ELECTRONIC BLUEPRINT

AUSTRALIA'S PREMIERE BUILDING SPECIFICATION, DETAILING & TRAINING REFERENCE

The **ELECTRONIC BLUEPRINT** is the principal point of reference for Architects, Engineers and Builders and the only package that fully integrates regulatory and standards requirements with comprehensive, editable specifications, CAD details and approved industry training. Click here to view www.electronicblueprint.com.au

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February 2006 Bi-Monthly Electronic Update

Welcome to the February **ELECTRONIC BLUEPRINT** Bi-monthly Electronic Update.

- Architect - Slip resistance of tiles, pavers, flags, stone, concrete, timber, vinyl etc.
  Engineers - Design of concrete slabs to accommodate masonry walls and tiled floors
  Builders - Tiling details in wet areas

- **Changes to Australian Standards**
  This is a list of current Changes to Australian Standards affecting building construction.

- **Forum**
  The Forum provides an opportunity for Architects, Engineers and Builders to raise questions and voice comment on technical matters. **ELECTRONIC BLUEPRINT** will forward comments to the relevant Technical Committees of Standards Australia for consideration.

- **Distance Learning Packages**
  The **ELECTRONIC BLUEPRINT** Distance Learning Packages provide Architects, Engineers and Builders with the opportunity to upgrade their Continuing Professional Development and obtain the required CPD points. New courses listed in this edition.

- **Product Directory**
  The Product Directory enables specifiers and purchasers to quickly access a list of building products that comply with the specific requirements of the **ELECTRONIC BLUEPRINT.**

- **ELECTRONIC BLUEPRINT Section Update (See Attachments)**
  In this issue:
  A complete and **EDITABLE UPDATE** of **ELECTRONIC BLUEPRINT Section 15 – Floor & Wall Tiling**, with all relevant modifications to specifications, supplied as a Microsoft Word document for direct addition to your existing specifications and files.
  SEE ATTACHEMENTS on the lower left hand side of your screen.

Remember to check out the new website at www.electronicblueprint.com.au

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Principal Author

Karen Bloomfield
Specification Manager

Architects
Slip resistance of tiles, pavers, flags, stone, concrete, timber, vinyl etc.

There are many design applications where Architects must give close consideration to the possibility of slips and falls occurring. The Building Code of Australia (BCA) does not give guidance, although the following standards are useful.

- AS/NZS 4586:2004 *Slip resistance classification of new pedestrian surface materials* permits the classification of new pedestrian surfaces according to frictional characteristics by a number of alternative methods.

- AS/NZS 4663:2004 *Slip resistance measurement of existing pedestrian surfaces* permits the determination of frictional characteristics, using the Wet Pendulum test method or the Dry Floor Friction test method, of existing pedestrian surfaces that may be subject to wear, contamination, damage, poor construction or other environmental effects peculiar to the application.

- HB 197:1999 *An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials* provides guidance on the background to the standards and on the selection of appropriate slip resistance for various applications.

Each document applies to a variety of pedestrian surfaces, such as tiles, pavers, flags, stone, concrete, timber, vinyl and cork. The standards do not apply to carpet or some highly profiled surfaces.

There are a number of significant issues, which affect the use and application of these standards.

- Number of test methods
  The Standards provide details of the four test methods that are in common use, viz.

Wet Pendulum	Most common – wet applications
Dry Floor Friction Tester	Dry applications only
Wet Barefoot Ramp	Common for imported tiles in wet applications
Oil-wet Ramp	Common for many imported tiles

- Classifications
  AS/NZS 4586 provides a means of classifying the slip resistance of new surface materials (before wear and contamination) to permit logical specification by designers.

- Slider Material
  There are two rubber materials in common use. AS/NZS 4586 and AS/NZS 4663 specify under which circumstances each can be used. The Electronic Blueprint gives guidance on the effects of each slider material on the measured slip resistance.

