterproofing suitability, *substrate* & overlay material compatibility, *substrate* optimum moisture content, joint & termination detail, curing, Type test Certificates.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Provide waterproofing systems (combined with other water resistant materials for a complete waterproof system) to stop the passage of water through or past waterproof membranes.

Waterproofing to be *proprietary* systems of single Manufacturer, with current appraisal Certificates from either a) CSIRO, b) BRANZ, or c) an Australian Building Codes Board approved Organisation.

SUBMIT appraisal Certificate. Provide a min 15 year full product warranty for all waterproofing.

Installer to be Manufacturer approved.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 WATERPROOFING SYSTEMS

Internal Wet Area Waterproofing

Extent: To *Wet Areas* as per the *BCA* & as *doc*.

Material: Liquid applied acrylic flexible, chemical resistant membrane with reinforcing, *min* 2 coat application, dry film thickness *min* 1.2mm, *UDO*. Confirm compatibility with *substrate* & subsequent finishes including finish adhesives.

Provide continuous, mechanically fixed corrosion resistant metal angle waterstop (finish to match adjacent metal, *UDO*), top flush with *FFL*, at wall full height openings.

Accessories

At inward membrane corners, provide 45 deg fillets & bond breakers to allow movement. At outward corners, provide round or chamfer edges. Reinforce joints, corners, junctions & seal penetrations in the element being waterproofed. Provide edge protection/termination strips.

Provide proprietary drainage outlets with puddle flange, clamp over membrane. Turn & reinforce membrane into outlet, lap over puddle flange, then clamp down.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Protect membranes from abrasion & sunlight. Prevent moisture entry under membranes including at joints, terminations & penetrations. Seal fixings & other penetrations.

Waterproof all *substrate* faces including pits, reveals, edges, recesses, projections, corners.

Provide membrane movement joints over *substrate* movement joints, allowing Structural Engineer advised movement quantity. Provide fillets & bond breakers to allow movement at other joints.

Provide waterstops to structural, movement & different material joints. **SUBMIT** detail of how the tops of waterstops are to be flush with an adjacent floor finish.

Cure membranes. Clean immediately at waterproofing Work completion & again immediately before installing overlay. Site test waterproofing as Manufacturer advised.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

13 ROOFING

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

The ArchiAssist Master is a single Microsoft Word document. If any Spec Sections don't apply to a project, they remain, but with content deleted except for the 2 lines provided above.

This: **1)** Speeds up Spec writing, **2)** Keeps the Spec order consistent and familiar job to job, **3)** Tells the Builder what is not in the job, making their work easier and more accurate.

This Sample Spec has 7 "un-used" Sections, which normally is excessive but is in no way a problem. In reality, the ArchiAssist Interiors Master could have been used.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

14 CLADDING

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

The ArchiAssist Master is a single Microsoft Word document. If any Spec Sections don't apply to a project, they remain, but with content deleted except for the 2 lines provided above.

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This Sample Spec has 7 "un-used" Sections, which normally is excessive but is in no way a problem. In reality, the ArchiAssist Interiors Master could have been used.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

15 GLAZING

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
 Windows & Glass in Buildings AS 2047 & 1288. Testing AS/NZS 4284 & AS 1530 / 4420.
 Glossary of Terms AS/NZS 4668. Safety Glazing AS/NZS 2208.
 Aluminium Structures AS/NZS 1664 & AS 1866. Cut Processed Glass Quality AS/NZS 4667.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Openings or structure ready to take *glazing system/s* installation.
- Fabricated *glazing systems* Site delivered, ready for installation.
- Completion before concealing fixings to building structure.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Samples: *Glazing material* types (150mm² size), frame sections & joints, finishes, hardware, seals.
- Shop drawings: For *glazing systems* described in this SECTION. To include: **a)** *glazing material* type, thickness, fixing, **b)** frame type, profile, jointing, sealing, fixings, hardware, **c)** fixing to the building, **d)** lateral head restraint while allowing lintel deflection, **e)** corrosion, structural & thermal movement control, **f)** flashings.
- Certification of completion of Work *provided* as doc in this SECTION (certification may be done by the respective Subcontractor/s).
- Type-test reports verifying *glazing system* compliance with AS 2047.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Provide *glazing systems* with the same Manufacturer throughout the Work. Manufacturer to be an Australian Window Assoc (AWA) member & provide products labelled AWA. **SUBMIT** AWA Certification, including 7 year warranty.

Installer to be Manufacturer approved for all *glazing systems*.

Glazing systems to be *proprietary*, provided for anticipated loadings to Engineer or *glazing system* Manufacturer Engineer design. Provide *glazing systems* to be sealed when closed.

Fixings: Conceal non-rivet fixings. Provide anti-tamper fixings to *glazing systems* to locked spaces. Refer Fixing & Sealing SECTION.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 GLAZING SYSTEM COMPONENTS

Glazing Material

Glass *min* 6mm thick, *UDO*. Provide *glazing material* without abrasions, discolouration, bubbles. Edges *min* ground chamfered. *Exposed to view* edges bevelled.

Vision Strip: Provide to full height, translucent *glazing material* (without a mid-rail), an etched or ceramic coated vision strip (not adhesive fixed) across the internal face of the *glazing material*.

NOTIFY for instruction on strip detail, size & height if strip un-doc elsewhere.

Glazing film *if required, provided* internally, to glass Manufacturer *advice*.

Permanent labels to be maintained. Remove temporary labels at Practical Completion. Label each panel to AS 1288 with product name & A/O Standards mark. Identify internal & *external* faces.

Toughened Glass: Do not cut, drill, scratch, or put in direct contact with metals or other non-resilient materials. Heat soak test toughened glass for *min* glass breakage due to nickel sulphide inclusions.

Glazing Material Components

Components to be part of a *proprietary system, includes* sealants, tapes, spacers, blocks. Seal the *glazing material* perimeter. Seals to be ultra-violet stabilised & flexible.

Extruded Seals: 100% solids with high consistency, ultra-violet stabilised, neoprene/EPDM/silicone rubber to BS (British Standard) 4255, or PVC to BS 2571.

Movement Joints: Sealant sealed, aluminium plate cover fixed on 1 side (*include* in shop drawings).

Cover Plates

Provide cover plates to all *glazing systems* to cover frame junctions & frame/building junctions. Cover plates to be the same material as *glazing system* frame.

2.4 FRAMED GLAZING SYSTEMS

General

Provide framing to whole *glazing systems* & each glazed panel, *UDO*. *Glazing material* sealed & housed into *glazing system* frame.

Aluminium Frames: Extruded aluminium frames *min* 1.6mm *BMT*.

Reveals: Line & finish *glazing system* reveals. Provide architraves to non-*flush-set* reveals.

2.5 GLAZING TO DOORS

Refer Doors SECTION for door element detail. Refer this Glazing SECTION for *glazing system* detail.

