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STRUCTURAL CERTIFICATION OF ABSCO PRODUCT RANGE

We refer to above matter. We hereby certify that the range of ABSCO products indicated on the drawings listed below are structurally satisfactory in accordance with the Australian Standards outlined in the Design Certificate Criteria section of this certificate.

DOCUMENTS ATTACHED (as built drawings or latest amendments)

Drawing Nos: This certificate covers the full range of ABSCO products as outlined on the following drawings:

NJA Consulting Pty Ltd Drawings:

Carports:	Drawings: **06205-003-CP01, CP02A, CP3 to CP06, CP07A, CP08, CP09**
Awnings	Drawings: **06205-003-AW01A, AW02A, AW05**
Garages	Drawings: **06205-003-GR01A, GR02A, GR03B to GR11B, GR12A, GR13B, GR14A, GR15B**
Connections	Drawings: **06205-003-CN01**

Other Related Documents:

1. PI INSURANCE CERTIFICATE (attached)

DESIGN CERTIFICATE CRITERIA

The structural design for the range of ABSCO kit-form buildings has been undertaken in accordance with the following design conditions.

- Building Code of Australia – Volume 2 (2016) – Class 1 and Class 10 Buildings
- AS1170.0-2002 - Structural design actions Part 0 General Principles
- AS1170.1-2002 - Structural design actions Part 1 Permanent, imposed and other actions
- AS1170.1-2011 - Structural design actions Part 2 Wind Actions
- AS1170.3-2003 - Snow Loads
- AS3600 - 2009 - Concrete Structures
- AS4100 - 1998 - Steel Structures
- AS4055 - 2012- Wind loads for Housing
- AS4600 - 2005 - Cold-formed Steel Structures
- AS2870 - 2011 - Residential Slabs and Footings – Construction.
- Ramset - Specifiers Resource Book
- Buildex Fasteners - Technical Specification
- Low-High-Low testing of cyclonic area roof sheeting by University of Adelaide.

Class of Building (BCA) : 10a
Building Importance Level: (BCA Table B1.2a): 2
Annual Probability of Exceedance for wind: 1 in 500

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COMMENTS / EXCLUSIONS (Exclusions to this Certificate must be clearly identified).

- This certificate relates to the structural aspects of the building only.
- The slab and footings nominated on the drawings are suitable for class A, S, M & H site classifications (awnings, garden sheds and carports), class A, S & M site classifications (garages) in accordance with AS2870. The applicant shall seek advice from a local building practitioner should the site classification fall outside of this range ie class H, E and P sites. The founding material shall have a minimum safe bearing capacity of 75kPa.
- The building shall be constructed in accordance with the design drawings and ABSCO assembly manuals. NJA accept no responsibility whatsoever for the performance of structures not constructed strictly in accordance with these documents.
- The structures are designed to sustain the wind loads nominated on the drawing for Group 1, Group 2 and Group 3 wind loadings. The site wind classification shall be derived in accordance with AS4055. Structural wind loads have been derived using AS1170.2-2011.

The following criteria are applicable to structure wind loads:

Structure Importance Level: **2**
Annual probability of exceedance: **1:500**
Topographic Classification: **T0 and T1 (ref AS4055) generally flat site with ground slope up to 1 in 10**
Internal Pressure Coefficients
N2, N3 garages: **+0.2, -0.3 (non-cyclonic)**
C1 garages: **+0.7, -0.3 (cyclonic)**
Garden Sheds: **0.0, -0.2 (all regions)**

Garden sheds are considered to be effectively sealed during major wind events. Roller doors are excluded from certification, and are assumed to have blown in during cyclonic wind events.

The structures are rated to meet the wind classifications nominated on the plans. The onus is on the building certifier or local authority to ensure that the wind classification relevant to the intended siting of the ABSCO product does not exceed the product's individual wind rating. The site wind classification shall be determined in accordance with AS4055 Table 1 for topographic classification T0 or T1, for the relevant wind region. **NJA Consulting will not be providing site specific wind data as part of this certification. Should the certifier require site specific wind data, then they shall refer the applicant to a suitably qualified local building practitioner.**

- All glazed windows and doors to be designed and certified by window manufacturer. The glazing shall be designed to the Wind Classification System specified above, as defined in AS4055-1992. The glazing manufacturer shall satisfy the requirements of AS2047 for the specified Wind Classification System. The wind classification system has been determined on the basis of the following additional assumptions:-
- Flat site. Where the site is not generally flat (i.e. average slope steeper than 1:10), advise the certifying engineer for a possible reclassification of the glazing requirements.

- This certificate shall not be construed as relieving any party of their contractual responsibilities.

- NJA have prepared a range of engineering drawings for ABSCO garden sheds, GS01 to GS16 inclusive. These drawings nominate the maximum size garden shed structure, in length, width, and height permissible for each shed design. NJA acknowledge that for each garden shed design, as detailed on engineering plans GS01 to GS16 inclusive, that garden shed structures smaller in size are acceptable, providing that all structural elements are fully adhered to, including internal steel framework, which can be proportionately reduced in size and spacing, in accordance with the reduced garden shed size.

Yours faithfully

Darren McDonald B.E. (Civil) RPEQ
Senior Structural Engineer - Director
For an on behalf of NJA Consulting Pty Ltd