- Slider Preparation
  The preparation of rubber sliders affects the test results. Alternative preparations are under consideration for incorporation into AS/NZS 4586 and AS/NZS 4663.

- Corrections
  The Electronic Blueprint gives guidance on the effects of lubrication (by water or other lubricant), temperature and slope of the surface.

For further information on this topic, or for relevant Continuing Professional Development Distance Learning Packages (suitable for CPD points), please contact **ELECTRONIC BLUEPRINT** by email **info@electronicblueprint.com.au**

Engineers
Design of concrete slabs to accommodate masonry walls and tiled floors

Structural Engineers are required to design and specify suspended concrete slabs and concrete slab-on-ground construction that is both structurally adequate and serviceable. Among the serviceability considerations are:

- Limiting deflections so supported walls (particularly masonry) are not subject to cracking;
- Limiting cracks that disrupt floor coverings such as tiles.

Slab Deflection

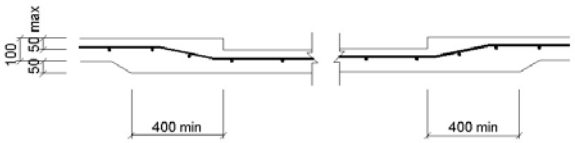
- If masonry walls are to be constructed over suspended concrete slabs, the deflection is limited by AS 3600 Table 2.4.2 to span/800 for spans and cantilever length/400.
- If tiles are fixed to floors or walls that are particularly flexible, they will become loose and drummy. Ensure that all substrates (e.g. concrete slabs, timber joists, flooring, studs and wall cladding) have sufficient stiffness to avoid excessive deflection. In the absence of manufactures' recommendations to the contrary, the same criteria as recommended in AS 3600 Table 2.4.2 for masonry walls would be reasonable.

Substrate Curing

- AS 2870 Clause 5.3.7 has provisions for the detailing of slabs to minimise shrinkage in tiled areas. Tiles should not be fixed to concrete slabs until the concrete has cured for at least 6 weeks. If the slab does not include additional reinforcement to inhibit shrinkage, the tiling should be delayed at least 12 weeks.
- Tiles should not be fixed to concrete masonry until it has cured for at least 28 days.
- For clay masonry substrates, a sand-cement render coat should be applied and allowed to cure for at least seven days before tiles are applied.

Recesses in Concrete Slabs

In order to achieve falls in tiled floors and to reduce the step between tiled and untiled rooms, it is preferable to recess the concrete slabs. Particular attention is required to ensure that the correct cover to steel reinforcement is achieved. The effect of reduced structural slab thickness, to account for the recess, should also be considered when assessing the slabs for both strength and deflection.



Shallow Recesses in Slabs

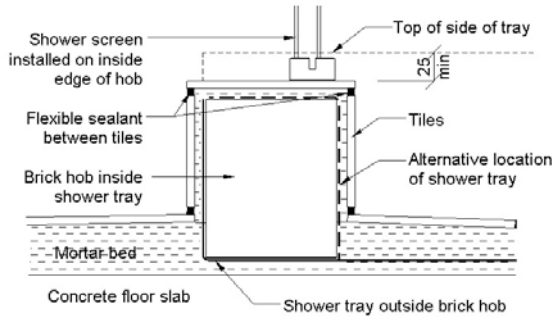
03_015

For further information on this topic, or for relevant Continuing Professional Development Distance Learning Packages (suitable for CPD points), please contact **ELECTRONIC BLUEPRINT** by email info@electronicblueprint.com.au.

Builders
Tiling details in wet areas

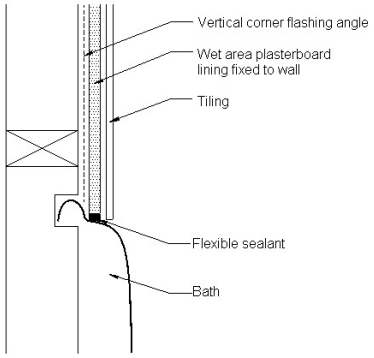
Builders are required to ensure that they meet the requirements of AS 3740 *Waterproofing of wet areas within residential buildings.*

Details
The following details are available from the Electronic Blueprint Website or CD-ROM, and are available as “jpg” files or as editable “dxf” CAD files. Refer also to other sections of the Electronic Blueprint to details on other forms of construction.



