Fire Safety Statement

The following Planning Fire Safety Statement is to accompany a planning application which is to provide a replacement external storage unit at Teddington Memorial Hospital, reference No. 23/0148/FUL. It has been drawn up in accordance with Fire Safety D12(A) London Plan Guidance

Contents

Forward - Reference Legislation

Section 1 – Introduction

Section 2 – Detailed design guidance

Section 3 – Means of Warning and Escape

Section 4 – Internal & External Fire Spread

Section 5 – Access for the Fire and Rescue service

Forward—Reference Legislation

A brief report on the fire strategy design intent of the building plan layout. Reference document - The Building Regulations Approved Document Part B Fire safety.

Section 1 - Introduction

It is the intention of the guidance to address both the life safety needs and the property protection needs at the same time. This dual role allows designers to tailor the strategy to the location, use and risks identified.

Section 2– Detailed design guidance

2.1 Places of Special Fire Hazard
The proposal is limited in size and therefore does not include places of special fire hazard within the layout.
2.2 Fire Detection and Alarm Systems.
The building is proposed not to be sprinklered. Passive fire detection is in place.
The building is below the scale necessary to merit or require the provision

The building is below the scale necessary to merit or require the provision of any internal firefighting facilities

2.3 Fire Doors

The doors are 30 minute fire doors.

Section 3– Means of warning and escape

3.1 Alternative means of escape.Given the size and use of the building, no alternative exits are required.3.2.Number of escape routes

The number of escape routes and exits to be provided depends on the number of occupants in the room. It is only the distance to the nearest exit that should be so limited. Any other exit may be further away than the distances in table 1. Evacuation is simultaneous.

N/A – this is not a habitable room therefore there will be no occupants.

3.3 Protection of escape routes

Fire spread within a building must not compromise the use of dedicated escape routes. Such routes are protected by elements of construction that satisfy the appropriate criteria of the fire resistance test. The Portakabin building provides 30 minutes wall fire resistance measured inside to outside. N/A – this is a single room.

Section 4 - Internal & External fire spread

4.1 Surfaces

The wall surface gives 30 minutes fire resistance.

4.2 Relevant boundary

The life safety and property protection elements have been considered with relevant separation between buildings as well as life safety to satisfy Building Regulations.

The Portakabin plastisol external wall finish provides Class O surface spread of flame.

External windows will be fire rated.

4.3 Roof coverings

Designation of roof covering on a Portakabin building is Class O. PORTAKABIN SOLUS BBA Certificate attached.

Section 5– Access for the Fire and Rescue service.

Access to be provided for a pump appliance to either (a) 15% of the perimeter, or (b) within 45m of every point on the projected plan area of the building whichever is the less onerous.

5.1 Firefighting shaft

Building does not exceed 900m² floor area at more than 7.5m high. Therefore, no firefighting shafts are required.

Portakabin Ltd

New Lane Huntington York YO32 9PT

Tel: 01904 611655 Fax: 01904 611644

e-mail: solutions@portakabin.com

website: www.portakabin.com

PORTAKABIN BUILDING SYSTEMS

PORTAKABIN SOLUS BUILDINGS

This Agrément Certificate product sheet⁽¹⁾ relates to Portakabin Solus Buildings, which are self-contained, relocatable and factory finished. They can be used as single-, two- or three-storey office and similar accommodation. In all cases the buildings can be in single or multiple configurations.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- · factors relating to compliance with Building Regulations where applicable
- · factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- · assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Strength and stability — structural testing has been used to verify the relevant aspects of the design outside the scope of the codes, including resistance of panels to racking, fastening characteristics and interaction of components (see section 6).

Behaviour in relation to fire — it can be shown by tests and assessment that the buildings will satisfy Building Regulations' requirements for fire rating (see section 7).

Thermal performance — the buildings are exempt from Regulations relating to carbon emissions and minimum fabric performance (see section 8).

Weathertightness and damp-proofing — the steel supporting columns raise the building clear of the ground, giving the buildings an inherent resistance to ground moisture (see section 11).