2.6 MIRRORS

Clear toughened glass, silver layer on back face, then 1 coat of electrolytic copper (*min* 0.005mm thick) then 2 coats of mirror sealing *paint* (*including* to edges) then vinyl backing. Sealants not to contact mirror back. Screw fix with *min* 4 No countersunk capped fixings *max* 600mm *cnrs*.

If framed, back glass with *min* 4mm thick exterior grade plywood, adhered to glazing Manufacturer *advice*, frame corners mitred & reinforced. If frameless, provide dome-headed chromium-plated caps with polyethylene sleeves & washers to prevent fixing/glass contact.

2.7 SHOWER SCREENS

Clear toughened safety glazing, operable & fixed panels, polished stainless steel fittings & hardware. Drain water back into shower compartment.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

SECTION 15 GLAZING (ARCH - FULL)

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Install systems within acceptable building tolerances. Install to not carry building loads, *including* loads caused by structural deflection, growth or shortening. Allow for thermal movement. At building movement joints, *provide glazing system* movement joints of equal location & movement.

Aluminium not to be embedded in concrete. Aluminium contacting concrete to be separated. Do not allow water run-off from concrete to pass over aluminium.

SUBMIT Operation & maintenance manuals for *glazing material & systems*.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

16 DOORS

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Cabinet doors – Joinery SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD).

Timber Doors/Doorsets	Ply & Blockboard	Wet Processed Fibreboard (hardboard)
AS 2688 / 2689.	AS/NZS 2270 / 2271.	AS/NZS 1859.4.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Openings or structure ready to take door system/s installation.
- Completion before concealing fixings to building structure.
- Hardware operation.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Manufacturer technical & construction detail of doors (other than typical flush leaf type).
- Shop drawings: As specified. To include: **a)** leaf type, **b)** frame type, profile, jointing, sealing, hardware, **c)** fixing to the building, **d)** lateral head restraint while allowing lintel deflection, **e)** corrosion, structural & thermal movement control, **f)** flashings.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Doors & doorsets to be *proprietary* products.

Provide external doorsets for anticipated wind load to *Engineer* design.

Timber as per Timber Work SECTION.

Provide anti-tamper fixings to lockable doors as per Fixing & Sealing SECTION.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 DOOR LEAFS

General

This Clause relates to flush leaf & timber type doors (refer Clause 'Doorsets' for other door detail).

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Leafs over 1020mm wide or over 2340mm high, leaf/frame/hinges/fixings to *Engineer advice*.

Coat door edges *including* top & bottom edges, and behind hardware.

Flush Leafs

Leafs to be *balanced construction*, perimeter *min* 12mm thick timber edging, nominally 38-45mm thick, 2 faces hardboard, *moisture exposed* leafs 2 faces exterior grade hardboard/plywood, *UDO*.

Hollow Core Leaf: Cellular core, framed perimeter/mid-height/at openings with *min* 25mm timber.

Leaf frame to accommodate hardware, fixings, rebates. Fix (screw) components only to leaf framing.

2.4 FRAMES

General: Frame all sides fixed to building structure. Hinged door leaf face to be flush with door frame face. Frames to *include* door stop moulds (with resilient buffers) to 3 sides. Screw fix hardware & accessories.

Provide external frame fixing to Engineer advice.

Steel Frames: Steel 1.6mm *BMT* (*galv* where *moisture exposed*) folded profile *including* door stop moulds & architraves, *UDO*. Throat width = wall + linings thickness, *UDO*. Mitre join & weld corners. Fix using *galv* steel brackets *min* 25 wide x 1.6mm *BMT*. Mortar fill frames fixed to masonry/concrete, *provide* mortar guards. Screw fix hardware *including* hinges to 4mm back-plates with tapped holes.

Aluminium Frames: Refer Glazing SECTION for frame detail & this Doors SECTION for other door detail.

2.5 DOORSETS

General

Doorsets are an operational assembly, of leafs, frame, hardware & accessories.

Hinged Doors: Opening stile (opposite hanging stile) to accommodate *min* 60mm latch/lock backset.

Glazing to Doorsets

Refer this Doors SECTION for door element detail. Refer Glazing SECTION for *glazing system* detail.

Leaf perimeter framed, *UDO*.

Access Hatches/Panels

Provide wall & ceiling services access to comply with the *BCA*. **NOTIFY** to confirm hatch/panel locations & sizes.

Hatches/panels to be *proprietary min* 600 x 600mm *UDO*, screw fixed to *substrate* structure (*min* 3No/4mm *dia min* screws each side), budget lock, 2 concealed hinges, solid panel leaf. Perimeter to be **a)** *flush-set* fixed into *flush-set* linings or **b)** flanged fixed to non-*flush-set* *substrate*.

To suspended ceilings, hatches/panels to ceiling Manufacturer *advice*.

Hatches/panels in acoustic elements to be acoustically rated to match the acoustic rating of the element housing the hatch/panel.

Hatches/panels in thermally insulated elements to be thermally rated to match the thermal rating of the element housing the hatch/panel.

2.6 HARDWARE

General

Refer also Preliminaries SECTION, Sub-SECTION 4 'Hardware & Operational Components'.

All doorsets to have operational, metal hardware. Secondary hardware (eg hinges, bolts) to have finish to match primary hardware finish, *UDO*. Install correct left/right handing.

Mount lock/latch with *min* 60mm backset & centred 1000mm above *FFL*. Locksets to AS 4145.

If variations occur to door hardware, **SUBMIT** a Manufacturer revised Schedule showing variations.

Refer to the Door Hardware Schedule. *Provide* a Door Hardware Schedule if it has not been *doc*.

Keys

Keying Manufacturer registered secure profile, *UDO*. *Provide* locking to perimeter doorsets.

Keying *min* *GMK* level, *UDO*. Refer to the Door Hardware Schedule for keying detail.

Provide services access keying & requirements to the applicable Services Authority approval.

NOTIFY to confirm final key plan. *Provide* 3 keys each lock (with *proprietary* label & metal ring) at Practical Completion. Keys brass, stainless steel or mild steel zinc plated.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

SUBMIT Lock Manufacturer key system/coding record *including* lock & key types, key numbers, Supplier name, proposed Supplier key security control method.

Construct with temporary construction cylinders, replaced at Practical Completion with new cylinders.

Hinges

Hinges to allow 180 deg door swing. Doors with closers: low friction bearing hinges. Lockable doors to have fixed pin or security hinges. Doors at obstacles/nibs/deep reveals: wide throw hinges.