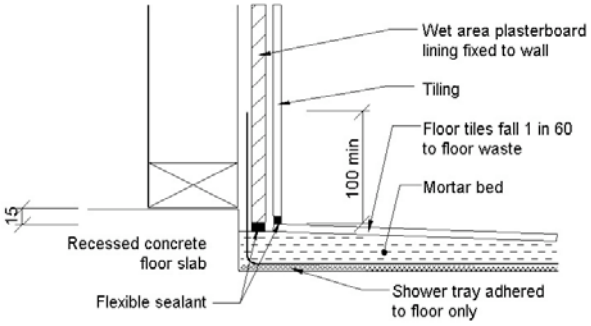
Shower Hob Tiling Detail

15_003



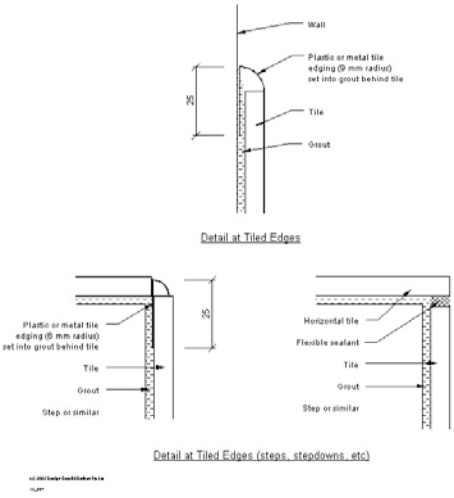
Bath Against Wall Tiling Detail

15_001



Shower Against Wall Tiling Detail

15_002



Recesses in Concrete Slabs
When recessing concrete floors to achieve falls in tiles and to reduce the step between tiled and untiled rooms, pay particular attention to achieving the required correct cover to steel reinforcement and to locating the recess accurately.

Drumminess
If tiles are not fixed correctly, they may become “drummy” and eventually lift off. Before hand-over, each tile should be lightly tapped. Any change of resonance may indicate drumminess. Rolling a marble across the floor and observing the sound will rapidly check large areas of floor tiles.

For further information on this topic, or for relevant Continuing Professional Development Distance Learning Packages (suitable for CPD points), please contact **ELECTRONIC BLUEPRINT** by email info@electronicblueprint.com.au.

Changes to Australian Standards

New Standard	Superseded Standard
AS/NZS 4600-2005 Cold-formed steel structures	
AS 4055-2006 Wind loads for housing	
AS 1684.2-2006 Residential timber framed construction – Non-cyclonic areas	
AS/NZS 1680.1 – 2006 Interior and workplace lighting – General principles and recommendations	
AS/NZS 1748 – 2006 Timber – Mechanically stress-graded for structural purposes	AS/NZS 1748 – 1997
HB 230-2006 Rainwater Tank Design and Installation Handbook	

Amended Standards
AS/NZS 1860.1 Particleboard flooring – Specifications
AS/NZS 1859.1 Reconstituted wood-based panels – Specification - Particleboard
AS/NZS 1859.2 Reconstituted wood-based panels – Specification – Dry-processed fibreboard

These changes are reflected in the next version of the **ELECTRONIC BLUEPRINT** , which will be distributed shortly. For more information on changes to Australian Standards, visit SAI Global at www.standards.com.au.

Forum

The Forum provides an opportunity for Architects, Engineers and Builders to raise questions and voice comment on technical matters. **ELECTRONIC BLUEPRINT** will circulate the comments electronically, and will, where appropriate, communicate them to the relevant Technical Committees of Standards Australia for consideration. Names will not be published unless requested by the writer. Where appropriate, Editor's comments have been added.