Durability — the steel structure has a design life of 60 years, and the external envelope and internal finishes have a design life of between 25 and 60 years (see section 14).

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 24 June 2019

Originally certificated on 30 November 1994

Paul Valentine **Technical Excellence Director**

The BBA is a UKAS accredited certification body – Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct. Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément Bucknalls Lane Watford Herts WD25 9BA



tel: 01923 665300 clientservices@bbacerts.co.uk www.bbacerts.co.uk

Cleure Curtus. Thomas **Claire Curtis-Thomas**

Chief Executive





03/S033

Product Sheet 1



Page 1 of 12

Regulations

In the opinion of the BBA, Portakabin Solus Buildings, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the regions of the UK depicted):

	The Building Regulations 2010 (England and Wales) (as amended)			
Requirement:	A1	Loading		
Comment:	~1	The buildings will have adequate strength and stability. See section 6 of this Certificate.		
Requirement Comment:	A3	Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.		
Requirement: Requirement: Requirement: Comment:	B2 B3 B4	Internal fire spread (linings) Internal fire spread (structure) External fire spread The buildings will satisfy the relevant Requirements within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.		
Requirement: Comment:	C2(a)(b)(c)	Resistance to moisture The buildings are acceptable. See sections 9 and 11 of this Certificate.		
Requirement: Comment:	H3(1)	Rainwater drainage The buildings will satisfy the relevant Requirements, within the limitations set out in this Certificate, with reference to section 11.5 of this Certificate.		
Regulation: Regulation: Comment:	7 7(1)	Materials and workmanship (applicable to Wales only) Materials and workmanship (applicable to England only) The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate.		
E.	The Build	ling (Scotland) Regulations 2004 (as amended)		
Regulation: Comment:	8(1)(2)	Durability, workmanship and fitness of materials The buildings are acceptable. See sections 13.1, 13.2 and 14 and the <i>Installation</i> part of this Certificate.		
Regulation:	9	Building standards applicable to construction		
Standard:	1.1(a)(b)	Structure		
Comment:		The buildings will have adequate strength and stability. See section 6 of this Certificate.		
Standard: Comment:	1.2	Disproportionate collapse The buildings will have adequate strength and stability, with reference to clause 1.1.1		
		of these Standards. See section 6 of this Certificate.		
Standard:	2.1	of these Standards. See section 6 of this Certificate.		
Standard: Standard:	2.1 2.2	of these Standards. See section 6 of this Certificate.		
	2.1 2.2 2.3	of these Standards. See section 6 of this Certificate.		
Standard:	2.2	of these Standards. See section 6 of this Certificate. Compartmentation Separation		
Standard: Standard:	2.2 2.3	of these Standards. See section 6 of this Certificate. Compartmentation Separation Structural protection		
Standard: Standard: Standard:	2.2 2.3 2.4	of these Standards. See section 6 of this Certificate. Compartmentation Separation Structural protection Cavities		
Standard: Standard: Standard: Standard:	2.2 2.3 2.4 2.5	of these Standards. See section 6 of this Certificate. Compartmentation Separation Structural protection Cavities Internal linings		
Standard: Standard: Standard: Standard: Standard:	2.2 2.3 2.4 2.5 2.6	of these Standards. See section 6 of this Certificate. Compartmentation Separation Structural protection Cavities Internal linings Spread to neighbouring buildings		

