



TEMPLATE FOR:
PERFORMANCE BASED DESIGN BRIEF (PBDB)
&
PERFORMANCE SOLUTION REPORT (PSR)
FOR

SPIRALWORKS 1300/12, 1500/14, 1800/16, 1900/16



1 NCC COMPLIANCE

Compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and the *Performance Requirements*. The Governing Requirements provide the rules and instructions for using and complying with the NCC.

Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken in accordance with A2.2(4):

1. Prepare a *Performance Based Design Brief (PBDB)* in consultation with relevant stakeholders, (see Section 2 of this document).
2. Carry out Analysis, using one or more of the *Assessment Methods* listed in A2.2(2), as proposed by the *PBDB*, (see Section 3 of this document).
3. Evaluate the results of the analysis against the acceptance criteria in the *PBDB* (see Section 4 of this document).
4. Prepare a final report, Performance Solution Report (PSR) (see Section 5 of this document).

2 Performance Based Design Brief (PBDB)

This PBDB has been prepared as a project specific document .

It is only applicable to the project named below as:

Project Name:	<insert text>
Project Address:	<insert text>

This PBDB addresses the requirements for *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* where this is the only performance element applicable to the project.

Spiralworks 1300/12, 1500/14, 1800/16, 1900/16 shall demonstrate conformance with the requirements of the PBDB as a *Performance Solution*.

Note: The *Performance Solution* for *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* includes compliance with both the relevant; *Performance Requirements & Deemed-to-Satisfy (D-t-S)* provisions.

This PBDB has been prepared on behalf of the project stakeholders by:

Author Name:	<insert text>
Registered Building Practitioner / Professional Engineer:	<insert text>
Company:	<insert text>
Email:	<insert text>
Phone:	<insert text>

2.1 Summary of Proposal

Spiralworks 1300/12, 1500/14, 1800/16, 1900/16 shall satisfy,

internal private stair / enclosed stairway / an external stairway requirements for the Project.

Project specific details applicable to the stairway are as follows:

Project:	
Project Specification:	<Document names>
Project Plans:	<Document names>
Applicable version of BCA: (E.g. NCC 2019(Amdt. 1), Vol.1 or 2)	<insert text>
Building Classification: (E.g. Class 1,2,3,4 or 10)	<insert text>
Design Actions (Treads) (E.g. AS/NZS 1170.1, T3.1, 2kPa, 2.7kN)	<insert text>
Tread Slip Resistance (E.g. AS 4586 P3 or R13)	
Design Actions (Barrier top- edge) (E.g. AS/NZS 1170.1, T3.3, 0.35kN/m, 0.6kN)	<insert text>

2.2 Stakeholders

Includes people, groups and organizations who have a role in the project development and construction.

Stakeholder	Representative	Role
Building owner or owner's representative	<insert text>	<insert text>
Builder or project manager	<insert text>	<insert text>
Architect	<insert text>	<insert text>
Engineers (structural, fire safety, civil etc.)	<insert text>	<insert text>
Trade practitioners	<insert text>	<insert text>
Appropriate approval authority, including building surveyors	<insert text>	<insert text>
Other relevant agencies related to	<insert text>	<insert text>

– health, environment, fire safety, infrastructure (water and sewerage)		
Representatives of any other relevant party.	<insert text>	<insert text>

2.3 Agreed Assessment Process

The *Performance Solution* for *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* shall demonstrate compliance with the Governing Requirements all relevant *Performance Requirements* by using the following *Assessment Methods* of NCC 2019(Amdt.1) Clause A2.2(2):

- A2.2(2)(a) Evidence of suitability in accordance with Part A5 that shows the use of a material, product, form of construction or design meets a *Performance Requirement*.
- A2.2(2)(c) Expert Judgement.
- A2.2(2)(d) Comparison with the Deemed-to-Satisfy Provisions.

Where the *Performance Solution* for *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* complies with a *Deemed-to-Satisfy provision* the following *Assessment Methods* of NCC 2019(Amdt.1) Clause A2.3(2) shall be:

- A2.3(2)(a) Evidence of suitability in accordance with Part A5 that shows the use of a material, product, form of construction or design meets a *Deemed-to-Satisfy Provision*.

On the basis of assessment in accordance with A2.2 and A2.3, the *Performance Solution* for *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* satisfies the relevant *Performance Requirements* and *Deemed-to-Satisfy Provisions* in accordance with A2.4 for a combination of solutions.