To add your comments and questions, click here, and fill in the Contact Form.
Subject to space limitations, your comments will be published in the next Bi-monthly Up-date.

Question by Structural Engineer - Queensland

What is a suitable height for grouting concrete blockwork?

Answer

The height to which concrete blockwork can be grouted depends on a number of factors:

- Core size – Typically the core dimensions of a 190 mm wide concrete blocks are approximately 110 x 135 mm, while those of 140 mm wide concrete blockwork would be approximately 60 mm x 135 mm (measured at the narrowest point). Thus 190m mm hollow blockwork can be grouted to a greater height than 140 mm blockwork. It is not practical to grout less than 140 mm blockwork.

- Reinforcement diameter – Typically reinforced blockwork incorporates 12, 16 or 20 mm bars. The smaller the bar – the easier it is to grout.

- Mix of vertical and horizontal bars – The incorporation of horizontal reinforcement (used in conjunction with vertical reinforcement) will restrict the flow of concrete grout down the cores of a wall. Where practical, use vertical reinforcement only, except at the top of the grout lift, where a horizontal bond beam can be installed. This is subject to there being sufficient horizontal reinforcement to restrict cracking.

- Aggregate size – AS 3700 limits the maximum grout aggregate size to 20 mm, although this will often lead to clogging of the cores. The recommended aggregate size is 10 mm.

- Grout slump – Grout should be fluid enough to completely fill the cores and completely surround the reinforcement. AS 3700 does not specify the slump (because of difficulty measuring it), but a value around 230 mm would be common.

Giving consideration to each of theses factors, the maximum suggested height for grouting 190 mm hollow blockwork, with a single N12 or N16 vertical bar and no horizontal reinforcement, with high slump 20 MPa grout (nominal 10 mm aggregate) is 3.0 m. For any variation from these conditions, the height should be varied. Specified heights as low as 1.2 m are common.

For retaining walls, clean-out openings are required. If necessary, cut the back face off the blocks and blank them off with a timber form. Grout must completely surround the starter bars.

Distance Learning Packages

The **ELECTRONIC BLUEPRINT** Distance Learning Packages provide Architects, Engineers and Builders with the opportunity to upgrade their Continuing Professional Development and obtain the required CPD points.

ELECTRONIC BLUEPRINT Distance Learning Courses are designed with currency as our main goal. What does this mean? It means that apart from ensuring our technical content is researched and written by leaders in the field, we aim to provide information that keeps you abreast of the industry changes as they are happening. This service is followed up with a Bi-monthly Electronic update and distribution of the **ELECTRONIC BLUEPRINT** CD.

The following pages outline the current list of Distance Learning Package Modules available through the **ELECTRONIC BLUEPRINT**.

Description of Type Codes
Module Type Codes are made up of Duration and Level of Complexity.

Modules are broken into three Levels of Complexity:
B signifies 'Building Modules' – Providing Details, Background, and Construction Inspections.
D signifies 'Design Modules' – These provide Specifications, Details and Concepts.
E signifies 'Engineering Modules' – These generally involve complex design calculations and engineering detailing.

Duration code is a ranking to account for the overall completion time including run time, research, assignment, tutor communication etc.

Use the following tables to work out individual module cost and CPD points gained, e.g. *Design & Construction of Earth Retaining Structures* with type code **D4** (Design / Duration Code 4) costs $200 and gains 12 CPD points upon successful completion.

Module Costs

	B	D	E
2	$100	$150	$200
4	$150	$200	$300
6	$200	$300	$400

CPD Points Gained – Based on Builders CPD

	B	D	E
2	5 points	6 points	8 points
4	9 points	12 points	16 points
6	14 points	19 points	24 points

ABOUT THE MODULES AND PACKAGES

Format
Each presentation is a Power Point presentation on CD, complete with audio facility.