Flush Door Hinges: *Min* size 100 x 75 x 1.6mm *BMT* butt (rebated) or flush (interlocked, surface mount), metal to match fixing corrosion resistance, finish to match door hardware. Fixings to be flush screws *min* 4.2 dia x 35mm long, finish to match hinge, *min* 8 screws each hinge. Quantity as follows:

Leaf width (mm)	Leaf height (mm)	Hinge Numbers
Up to 870	Up to 2340	3
870-1020	Up to 2040	3
870-1020	2040-2340	4
More than 1020	More than 2340	To door <i>Engineer advice</i> , <i>UDO</i>

Aluminium Framed Door Hinges: High tensile aluminium, nylon bushed stainless steel pins, nylon washer to knuckle joints, to door Manufacturer *advice*.

Sanitary Compartment Doors Hinges: Lift off type where up to 1200mm between pan & door-way.

Hardware Ancillaries

Provide barrel & flush bolts/keepers, lock plates, ferrules/floor sockets, strike plates (not universal strike plates), locks, latches, rebated hardware to rebated doors, *UDO*. *Provide* lever handles, *UDO*.

Provide door closers with back-check (to cushion closing action) to lockable doors. Mount closers on the secondary/minor room side of doors.

Door Stops

Provide door stops to all doors to prevent door/hardware impact against other materials. Door stops to comprise a resilient buffer in metal body.

Door Buffers

Provide min 2 No resilient door frame mounted door buffers, located between frame stop mould & closed leaf, to cushion closing leaf & to stop leaf movement when closed.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Install systems within acceptable building tolerances. Install to not carry building loads, *including* loads caused by structural deflection, growth or shortening.

Install trim to make neat, clean, closed junctions between frames & *substrates*. Conceal fixings.

Provide sliding components with *min* lateral (perpendicular to operational direction) movement.

Tolerances - Width & Height: 2mm, Thickness: 1.5mm, Diagonal: 1mm, Twist: Straight edge 1.5mm.

Spare Door Hardware: *Provide* spare door hardware (2 units of each hardware type) in new, unopened, labelled packaging. Store on-Site & **NOTIFY** to confirm storage location. Spare materials not to be used during the defects liability period.

SUBMIT Operation & maintenance manual for doors other than typical flush leaf type.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

17 INSULATION

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
 Material for Thermal Building Insulation AS/NZS 4859. Pliable Building Membranes & Underlays AS/NZS 4200. Thermal Insulation of Dwellings AS 3999.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- Installed material before concealment.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- RTA test results demonstrating insulation compliance with AS/NZS 4859.1.
- Certification of completion of Work provided as doc in this SECTION (certification may be done by the respective Subcontractor/s).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Provide proprietary insulation/sarking. Label packaging with the appropriate A/O Standards mark.

Provide to AS/NZS 1530 Indexes: Spread of flame: 0. Smoke developed: Max 3. Flammability: Max 5.

Provide Manufacturer advised accessories to achieve doc performance, including spacers & separators which act to maintain the required insulation thickness.

Check moisture-retention characteristics of insulation. **NOTIFY** before ordering materials, if lining damage may result from excessive moisture-retention.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 MATERIALS

Mineral Wool Insulation

Insulation to be mineral wool, UDO. Definition: Fine mineral fibre insulation (including glass & rock wool) made by blowing air or steam through molten rock, slag or glass. Label packaging 'FBS-1 BIO-SOLUBLE INSULATION'. Comply with the Insulation Council of Australia & NZ (ICANZ) Industry Code of Practice for Safe Use of Mineral Wool Insulation.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Thermal Framed Wall Insulation

Provide to framed *external* walls, *including* walls above ceilings, gable walls & walls forming part of a roof, *UDO*. Roof insulation/sarking to overlap wall insulation *min* 50mm.

Provide min R-Value R0.2 thermal break between cladding & metal framing.

To stud framed walls *provide* insulation batts.

Acoustic Insulation

Provide insulation systems to be *Type tested* to achieve acoustic rating as *doc*. Acoustic elements to finish against other elements of the same or greater acoustic value.

Provide to AS/NZS 1276 or ISO 717 'Sound Insulation System Rating' & AS 1191 'Laboratory Measurements'. Seal penetrations & edges. Co-ordinate with lining systems *if required*.

SUBMIT Manufacturer installation Certification, or *RTA Site Test* 50% each acoustic system.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Provide full insulation over whole insulated element. Maintain insulation design thickness. Insulation butt joints & edges slightly compressed with no air gap.

Provide fire separation at light/heating/electrical fixtures as advised by the fixture Manufacturer & the insulation Manufacturer. Electrically conductive materials to be separated from electrical wiring/fixtures & fixed with non-conductive fixings.

Do not allow insulation to become wet or moist.

If insulation/sarking cannot self-support, *provide* permanent support without affecting performance, or the fixing & appearance of other materials. *Provide* boxing to retain loose insulation.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

18 LININGS

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Access hatches/panels – Doors SECTION.
- Splashbacks – Joinery SECTION.
- Stud framing, metal – Structural Steel SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.

Gypsum Plasterboard
AS/NZS 2588.

Cellulose – Cement
Products AS/NZS 2908.2.

Gypsum Linings Application
& Finishing AS/NZS 2589.

Wet Processed Fibreboard
AS/NZS 1859.4.

Adhesive Mastic for
Plasterboard AS 2753.

Methods of Fire / Smoke Tests
AS 1530 & AS/NZS 3837.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- *Substrate* or framing ready for linings installation.
- Linings installed before fittings installed & finishes applied.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Fixings: Type, spacing & *Engineer* certificate for lining systems without Manufacturer fixing *advice*.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Linings to be *proprietary* systems, screw + adhesive fixed to framing or battens, *UDO*.

If lining sheet joint system is not *doc*, allow recessed edge, *flush-set* jointing & **NOTIFY** to confirm joint system.

Check moisture-retention characteristics of insulation. **NOTIFY** before ordering materials, if lining damage may result from excessive moisture-retention.

Provide partitions/walling & ceilings to withstand earthquake loads compliant with AS 1170. Refer to the Structural *Consultant* docs for earthquake loading parameters.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2.3 TYPICAL LININGS

Typical Linings

Plasterboard to AS/NZS 2588.

Moisture resistant plasterboard for high humidity/moisture risk areas as per AS 3740 'Waterproofing of Wet Areas'. Provide to walls to be standard plasterboard lined which accommodate wet fixtures.

FC to AS/NZS 2908.

Ceiling Linings Generally

Do not fix ceiling systems to the primary building structure before that structure has been loaded for: 14 days for a framed structure, 28 days for a concrete structure. Support fixtures & services off framing, not off ceiling lining.

Where no ceiling framing is specifically *doc*, **NOTIFY** & allow to provide a *proprietary* suspended metal framed ceiling system.

2.4 SUSPENDED CEILINGS

Proprietary Type tested system, constructed of corrosion resistant metal, *Engineer* certified to support the ceiling type. Provide mechanically fixed primary members hung from building structure via adjustable rod hangers & secondary members (supported off primary members).

Comply with AS/NZS 1170 'Structural Design Actions', AS/NZS 2785 'Suspended Ceilings Design/Install' & AS 2946 'Suspended Ceiling Luminaire/Air Diffuser Interface'.