2.4 Agreed Acceptance Criteria

The agreed acceptance criteria for the *Performance Solution* of *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* includes the relevant *Performance Requirements* and *Deemed-to-Satisfy provisions* of NCC 2019(Amdt.1) identified in the agreed assessment process above.

Performance	Assessment Process	Acceptance Criteria
BP1.1, P2.1.1 Permanent, Imposed	A2.2(2)(a), A5.2(1)(e) A certificate or report from a professional engineer	- Strength and rigidity to resist design

		permanent and imposed actions.
DP2, P2.5.1 Safe Movement	A2.2(2)(a), A5.2(1)(e) A certificate or report from a professional engineer. A2.3(3)(a)(ii), A5.2(1)(d) A report issued by an accredited testing laboratory.	- Slip-resistant surfaces, suitable handrails, suitable for safe passage.
DP3, P2.5.2 Fall Prevention Barrier	A2.2(2)(a), A5.2(1)(e) A certificate or report from a professional engineer.	- Continuous barrier of sufficient height, strength and rigidity, opening limits.

2.5 Required Supporting Evidence and Documentation

As identified in the Agreed Acceptance Criteria, acceptable evidence of suitability to support the *performance solution* in accordance with Clauses A5.2 shall be comprised of:

- Complying certificate(s) or report(s) from a *professional engineer*.
- Complying other form(s) of documentary evidence, including *Spiralworks Installation Brochure, Spiralworks Information Factsheets*.

Performance	Evidence / Documentation	Prepared By:
BP1.1, P2.1.1 Permanent, Imposed	A5.2(1)(e) A certificate or report from a professional engineer.	Acronem Consulting Australia
DP2, P2.5.1 Safe Movement	A5.2(1)(e) A certificate or report from a professional engineer. A2.3(3)(a)(ii), A5.2(1)(d) A report issued by an accredited testing laboratory.	Acronem Consulting Australia ATTAR CSIRO
DP3, P2.5.2 Fall Prevention Barrier	A5.2(1)(e) A certificate or report from a professional engineer.	Acronem Consulting Australia
All the above	Installation Brochure	<i>Spiralworks</i>
<i>All the above</i>	<i>Information Fact Sheet 1300/12</i>	<i>Spiralworks</i>
<i>All the above</i>	<i>Information Fact Sheet 1500/14</i>	<i>Spiralworks</i>
<i>All the above</i>	<i>Information Fact Sheet 1800/16</i>	<i>Spiralworks</i>
<i>All the above</i>	<i>Information Fact Sheet 1900/16</i>	<i>Spiralworks</i>

2.6 Format and content of the Performance Solution Report (PSR)

The format of the PSR to be presented to the Stakeholders shall specifically address how each of the following PBDB requirements have been achieved:

- Agreed Assessment Process

- Agreed Acceptance Criteria
- Required Supporting Evidence

The body of the PSR will include reference to all *required supporting evidence and documentation* as listed in the PBDB.

Complete copies of all *required supporting evidence and documentation* will be appended to the PSR.

2.7 Acknowledgement of Participants

This PBDB has been prepared for the purpose of supporting the approval of an Occupancy Permit for the project. It has been produced with the participation of:

Stakeholder	Name	Signature/Date
Building owner or owner's representative	<insert text>	<insert text>
Builder or project manager	<insert text>	<insert text>
Architect	<insert text>	<insert text>
Engineers (structural, fire safety, civil etc.)	<insert text>	<insert text>
Trade practitioners	<insert text>	<insert text>
Appropriate approval authority, including building surveyors	<insert text>	<insert text>
Other relevant agencies related to – health, environment, fire safety, infrastructure (water and sewerage)	<insert text>	<insert text>
Representatives of any other relevant party.	<insert text>	<insert text>

2.8 Owners Consent

If the owner is not the applicant for the Occupancy Permit, the owner's consent is attached. Where applicable, the owner's consent is provided in writing and includes a statement that they agree with the Performance Solution method and understand this is the method of compliance being proposed in the PBDB.

3 CARRY OUT THE ANALYSIS

Spiralworks 1300/12, 1500/14, 1800/16, 1900/16 performance has been evaluated against the Governing Requirements and relevant *Performance Requirements* identified in accordance with the *Agreed Assessment Process* and listed in conjunction with the *Agreed Acceptance Criteria*.