Support facilities include the **ELECTRONIC BLUEPRINT** CD & web site, and email communication with your tutor.

CPD Point Accrual
These courses have been approved by the NSW Office of Fair Trading for the accrual of CPD points. CPD points have been based on the overall completion time for the module or package**.** In order to receive your Certificate of Completion and CPD points, you must complete and return the "Open Book" assignment, which is set at the end of the presentation and addresses key points of learning.

Points awarded for each unit have been based on 5 points per hour for Builders (NSW).

Architects and Engineers can work out their CPD Points accrued based on

- 2 points per hour for Architects, and
- 'hour-for- hour', for Engineers.

Please note that Building (B) Modules may only be purchased alongside an A or E module

An order form is located at the end of this document however for immediate help please email sales@electronicblueprint.com.au

Modules Available – March 2006 (New packages at Feb '06 have been highlighted in yellow)

OFT Approval Code	Section	Type Code	Module Content
	0 – General Design Considerations	**D4**	Embodied Energy and Sustainability
		D4	Colour, Solar Absorptance & Reflectivity
Rpa5fl97		**D4**	Issues in Sustainability – Residential Construction
Rpa5zy99		**E4**	AS 1170.4 *Earthquake loadings*
	1 – Site Establishment	**B2**	Inspections & Tests
		D4	Site Inspection General
	2 – Earthworks & Drainage	**B2**	Inspections & Tests
		D4	Earthworks & Drainage General
	3 – Concrete	**B2**	Inspections & Tests
		D4	Concrete General
		E4	Concrete Advanced
	4 – Retaining Walls	**B2**	Inspections & Tests
Rpa5zy99		**D4**	Introduction to Retaining Walls
Rpa5zy99		**D4**	Design & Construction of Earth Retaining Structures
Rpa5zy99		**E4**	Background & use of AS4678 *Earth retaining structures*
Rpa5zy99		**E4**	Design of Segmental Concrete Gravity Retaining Walls
Rpa5zy99		**E4**	Design of Segmental Concrete Reinforced Soils Retaining Walls
Rpa5zy99		**E4**	Design of Reinforced Concrete Masonry Cantilever Retaining Walls
	5 – Drainage & Plumbing	**B2**	Inspections & Tests
		D4	Drainage & Plumbing General
	6 – Windows, Doors & Glazing	**B2**	Inspections & Tests
		D4	Windows, Doors & Glazing General
	7 – Structural Steel Work	**B2**	Inspections & Tests
		D4	Structural Steel Work General
	8 – Wall, Roof & Floor Framing	**B2**	Inspections & Tests
		D4	Wall, Roof & Floor Framing General
	9 – Carpentry & Joinery	**B2**	Inspections & Tests
		D4	Carpentry & Joinery General
	10 – Roof Cladding	**B2**	Inspections & Tests
		D4	Roof Cladding General
	11 – Roof Plumbing	**B2**	Inspections & Tests
		D4	Roof Plumbing General
	12 - Masonry	**B2**	Inspections & Tests