System to be stable, braced & vibration suppressed. Failure of one hanging point not to cause progressive soffit failure. No looseness or rattling. Construct & brace bulkheads/profiles integrally. Provide *proprietary* splicing to join members. Mechanically fix hanging rod tops.

Provide framing for, services & fittings, including ducts & lights. Do not fix suspension members to services. Where services cause obstruction, provide bridging & suspension each side of service.

If partitions attached to ceiling, include partition mass in ceiling seismic mass. Minimise transmission of structure-borne sound & vibrations. Allow for differential movement at abutting surfaces. Install with control joints corresponding to structural joints & lining area limitations. Provide suspended frame electrical earth connection to Electrical *Engineer* advice.

Provide a ceiling system which has been *Type tested*. Installer to be Manufacturer approved.

Spare Framing: Provide matching spare framing, wrapped & labelled. Provide 3% of each member, colour & type installed. Store on-Site & **NOTIFY** to confirm storage location. Spare materials not to be used during the defects liability period.

2.5 ACCESSORIES

Trim

Provide trim to lining edges. Provide skirtings to walls at wall/floor finish junctions & cornices to ceiling/wall junctions (fix to non-load bearing walls to allow vertical movement).

Flush-set Joints

Provide *flush-set* sheet with metal beading to corners, exposed edges, control joints & butt joints.

Provide moisture resistant joint compound where *moisture exposed*.

Setting compound strength to match that required of the lining board being set.

Outward corners to have expanded metal mesh beading. Inward corners to have metal angle between framing & lining to allow differential movement.

Install *flush-set* linings to AS/NZS 2589.1, Finish Level 4 generally but the next better Level grade in locations exposed to glancing natural or artificial light.

Provide *flush-set* linings with staggered end joints in a brick pattern, away from opening corners.

Shadow-line Joints: Provide with perforated metal beading at junctions. Joint 10mm (no sealant).

Control Joints

Extent: Following structural joints & changes in *substrate*, and at lining Manufacturer *advised* spacing. **NOTIFY** to confirm control joint locations.

Provide with solid edges, parts interlocked for 3 directional movement, nominal 10mm wide joint. Joint to have *proprietary* joint cover or sealant filled (to match other adjacent joints).

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Install framing both sides of joint, flush plane. Continue control joints through non-sheet materials, (eg framing, trim). Neatly cut *exposed to view* joints & fill flush with paintable flexible sealant.

Wall Openings Extending To Ceiling: *Provide* ceiling control joints to match location of opening sides.

Framing

Provide framing to all linings other than those *documented* to be adhered to solid *substrate*. *Provide* framing for the fixing of fixtures.

Stud Framing: Refer to the descriptions *doc* elsewhere in this Specification.

Battens: *Proprietary* folded mild steel *min* qualities: 0.75mm *BMT*, grade G2Z275, *galv* 275 g/m² (to AS 1397), *min* depth practicable x 38mm wide. *Provide* batten type, size & fixing to batten Manufacturer *advice* & *Engineer* certified for the load *including* lining type. Align to tolerance by packing or *substrate* adjustment. *Provide* wall nogging battens vertically spaced 900-1200mm.

Adhesives & Fixings

Plasterboard adhesives to AS 2753. Wallboard adhesive synthetic rubber/resin based mastic contact adhesive suitable for the *substrate*. Fixings *metallic coated*.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Do not install linings until *Work* area is weather-proof, and *substrates* & the building interior is dry.

Cut *FC* on-Site by scissor action (not with a powered abrasive cutter).

Surface Tolerance: Flatness *max* 1.5mm deviation with a 1.5m straightedge in any position. Confirm *substrate* tolerance before fixing linings.

No air gaps in linings or at lining-edges, junctions & penetrations.

Run sheets across framing. Locate joints on framing. *Provide* support at edges & joints.

Back-block joints where fixing to framing is not reasonably practicable.

SUBMIT Operation & maintenance manuals for *Type tested* lining, partition or ceiling systems.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

19 JOINERY

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Doors, flush type – Doors SECTION.
- Fixtures, *proprietary* – Fixtures SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
 Domestic Kitchen Assembly AS/NZS 4386.1. High Pressure Decorative laminates AS/NZS 2924. Reconstituted Wood Based Panels AS/NZS 1859 & 4266.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections. **NOTIFY** for inspection of:

- *Substrate* or framing ready for installation of joinery.
- Shop fabricated joinery ready for *Site* delivery.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Shop drawings: All joinery.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Joinery products to be *proprietary* products, *UDO*.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 JOINERY MATERIALS

Board Material

Board material to be *balanced construction*. Particleboard or *MDF*, 16-18mm thick, *UDO*.

Particleboard: To AS/NZS 1859.1. Where *moisture exposed* use high performance (HP) grade, otherwise use moisture resistant (MR) grade. Material to be *min* emission type (*similar to E0 grade*).

MDF: To AS/NZS 1859.2. Where *moisture exposed* use high performance (HP) grade, otherwise use moisture resistant (MR) grade. *Min MDF* cutting on-*Site* & cut to WH&S requirements, warn others, wear face masks, vacuum dust immediately after cutting, no cutting in windy conditions. Material to be *min* emission type (*similar to E0 grade*)

*** Read specific Specification detail with common detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Other Sheet, Frame & Trim Materials

Timber & plywood as per Timber Work SECTION.

Metal: Steel framing *min* 35 x 35 x 1.6mm SHS tube fully welded joints, black powder coat finish where exposed to view.

Plastic Laminate

Melamine: Low pressure decorative laminated board material. Provide generally to joinery inner surfaces. Colour: White, UDO. Finish: Standard matt, UDO.

High pressure decorative laminated board material to AS/NZS 2924. Provide generally to joinery outer surfaces. Finish: Standard matt, UDO. Thickness: 0.8-1.0mm generally.

Class (AS/NZS 2924.1)	Typical applications
CG (compact general purpose)	High performance, self supporting vertical/horizontal surface
HD (horizontal heavy duty)	High performance horizontal surface
HG (horizontal general purpose)	General horizontal & high performance vertical surface
VG (vertical general purpose)	General vertical surface

Decorative Laminate Sheet Edging

2mm thick colour/pattern matched, hot resin adhered PVC edging to exposed to view sheet edges including to shelves, doors & drawer edges.

Fixings

Joints screwed & adhered. Screws *metallic coated*, *min* 3.5mm dia. Conceal fixings (or if impractical, colour matched caps). *Min* 35mm fixing embedment (not including wall lining/joinery board thickness) into structural substrates.

2.4 JOINERY UNITS

General

Provide joinery units as specified below with board material as per 'Board Material' above, UDO.

Confirm sizes of equipment & appliances to be housed in joinery, before joinery Work start. Provide *proprietary* vents in joinery holding fully enclosed appliances (vent size & location to appliance Manufacturer advice) & **NOTIFY** to confirm location.