The analysis has included a comparison of the *Required Supporting Evidence and Documentation* and project specific information included in the *Summary of Proposal* to verify the proposed *Performance Solution* meets NCC 2019(Amdt.1) performance requirements and is “fit for purpose”.

4 EVALUATE THE RESULTS

Results of the analysis of the performance of *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* compared to the *Agreed Acceptance Criteria* are included below.

Acceptance Criteria	Project Requirements (see <i>Summary of Proposal</i>)	System Performance (see <i>Required Supporting Evidence and Documentation</i>)
Strength and rigidity to resist design permanent and imposed actions.	<i>Design Actions =</i> <i>__ kPa, __ kN</i>	Imposed Actions ≤ 2kPa, 2.7kN.
Slip-resistant surfaces, suitable handrails, suitable for safe passage.	<i>Tread Slip Resistance __</i>	Surfaces: AS4586:2013 P3, R13. Handrail continuous & uninterrupted.
Continuous barrier of sufficient height, strength and rigidity, opening limits.	<i>Design Actions (top edge),</i> <i>__ kN/m, __ kN.</i>	Handrail 32mm dia., min. height 865mm. Balusters 19x19x1.6 steel @ max.125mm c/c spacing.

5 PERFORMANCE SOLUTION REPORT

The PSR demonstrates that *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* has been analysed & found to conform with the PBDB *agreed acceptance criteria*, and complies with the Governing Requirements all relevant *Performance Requirements* of NCC 2019(Amdt.1). The PERFORMANCE SOLUTION REPORT includes:

5.1 Overview of the PBDB

5.1.1 Scope of the Project

See section *Summary of Proposal* above.

5.1.2 Relevant Stakeholders

See section *Stakeholders* above.

5.1.3 Approaches and methods of analysis

See section *Agreed Assessment Process* above.

5.1.4 Applicable NCC Performance Requirements

See section *Agreed Acceptance Criteria* above.

5.1.5 Any assumptions that were made

As required.

5.1.6 Acceptance criteria and safety factors agreed to by stakeholders

See section *Agreed Acceptance Criteria* above.

Factors of Safety include those prescribed by the relevant Australian Standards including AS/NZS 1170 series for structural elements, and others as defined by the stakeholders in determining the project specific information contained in section *Summary of Proposal* above.

5.2 Overview and outline of the analysis, modelling and/or testing carried out

5.2.1 Method of analysis used

See section *Carry out the Analysis* above.

5.3 Evaluation of results including:

5.3.1 Comparison of results with acceptance criteria

See section *Collate and Evaluate Results* above.

5.4 Conclusion

5.4.1 Specifications of the final design that are deemed to be acceptable

See *Summary of Proposal, Agreed Acceptance Criteria*, and comparison with supporting *Evidence /Documentation*.

5.4.2 The NCC Performance Requirements that were met

See section *Agreed Acceptance Criteria* which lists relevant *Performance Requirements & Deemed-to-Satisfy provisions* of NCC 2019(Amdt.1) identified in the agreed assessment process.

5.4.3 All limitations to the design and any conditions of use

For the purposes of this PSR, the specific limitations of use applying to *Spiralworks 1300/12, 1500/14, 1800/16, 1900/16* include;

1. Those relating to design, installation & maintenance in accordance with the instructions, limitations, conditions and validity requirements of the referenced documentation.
2. This PSR does not deal with materials safety, site safety, or safe work practices in any form and should be considered in conjunction with a suitable Safety Data Sheets.
3. This PSR does not deal with the quality assurance aspects of the manufacturing and construction process and should be considered in conjunction with the necessary safety analyses.

4. This PSR is based on the test reports and other documentation as referenced. Whilst the responsibility for the accuracy and applicability of these documents remains with their authors, I am of the opinion that such documentation has been prepared on a sound basis.
5. This report covers only those matters and products listed and should not be interpreted as covering any other matter or product.

I certify that the performance solution referred to above complies with the performance requirements listed.

I believe that I hold the required skills, experience, and knowledge to issue this certificate and can demonstrate this if requested to do so.

EITHER:

Consulting Building Surveyor

Name:

Address:

Email:

Building practitioner registration category and class:

Building practitioner registration no.:

OR

Professional Engineer

Registered name:

Registration number:

Date registered:

Registration status: Current

Registration expiry date:

Registration practising status: Practising

Registration conditions: None

Area of building industry endorsement:

Date of issue: *<insert text>*

Signature: *<insert text>*