Rpa5zy99	12 - Masonry	**B4**	Anchorages
Rpa5zy99		**B4**	Occurrence of Efflorescence
Rpa5zy99		**D2**	Durability of Masonry Structures
Rpa5zy99		**D4**	Design Considerations
Rpa5zy99		**D4**	Acoustic Performance of Masonry
Rpa5zy99		**D4**	Residential Masonry Details
Rpa5zy99		**D4**	Salt Damp in Concrete & Masonry
Rpa5zy99		**D4**	Sustainability of Clay Brickwork
Rpa5zy99		**D4**	Thermal Performance of Masonry
Rpa5zy99		**D4**	Weep holes & Flashings
Rpa5zy99		**E4**	Repair of Cracked Buildings
Rpa5zy99		**E4**	Residential Masonry Control of Cracking
Rpa5zy99		**E4**	Masonry Design for AS 1170.4 *Earthquake Loadings*
Rpa5zy99		**E4**	Residential Masonry Specifications
Rpa5zy99		**E4**	Compressive Strength & Vertical Load
Rpa5zy99		**E4**	Fire Performance of Masonry
Rpa5zy99		**E4**	House Design to AS 3700
Rpa5zy99		**E4**	Multi – Unit Design
Rpa5zy99		**E4**	Reinforced Concrete Masonry Houses
	13 – Ceiling & Wall Lining	**B2**	Inspections & Tests
		D4	Ceiling & Wall Lining General
	14 – Insulation	**B2**	Inspections & Tests
Rpa5fl97		**D4**	Specifications for Insulated Roof, Wall & Floor Systems
Rpa5fl97		**D4**	Thermal Insulation of Buildings
	15 – Floor & Wall Tiling	**B2**	Inspections & Tests
		D4	Tiling General
Rpa5wh73		**D4**	Issues in Measuring Slip Resistance
Rpa5wh73		**D4**	Measuring Slip Resistance of New Pedestrian Surfaces to AS/NZS 4586
Rpa5wh73		**D4**	Measuring Slip Resistance of Existing Pedestrian Surfaces to AS/NZS 4663
Rpa5wh73		**D4**	Slip Resistance Specifications
Rpa5wh73		**D4**	Maintaining Slip Resistance
	16 – Electrical Installation	**B2**	Inspections & Tests
		D4	Electrical Installation General
	17 – Kitchen	**B2**	Inspections & Tests
		D4	Kitchen General
	18 – Vehicular Doors	**B2**	Inspections & Tests
		D4	Vehicular Doors General
	19 - Painting	**B2**	Inspections & Tests
		D4	Painting General
	20 – Resilient Floor Coverings	**B2**	Inspections & Tests
		D4	Resilient Floor Coverings General
	21 – Carpets & Soft Furnishings	**B2**	Inspections & Tests
		D4	Carpets & Soft Furnishings General
	22 – Windows & Door Shutters	**B2**	Inspections & Tests
		D4	Windows & Door Shutters General
	23 – Mechanical Ventilation & Services	**B2**	Inspections & Tests
		D4	Mechanical Ventilation & Services General
	24 – Cleaning	**B2**	Inspections & Tests
Rpa5zy99		**D4**	Occurrence of Efflorescence
Rpa5zy99			Prevention of Efflorescence
Rpa5zy99			Removing Efflorescence

Rpa5zy99	24 – Cleaning		High Pressure Water Jet Cleaning
Rpa5zy99			Cleaning Pedestrian Surfaces
	25 - Landscaping	**B2**	Inspections & Tests
		D4	Landscaping General
	26 - Fencing	**B2**	Inspections & Tests
		D4	Fencing General
	27 - Paving	**B2**	Inspections & Tests
		D4	Paving General
		D4	Issues in Measuring Slip Resistance
Rpa5wh73		**D4**	Measuring Slip Resistance of New Pedestrian Surfaces to AS/NZS 4586
Rpa5wh73		**D4**	Measuring Slip Resistance of Existing Pedestrian Surfaces to AS/NZS 4663
Rpa5wh73		**D4**	Slip Resistance Specifications
Rpa5wh73		**D4**	Maintaining Slip Resistance
Rpa5wh73		**E6**	Design of Residential Pavements using AS 3727
Rpa5wh73			Specification & Details for Concrete Residential Pavements
Rpa5wh73			Specification & Details for Asphalt Residential Pavements
Rpa5wh73			Specification & Details for Bitumen Spray Seal Residential Pavements
Rpa5wh73			Specification & Details for Segmental Residential Pavements
Rpa5wh73			Design & Specification of Permeable Pavements
Rpa5wh73			Maintaining Residential Pavements
Rpa5wh73			Compaction
	28 – Metalwork & Balustrades	**B2**	Inspections & Tests
		D4	Metalwork & Balustrades General

ELECTRONIC BLUEPRINT Distance Learning Packages

ORDER FORM

(Print PAGE 11 to access this order form)