Fix horizontal elements to the sides (not the bottom edge) of vertical elements.

For ceiling height Units, provide a joinery shadow-line ceiling junction, UDO.

Operable parts to have metal handles, resilient buffers, and are to close under natural force, fully without slamming.

Moisture Exposed Joinery: Seal junctions & penetrations (clear, anti-fungal, sanitary grade sealant). Vermin proof joints & penetrations. Metal flange & seal service penetrations.

Isolated joinery legs & gables to be concealed fixed.

Plinths (as floor mounted joinery unit bases)

Min 100mm high x 50mm deep toe recess & kick panel of board material, UDO. Frame across inside plinth @ 600mm cnrs. Provide plinth as a level base. Scribe to floor & secure to wall.

Carcass

Provide as a 6 sided board material box structure (to house shelves, doors, drawers) with rigid divisions across carcass cross-section @ *max* 900mm cnrs.

Wall Mounted Units: Fix to building structure through a carcass back-wall panel with *min* 6 No 4.5mm dia screws, increasing by 2 fixings each direction for each 450mm (or part) increase in Unit size, with *min* Unit width & height of 450mm, UDO.

Shelves

Fixed Shelves: Board material fixed 3 sides, *min* 2 fixings/side, *max* 300mm cnrs. *Min* thickness:

Span up to 1000mm – 18mm thick.

Span 1000-1250mm – 25mm thick.

Span 1250-1700mm – 32/35mm thick.

Span over 1700mm, to *drawn* detail.

Adjustable Shelves (in carcass): Board material, each end on 2 No *proprietary* metal pins, snug slide fit into carcass wall holes, 30-40mm vertical cnrs to give full height adjustment. *Min* thickness:

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Span up to 900mm – 18mm thick.

Span 900-1200mm – 25mm thick.

Span 1200-1500mm – 32/35mm thick.

Span over 1500mm, to *drawn* detail.

Joinery Doors

Board material, *max* 600mm wide, *UDO*. Thickness over 1500mm high: 25mm, *UDO*.

Hinged doors to be held lightly in the closed position by the hinge or other mechanism.

Drawers

Front panel – board material routed to house drawer bottom panel, back & sides – *min* 12mm thick board material routed to house drawer bottom panel, bottom panel – *PVC* film bonded to 3mm thick hardboard, *UDO*. Each drawer on 2 steel slides (sized to drawer size) with plastic wheels on ball bearings, anti-fall out device, gentle hold-closed device, drawer lift-out facility.

TBC Cutlery Drawer: *Provide* a moulded plastic insert (with *min* 5 compartments for standard cutlery) at each Food Handling area.

Bench Tops

Provide solid bench tops *min* 32mm thick, *UDO*. Exposed edges: Pencil round (top & bottom edges small radius rounded), *UDO*.

Scribe & seal bench top to walls & other junctions. *Min* joints at corners, no joints in *moisture exposed* locations. Seal joints & clamp with *proprietary* connectors. Cut openings to have rounded corners. *Provide* non-combustible sheet protection from heat produced wby appliances.

Finish to extend under bench top. Fix to carcass (without penetrating bench top) with *min* 6 fixings, in rows of 3 fixings across carcass dewpth, @ *max* 600mm *cnrs*.

Provide filler/repair kit. Label underside with Manufacturer & Installer name & contact. Installer to be Manufacturer approved. **NOTIFY** to confirm finish gloss level.

SUBMIT bench top Operation & maintenance manual.

Splashbacks

Extent: To all sinks & basins, *UDO*.

Provide with concealed fixings, and sealant (sanitary grade anti-fungal) seal edges & joints.

Splashback materials & splashback *substrate* to be non-combustible within 450mm of hot appliances.

2.5 HARDWARE

General

Provide joinery hardware as described below, *UDO*. Refer Preliminaries SECTION, Sub-SECTION 4, Sub-clause 'Hardware & Operational Components'.

Door hinges

Steel *metallic coated*, concealed when door closed, fixed to carcass (surface mount) & door (rebated) *min* 2 screws each hinge leaf, *min* 120 *deg* opening, hold open facility, 3-way adjustable, gentle self-closing function. Doors to align flush with adjacent plane. *Min* numbers (for door self-weight only):

Up to 900mm high door: 2 hinges. 900-1500mm high door: 3 hinges.

1500-2100mm high door: 4 hinges. Over 2100mm high door: Type & number to Manufacturer *advice*.

To bi-fold doors: *Provide* metal piano type hinge, extending full door height.

Sliding Door Tracks

System of nylon wheels with bearings run on metal head & threshold guides/tracks, resilient buffers at both ends. *Provide* joinery board pelmet if head track is visible. Confirm leaf weight for the system, to system Manufacturer *advice*.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Do not store where wet trades working or recently finished. Acclimatise joinery for *min* 3 days by storing in 'in-service' conditions, with ventilation to all surfaces.

SECTION 19 JOINERY (ARCH - FULL)

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Scribe *exposed to view* edges to *substrate* profile. *Provide* materials in single, long as possible lengths with *min* joints. Make joints over supports. Allow for thermal movement in length, by appropriate sealed separation at ends. Frame & trim for openings. Conceal voids & wall faces, behind joinery Units, using finished joinery or lining sheet.

Provide sliding components with *min* lateral (perpendicular to operational direction) movement.

Prime the surfaces of concealed unfinished timber & metal.

Tolerance (max)	
Plumb & level – 1mm in 1500mm	Scribe thickness variation; opposite scribes – 2mm
Adjoining surfaces same plane – 0.5mm	Doors centred in openings – 0.5mm

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

20 FIRE STOPPING

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

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This: **1)** Speeds up Spec writing, **2)** Keeps the Spec order consistent and familiar job to job, **3)** Tells the Builder what is not in the job, making their work easier and more accurate.

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21 FIXTURES

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Door & window hardware – Doors / Glazing SECTIONS.
- Mirrors – Glazing SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Fixtures to be *proprietary* products/systems, *UDO*.

Accessories colour matched, metal to be corrosion resistant (finish to match adjacent metal). **NOTIFY** to confirm finishes & colours.

Provide anti-tamper fixings as per Fixing & Sealing SECTION.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 SERVICE GRATINGS & LIDS

Covers/Grates: *Proprietary* product to AS 3996, corrosion resistant metal (to match adjacent metal, *UDO*), removable, impact noise dampened, flush finish, Load Class A-G as applicable (eg Class A foot traffic, Class C car traffic). Lids under the building roof foot-print to be in-fill type, in-filled to match adjacent surface finish. Refer also *Consultant docs*.

In Public areas, fix with anti-tamper fixings as per Fixing & Sealing SECTION. In pedestrian only areas, gratings closely spaced (*max* 7mm gap).

Provide gratings & lids in waterproofed floors/pavements with clamp to waterproofing or waterproof floor finish. If floor/pavement surface is separated by topping from the waterproofing, *provide* *proprietary* slotted extension pipe to raise *FW* grate to *FFL* & to drain water in the topping.

Gratings & lids to be installed so that the top surface is flush with adjacent finished flooring.

*** Read **specific** Specification detail with **common** detail including **SECTIONS 1-3**, and in this **SECTION** – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries **SECTION**, Clause 1.1 'Documentation Discrepancy'.***

2.4 RECESSED FLOOR MATS

Lift-out type, clear anodised aluminium perforated slats, slip resistant strip in-fill, resilient connectors, **UDO**. **SUBMIT** proposed detail.

Matting rows to be continuous across mat width, running perpendicular to pedestrian travel direction.

Recess mat into floor, mat top flush with **FFL**. Frame recess perimeter with *min* 2mm thick corrosion resistant metal angle (finish to match adjacent metal) fixed to floor, **UDO**. *If required* to raise mat level, apply a *proprietary* high strength, high build polymer modified concrete reinstatement mortar.

2.5 INTERNAL FIXTURES & APPLIANCES

Appliances & Equipment

Connect to services to enable proper function of items. *Provide* accessible electrical power isolation switches to items hard-wired. **SUBMIT** Operation & Maintenance Manuals.

Finishes & *substrates* within 450mm of hot appliances to be non-combustible.

Sanitary Ware

Provide, UDO: Chrome plate brass fittings/outlets. Plugs to water holding/receiving fixtures. Exposed pipes chrome plated. Brackets & fixings. Refer also 'Service Gratings & Lids' above.

Water supply fixtures to comply with **AS/NZS 6200**, have WaterMark certification & a WELS label.

NOTIFY if *doc* fixtures do not comply with these requirements.

Lap over & seal edges of water holding/receiving fixtures. Temporarily cap water supply & drainage pipes to prevent entry of debris & dirt. Flush pipes before installing fixtures.

Connect to services to enable proper function of items. **SUBMIT** Operation & Maintenance Manuals.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Connect to services to enable proper function of items.

Furniture & fixtures to be installed horizontal/vertical, regardless of base *substrate* contour, **UDO**.

Refer Preliminaries **SECTION**, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

22 RENDER

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

Refer Concrete SECTION for concrete floor toppings.

End of SECTION.

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23 TILING

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Floor mat – Fixtures SECTION.
- Floor toppings – Concrete SECTION.
- Gratings & lids (for Services) – Fixtures SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.
Ceramic Tiles: Adhesives & Grouts Ceramic Tiles Def., Class, Charact. Ceramic Tiles AS 3958.
AS ISO 13007. & Marking AS 4662. (applicable to terrazzo tile also)

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections. **NOTIFY** for inspection of:

- *Substrate* & trial set-outs ready for tile laying start.
- Tile control & movement joints before sealing or concealing.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Samples: Each tile type, *including* slip resistance. Each grout & sealant joint/junction type.

2 MATERIALS

2.1 MATERIALS COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Tiles & accessories to be *proprietary* products.

Provide tiling to Manufacturer *advice* when applying to heated concrete floors.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 TILES

General

Refer *drawings* & Schedules for selections.

Stone or Reconstituted Stone Units **TBC**

Provide for higher thermal expansion than ceramic tiles. **SUBMIT** 3No 200 x 200mm samples.

NOTIFY to confirm of finish gloss level.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Repair non-structural faults with matching colour resin filler. Apply clear penetrating sealer to *exposed to view* stone surfaces (sealer to not affect original slip-resistance of unit).

Adhesive to adhesive Manufacturer *advice* for the stone type.

Sealant to sealant Manufacturer *advice* for the stone type. Test 3 stone samples by applying sealant then after 7 days visually inspect for defects/discolouration.

2.4 TILE ADHESIVES

Adhere all tiles. Adhesive to be premium grade, fibre reinforced, flexible (suitable for suspended framed floors) & chemical resistant. Adhesive for translucent tiles to be white colour, *UDO*.

Apply by notched trowel, with even coverage after laying, adhesive pattern as per AS 3958.1 with 90% tile coverage. Verify by examining 1 in 10 laid tiles. Allow adhesive to cure before grouting or loading.

Adhere-only wall tiles to adhesive Manufacturer *advice*, otherwise mechanical & adhesive fix.

2.5 TILE GROUT

General

Provide *proprietary* grout to tile joints, except at sealant junctions/movement joints.

Commence grouting to fill tile joints, immediately after tile adhesive has cured. Clean tile joints & remove tile spacers before grouting. Grout tile joints before filling sealant joints. Finish joints flush & smooth. Clean off excess grout.

Joints to be consistent, straight & *allow*: Dry pressed & Vitrified tiles - 3mm. Extruded tiles - 6mm. Quarry, large or irregular tiles – 6 to 12mm. **NOTIFY** to confirm joint width.

TBC Floor tile grout natural grey colour & wall tile grout white colour, *UDO*.

Standard Grout

Provide standard grout, except where epoxy grout to be *provided*.

Internal grout to be polymer modified, mould resistant, pre-coloured & cement based.

2.6 TILE SEALANT JUNCTIONS

Provide sealant at tile junctions with other materials, elements & planes, tile movement joints, and at *substrate* control joints (except where a *proprietary* joint is *provided*). Sealant to be UV, chemical resistant & anti-fungal. Colour to match tile grout, *UDO*.

Finish joints flush & smooth. Clean off excess sealant. Joint size to sealant Manufacturer *advice*, consistent width. Sealant joints to contain no adhesive or grout.

2.7 ACCESSORIES

General

Accessories colour matched, metal to be corrosion resistant (finish to match adjacent metal). **NOTIFY** to confirm finish.

Seal the surface of unglazed, stone, porous, un-polished tiles to Manufacturer *advice*. Sealer to be penetrating type, odourless, non-toxic, clear colour, to minimize water ingress & staining, and is not to affect tile surface colour, texture or slip resistance.

Junctions & Edges: Trim junctions & edges with *proprietary* metal trim. Corners mitre joined or to be purpose-made moulded corner pieces. Floor trim to be tapered low-profile, slip-resistant.

Doorway junctions: Under a closed door, or where there is no door, to align with the wall centre line.

Tile Movement Joints

General Joint Extent: **a)** in *max* 2:1 tiled area proportions, **b)** where tiled floor-plan areas change direction or narrows, **c)** where floor tiles meet other materials. **NOTIFY** to confirm location.

Internal Joint Extent: @ *max* 25m².

Tile movement joints to be sealant filled as per 'Tile Sealant Junctions' above.