OFT Approval Code (where appropriate)	**Section**	**Type Code**	**Module Content**	**Cost**
			Total	

Please post my **ELECTRONIC BLUEPRINT** Distance Learning Package to:

Name:	Profession:
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State:	Postcode:
Phone number:	Fax number:
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- **My cheque/money order (made payable to Quasar Management Services) for the amount of $ (inc. GST) is enclosed**

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PRODUCT DIRECTORY

Enabling specifiers fast access a list of building products that comply with the specific requirements of the **ELECTRONIC BLUEPRINT.**

Supplier	Product Details	ELECTRONIC BLUEPRINT
Abey Australia Pty Ltd www.abey.com.au	Wall ties for all environments, including stainless steel cavity ties for use in Marine (R3) and Severe Marine (R4) environments	Section 12
Action Tanks (NSW) www.actiontanks.com.au	Rotational moulded polyethylene rainwater tanks, polyethylene above ground and underground rainwater management systems; stormwater Detention-Retention	Section 5
A.G.P Group www.agpgroup.com.au	Laminated, 'switchable' privacy glass to AS 1288; Operable frameless glass louvres to AS 1288 & AS1170; Sliding, bi – fold or stackable Slimline Shutters & Operable metal louvres to AS 1664 & AS 1170; Range of custom build, automatic revolving doors to AS 4290; High security entry/exit systems.	Section 6
Air Cell www.aircell.com.au	Fibre-free, thermo-cellular reflective insulation blanket products, certified to AS/NZS 4859.1 and providing a protective vapour, insulation and radiant barrier	Section 14
Allvent Ventilation Products Phone: 02 4966 8499	Mechanical fans & ventilation products including axial fans (all size applications), centrifugal fans, roof-top units, ceiling header box fans, grills & components	Section 23
Ancor Loc Earth Systems www.ancorloc.com.au	Ground anchor systems to comply with AS 4678 *Earth retaining structures*	Section 4
Breezeway www.breezeway.com.au	Energy and cyclone rated louvre windows made from non-corrosive materials complying with AS 2047; Skylights manufactured in accordance with AS2485 and AS1288 and energy rated according to WERS Scheme; Solid timber loft ladders with a high load capacity of 160kg; insulated and dust retardant trap doors	Sections 6, 9
Brunswick Sales www.brunswicksales.com.au	Vertical control joint ties to AS 2699 Part 1. Available fully galvanised or grade 316 stainless steel.	Section 12
Concrete Colour Systems w.concretecoloursystems.com.au	Pigments and systems for resurfacing, colouring and stencilling existing and new concrete surfaces	Section 3
C&M Brick claudia.tapia@cmbrick.com.au	Retaining wall systems to meet the requirements of AS 4678; Water-repellent masonry blocks; Concrete block systems, including insulated blocks and acoustic block systems, to meet the BCA requirements; Segmental pavers for roadways, driveways, gardens and pool surrounds to meet AS 3727 Residential pavements	Sections 4, 12
Cold Jet www.coldjet.com	Waterless, pressurized carbon dioxide dry ice blasting cleaning system. Non abrasive, environmentally friendly, fast, no secondary waste residue.	Section 24
Electronic Blueprint sales@electronicblueprint.com.au	Steel mullions for brickwork and blockwork to provide wind and earthquake resistance to the new AS/NZS 1170.2 and AS 1170.4. Resilient ties to comply with BCA Vol 1&2 for the separation of leaves of cavity walls to eliminate the transmission of impact sound	Sections 7, 12
Everbreeze Ventilation www.everbreeze.com.au	Design, supply, installation and maintenance of quality ventilation systems complying with BCA and AS 1668.2	Sections 23, 6, 8
Helifix (Australia) Pty Ltd www.helifix.com.au	Products to repair cracked or damaged brickwork	Section 12
Industrial Galvanizers Corporation Pty Ltd Ingal Building Systems www.indgalv.com.au	Lightweight hot dip galvanized lintels (to AS/NSZ 4680) complying with durability ratings up to R3 of AS/NZS 2688.3; Building Code approved. Corrosion mapping system to help determine the life expectancy of hot dip galvanized steel in different exposure conditions in Australia.	Sections 7, 12
Stramit Building Products www.stramit.com.au	Cold-rolled galvanised steel products complying with AS 4600 Permanent formwork of cold-rolled steel complying with AS 1538 and AS 1397 Sheet steel metal roof and wall cladding complying with AS 1397 Metal rainwater goods complying with AS 2179.1	Sections 3, 7, 8, 10, 11
Ensystex Australasia Pty Ltd www.exterra.com	Non-toxic, in-ground or above-ground, termite colony elimination and protection system complying with AS3660.2	Sections 3, 7