Self-Levelling & Ramped Topping

Self-levelling & ramped topping to cementitious floor *substrates*: Provide as per Concrete SECTION 'Floor Toppings'.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

If *substrate* is too rough to lay to tolerance, or has uneven water absorption, *allow* to rectify & **NOTIFY**. If *substrate* is smooth, *provide* key by lightly scabbling (*max* 2mm removal). If *substrate* has been pre-finished, remove pre-finish & lightly scabble.

If set-out un-*doc*, **NOTIFY** to confirm. Match edges, align patterns. *Provide* whole tiles at high visible locations. Set out equal tile margins. Cut tiles *min* half size & locate cut tiles at low visible locations. Distribute variations in hue/colour/pattern uniformly.

Extend tiling behind/under fixtures not built into tiling. Lap over & seal edges of tiles at water-holding fixtures. Tiling on different elements/planes which meet, are to have tile joints aligned.

Drill holes without damaging tile faces. Cut ceramic tiles on-*Site* manually (without powered abrasive cutting tools) where possible. Rub cut edges smooth without chipping.

Do not lay tiles if ambient temperatures are below 5 *deg* C or above 35 *deg* C.

Tolerance: Tile/grout joints along a 3000mm straight edge: 3mm. Flatness any plane under a 3000mm straight edge (any direction): 3mm. Tile to tile surface across grout joint: 0.5mm.

Spare Tiling Material: *Provide* spare matching tiles & accessories of each colour & type, sealed in durable labelled cardboard boxes. *Provide* 1.5% of the quantity installed. Store on-*Site* & **NOTIFY** to confirm storage location. Spare materials not to be used during the defects liability period.

SUBMIT Operation & maintenance manual.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

24 RESILIENT FINISHES

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Floor mat – Fixtures SECTION.
- Floor toppings – Concrete SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD).

Floor Coverings Resilient Sheet & Tile Installation AS 1884.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections. **NOTIFY** for inspection of:

- Substrate & trial set-outs ready for resilient finish laying start.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Samples: Each resilient finish, and accessories & trim.
- Certification of completion of Work provided as doc in this SECTION (certification may be done by the respective Subcontractor/s).

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Resilient finishes to be *proprietary* products. Installer to be Manufacturer approved.

Provide resilient finishes to Manufacturer *advice* when applying to heated concrete floors.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 FLOOR SHEET

Edges to be firm, unchipped, machine-cut accurately to size & square to the face. Set out sheets for *min* joints. Run sheet joints parallel with the long sides of rooms.

Weld & joint method to sheet Manufacturer *advice* to achieve least conspicuous & strongest joint, best suited to *Site* & anticipated end-use conditions. Welds & joints to be flush, sealed & colour matched.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

2.4 ACCESSORIES

General

Accessories colour matched, metal to be corrosion resistant (finish to match adjacent metal). **NOTIFY** to confirm finish.

Adhesives to Manufacturer *advice* for on-Site & anticipated end-use conditions, & to enable resilient finish to be lifted after adhesive cured, without *substrate* damage.

Junctions & Edges: Trim junctions & edges with *proprietary* metal trim. Corners mitre joined or to be purpose-made moulded corner pieces. Floor trim to be tapered low-profile, slip-resistant.

Doorway junctions: Under a closed door, or where there is no door, to align with the wall centre line.

Underlay

Self-levelling & ramped topping to cementitious floor *substrates*: *Provide* as per Concrete SECTION 'Floor Toppings'.

Resilient Finish Movement Joints

Provide to resilient finish area limitations, to finish Manufacturer *advice*. **NOTIFY** to confirm location.

3 EXECUTION

3.1 EXECUTION COMMON DETAIL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

Substrate moisture content test to AS/NZS 1884 (& AS/NZS 1080.1 for timber *substrates*).

Do not start *Work* before building is sealed, wet *Work* complete/dry & good lighting available. Remove fixtures & refix at completion. Partitions to be installed before resilient finish laying. Lay with consistent grain & texture direction.

Butt edges to form tight joints showing no visible open seam. Scribe to adjoining materials. Finishes with regular patterns or surface profiles, to be match joined.

Keep dry & traffic off floors until adhesives & sealers/polishes cured. Immediately before Practical Completion, clean, buff & polish.

Spare Finish Material: *Provide* spare matching resilient finishes & accessories of each colour & type, sealed in durable labelled plastic wrap. *Provide* 1.5% of the quantity installed. Store on-Site & **NOTIFY** to confirm storage location. Spare materials not to be used during the defects liability period.

SUBMIT Operation & maintenance manuals for resilient finishes.

Substrate Tolerance: Flatness & smoothness under a 3000mm straight edge (any direction): 3mm.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

End of SECTION.

*** Read **specific** Specification detail with **common** detail including **SECTIONS** 1-3, and in **this SECTION** – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer **also** Preliminaries **SECTION**, Clause 1.1 'Documentation Discrepancy'.***

25 CARPET

1 GENERAL

1.1 GENERAL

Not part of this Contract. If such work becomes Contract *Work*, after Contract start, no such *Work* to commence until an *instruction* has been issued.

End of SECTION.

**** Note for the Reader of this Sample Spec ****

The ArchiAssist Master is a single Microsoft Word document. If any Spec Sections don't apply to a project, they remain, but with content deleted except for the 2 lines provided above.

This: **1)** Speeds up Spec writing, **2)** Keeps the Spec order consistent and familiar job to job, **3)** Tells the Builder what is not in the job, making their work easier and more accurate.

This Sample Spec has 7 "un-used" Sections, which normally is excessive but is in no way a problem. In reality, the ArchiAssist Interiors Master could have been used.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

26 PAINTING

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

1.2 REFERENCED DOCUMENTS

Cross References

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of the following, refer:

- Powder coating – Metalwork SECTION.
- Steel shop priming – Metalwork SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD).

Guide to the Painting of
Buildings AS/NZS 2311.

Steel Coatings AS/NZS 2312 / 3750
& AS 4089.

Paint Properties AS 3730.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text.

SUBMIT results of tests & inspections. **NOTIFY** for inspection of:

- Substrate ready before painting start.

1.5 SUBMISSIONS

Refer items written **SUBMIT**, in text. Refer Preliminaries SECTION, Sub-SECTION 5.

2 MATERIALS

2.1 MATERIAL COMMON DETAIL

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Paint to be *proprietary* product.

Refer Preliminaries SECTION, Sub-SECTION 3 'Materials' for more materials detail.

2.2 RELATED SPECIFICATION DETAIL

*** Refer to this page header note***

2.3 PAINT

Extent (New Work)

Paint exposed to view materials including all edges, except pre-finished materials, *UDO*. If exposed to view materials are not doc to be painted, allow to paint & **NOTIFY** to confirm painting extent.

Hot Dip Galv: Paint exposed to view hot dip galv members, *UDO*. **NOTIFY** to confirm extent. Refer to Metalwork SECTION for galv repair.

Services including pipes & ducts on painted building elements, *UDO*, to be painted same colour as the element, except for a) fire services b) services documented to be painted a specific colour.

Existing Element Painting Extent

Make good & re-paint existing painted substrates to the following extent, *UDO*:

- All existing painted internal elements within the Work area.

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Colour & Gloss Level

Colours: Refer *drawings* & Schedules.

Gloss Levels, *UDO*: Internal wall: low gloss. Internal ceiling: flat. Doors/metalwork/trim: semi-gloss.

Wet Areas: Gloss.

Paint Product

Paint as per Manufacturer Paint Schedule (ie specific *paint* applied to specific *substrates*) supplied by *Superintendent*. **NOTIFY** of discrepancies between *docs* & *allow* to *paint* the questionable item.

Paint: Premium quality, *min* 3 coats. *Paint* pre-coated *substrates* to *paint* Manufacturer *advice*.

3 EXECUTION

3.1 GENERAL

Read with **SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork**. Refer Sub-SECTION 2 'Materials' (above), for specific material execution detail.

At *paint* start **SUBMIT** *Paint* Manufacturer *advise* confirming delivery of *doc paint* & its *Work* suitability.

Capture *paint* waste & wash, and dispose of off-Site at a Local Authority approved disposal facility.

Refer Preliminaries SECTION, Sub-SECTION 4 'Building Work' for more execution detail.

3.2 APPLICATION

General

Prepare *substrate*: Refer Preliminaries SECTION 'Substrate Preparation'. Provide "Wet Paint" signs in conspicuous locations. Light level at surface *min* 400 lux during *painting* & inspections.

To *substrates* to be *paint*ed, fill cracks, holes & countersunk fixings with colour matched, paintable fillers. At changes in *substrate*, fill joint with a flexible paintable sealant. Remove hardware & fixtures before *paint* start & re-fix at *paint* completion.

Prepare *substrates* so as not to affect the performance or visual appearance of any applied *paint*.

Apply 1st coat just after preparation to avoid *substrate* contamination, then check for and rectify defects. Allow *paint* to dry before doing subsequent *Work*. Slightly tint each coat of opaque *paint* differently from the previous coat (for visual recognition) with the final coat the *documented* colour.

Paint accurately with cut-in edges. *Paint* with a brush, trim & board type items *including* the thin edge same colour as main face. *Paint* smooth, flat, expansive materials (except doors) with roller or spray.

Spray Painting: Use conventional or airless tools which atomise sprayed *paint*. Provide masking, ventilating & screening facilities to the standards set out for spray *painting* booths to AS/NZS 4114.

Completion

Test all *paint* types, 2 tests per type *including* testing for adhesion, permeability, film thickness, gloss level & colour. **NOTIFY** to confirm test location. Test to AS/NZS 1580 done by *paint* Manufacturer.

Spare *Paint*: Provide spare *paint* (4 litres each paint colour/type) in new, unopened, labelled metal containers. Store on-Site & **NOTIFY** to confirm storage location. Spare materials not to be used during the defects liability period.

End of SECTION

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'. ***

27 SERVICES

1 GENERAL

1.1 GENERAL

Provide Work as per this SECTION & as doc elsewhere.

Services include hydraulic, electrical & other services as doc.

1.2 REFERENCED DOCUMENTS

Cross References

Refer also Consultant docs.

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork & all related SECTIONS.

For specification detail of Services Work including the following, refer:

- Access hatches – Doors SECTION.
- Gratings & lids – Fixtures SECTION.

Standards

Provide to documented A/O Standards including associated Parts, if those Parts are Work related. Refer also Preliminaries SECTION, Sub-SECTION 1, Clause 'Referenced Documents (RD)'.

1.3 INTERPRETATION

Refer Preliminaries SECTION, Sub-SECTION 1, for definition of *italicized* text. Refer also to Consultant documents for other interpretations.

1.4 INSPECTION & TESTING

Refer Preliminaries SECTION, Sub-SECTION 4 'Inspection & Testing'. Refer also Specification text. **SUBMIT** results of tests & inspections.

1.5 SUBMISSIONS

Refer items written **SUBMIT** in text & as per Consultant docs. Refer Preliminaries SECTION, Sub-SECTION 5. **SUBMIT** also:

- Test/inspection results/certifications & Defects Liability Period Servicing program.
- Certification of completion of Work provided as doc in this SECTION & doc by Consultants.

1.6 ADDITIONAL NOTES

Read with SECTIONS 1 Preliminaries, 2 Fixing & Sealing, 3 Metalwork.

Co-ordinate Services with Work. Provide all Services Authority approvals, labour, materials for services connections including permanent phone service.

Refer Preliminaries SECTION 'Hardware & Operational Components' & 'Motorized Components'.

NOTIFY to confirm services outlet, control & fitting locations and layouts. Allow to provide an extra 2000mm difference from doc location of each electrical outlet & control, UDO, without Contract variation (Contract price will not alter if outlet, control & fitting location remains as doc).

Provide articulation joint to services conduits, pipes & ducts at ground level to accommodate ground movement & settlement.

Provide sliding components with min lateral (perpendicular to operational direction) movement.

Services runs to be concealed, UDO. Exposed to view building services & other associated components to be colour matched to adjacent substrate materials.

Provide services access as doc, as per the NCC & the Doors SECTION.

Temporarily cap/disconnect services (as applicable) & prevent entry of debris/dirt into pipes/conduits.

Provide electrical earth to conductive piping & safety switches to each electrical circuit, to AS 3000.

Provide air-conditioned spaces to be air-tight to air-conditioning system requirements. Air conditioning & refrigeration physical Work done by a licensed Refrigeration Mechanic & design Work done by a Refrigeration Engineer listed on the 'National Professional Engineer Register'. **SUBMIT** confirmation of Engineer Registration.

SECTION 27 SERVICES (ARCH - FULL)

*** Read **specific** Specification detail with **common** detail including SECTIONS 1-3, and in this SECTION – Sub-SECTION 1 'General' / Clause 2.1 'Material Common Detail' / Sub-SECTION 3 'Execution'. Refer also Preliminaries SECTION, Clause 1.1 'Documentation Discrepancy'.***

Smoke detectors/alarms to AS 3786 & BCA. *Provide* detectors/alarms in accessible roof spaces (above the ceiling) to Regulatory requirements. **SUBMIT** plan of proposed detector/alarm layout.

Plumbing & drainage to AS/NZS 3500.

Provide services & associated elements to withstand earthquake loads compliant with AS 1170, including to secondary structures, partitions, ceilings, services pipes/trays/ducts/equipment/machinery. Refer to the Structural *Consultant docs* for earthquake loading parameters.

Provide mechanical ventilation to comply with the NCC & BCA & AS 1668 'The Use of Mechanical Ventilation & AC in Buildings'.

Vermin Entry: *Provide* permanent metallic materials (solid or of *min* aperture 3mm) to prevent bird & rodent entry into services & services equipment.

End of SECTION.