Erosion Control Systems www.erosioncontrol.com.au	Retaining wall systems up to and over 1500mm for both domestic and commercial applications in accordance with AS 4678 (Including Amendment 1)	Section 4
Hanson Building Products www.hanson.biz	Retaining wall systems to meet the requirements of AS 4678; Water-repellent masonry blocks; Concrete block systems, including insulated blocks and acoustic block systems, to meet the BCA requirements; Segmental pavers for roadways, driveways, gardens and pool surrounds to meet AS 3727 Residential pavements Energy Efficient Masonry Housing Systems	Sections 4,12
Lafarge Plasterboard Pty Ltd www.lafargeplasterboard.com.au	All boards produced by Lafarge Plasterboard are manufactured under a quality system certified as complying with ISO AS/NZS 9001:2000 by an accredited certification body.	Section 13
Magnetite – NSW www.magnetite.com.au	Secondary glazing system. Magnetic seal and insulating acrylic panel capable of reducing heat gain or loss through windows by up to 80% and noise by up to 70%.	Section 6
Master Builders Association www.mbansw.asn.au	Construction area safety signage.	Section 1
Nofire Technologies Australia www.nofire.net.au www.nofiretechnologies.com	A one part non-flammable water based intumescent coating similar in appearance to ordinary latex base paint which immediately foams and swells (intumesces) upon exposure to flame or heat, providing an effective insulation and heat shield to protect the subsurface.	Sections 7, 19
Raven Product Pty Ltd www.raven.com.au	Sealing Systems, for doors and windows, which are frequently multi-purpose, sealing against a combination of intrusions and leakages including sound (AS 1191), fire (intumescent) & smoke (to AS 1530.4 & AS/NZS 1905.1), rain, draughts, dust, embers, light insects, vermin, and energy inc. heating & air conditioning (to AS 4420.4, AS 4420.5, AS 2047, AS 1939, AS 1530.7)..	Sections 6, 18
Robert Bosch (Australia) Pty. Ltd. www.bosch.com.au	Commercial and domestic continuous flow gas hot water systems- Hydropower, Pilot & Electronic ignition, available in natural gas & LPG. All gas hot water systems compliant with AS 4552.	Section 5
Specialised Saftey Solutions www.specialisedsafetysolutions.com	Retractable door jamb system allowing conventional doors to be opened in opposite direction as a safety mechanism when the door is locked from the inside.	Section 6
Sunplus CPC Solar www.sunplusCPC.com.au	Commercial and domestic evacuated tube solar hot water system complying with AS 2712 Solar and heat pump water heaters – Design and construction.	Section 5
VELUX Australia Pty Ltd www.VELUX.com.au	Integrated solar hot water design tested and approved in accordance to Australian Standard AS2712,Sun Tunnels ,operable, curb mounted, and fixed skylights to AS4285, Venetian, pleated and Electric Blockout Blinds	Sections 5, 6

ELECTRONIC BLUEPRINT Section Up-date

Section 27 –Paving

Attached as an EDITABLE Word file in the attachments section of this PDF.

(See tabs at lower left-hand side of PDF; click on ATTACHMENTS)