Standard: 3.4 Moisture from the ground Standard: 3.6(b) Surface water drainage Standard: 3.10 Precipitation Standard: 3.15 Condensation Comment: The buildings are acceptable. See sections 9 and 11 of this Certificate. Standard: 6.2 Building insulation envelope Comment: 7(a)(b) Statement of sustainability a defined in this Standard. In addition, the systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. Missional The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. <					
Standard: 3.10 Precipitation Standard: 3.15 Condensation Comment: The buildings are acceptable. See sections 9 and 11 of this Certificate. Standard: 6.2 Building insulation envelope Comment: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability adefined in this Standard. In addition, the systems can contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In Addition, the systems can contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In Addition, the systems can contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In Addition, the systems can contribute to a construction meeting a bronze level of sustainability. See section 10 and 7.1.7 ⁽²⁾ [Aspect 1 ⁽²⁾]. See section 8 of this Certificate. Regulation: Z3 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 11 of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: The buildings	Standard:	3.4	Moisture from the ground		
Standard: 3.15 Condensation Comment: 3.15 Condensation Standard: 6.2 Building insulation envelope Comment: The buildings are acceptable. See section 8 of this Certificate. Standard: 7(a)(b) Statement of sustainability Comment: The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ^(a) (Aspects 1 ⁽¹⁾), 7.1.6 ⁽¹⁾ [Aspects 1 ⁽¹⁾] and 7.1.7 ⁽²⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic). The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability Comment: The buildings will have adequate s	Standard:	3.6(b)	-		
Standard: 3.15 Condensation Comment: 3.15 Condensation Standard: 6.2 Building insulation envelope Comment: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability a defined in this Standard. In addition, the systems can contribute to a construction meeting a bipser level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ^(a) (Aspects 1 ^(b)), 7.1.6 ^(b) (Aspects 1 ^(b)) and 7.1.7 ^(b) (Aspect 1 ^(b)). See section 8 of this Certificate. Regulation: 23 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability Comment: The buildings are acceptable. See section 9 of this Certificate. Regulation: 31 Disproportionate collapse <tr< td=""><td>Standard:</td><td>3.10</td><td colspan="3">-</td></tr<>	Standard:	3.10	-		
Comment: The buildings are acceptable. See sections 9 and 11 of this Certificate. Standard: 6.2 Building insulation envelope The buildings are acceptable. See section 8 of this Certificate. Standard: 7(a)(b) Statement of sustainability The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁴⁰ (Aspects 1 ⁴¹), 7.1.6 ⁴¹ (Aspects 1 ¹⁰) and 7.1.7 ¹⁰ (Aspect 1 ¹⁰). See section 8 of this Certificate. Fitness of materials and workmanship Comment: The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability The buildings are acceptable. See section 9 of this Certificate. Regulation: 31 Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 35 Internal fire spread — Linings Internal fire spread — Structure Regulation: 34(a)(b) Staterinal fire spread <td>Standard:</td> <td></td> <td colspan="3">•</td>	Standard:		•		
Standard: Comment: 6.2 Building insulation envelope The buildings are acceptable. See section 8 of this Certificate. Standard: Comment: 7(a)(b) Statement of sustainability The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a brigher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽²⁾ [Aspects 1 ⁽²⁾], 7.1.6 ⁽²⁾ [Aspects 1 ⁽²⁾] and 7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. Wilding Regulations Comment: The Building Regulations (Northern Ireland) 2012 (as amended) Regulation : Comment: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation : Comment: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 9 of this Certificate. Regulation : Comment: 30 Stability The buildings are acceptable. See section 9 of this Certificate. Regulation : adiations: Comment: 31 Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation : adia(b) Internal fire spread — Linings Internal fire spread — Structure Se(a)(b) Regulation : a					
Comment: The buildings are acceptable. See section 8 of this Certificate. Standard: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability a defined in this Standard. In addition, the systems can contribute to a construction meeting a bipher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ^(D) [Aspects 1 ^(D)], 7.1.6 ^(D) [Aspects 1 ^(D)] and 7.1.7 ^(D) [Aspect 1 ^(D)]. See section 8 of this Certificate. With Pressure 1 The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 10 of this Certificate. Regulation: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 34(a)(b) Internal fire spread — Linings Internal fire spread — Structure The buildings will satisfy the relevant Regulations, within the limitations set out in this Ce					
Comment: The buildings are acceptable. See section 8 of this Certificate. Standard: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability Comment: 7(a)(b) Statement of sustainability a defined in this Standard. In addition, the systems can contribute to a construction meeting a bipher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ^(D) [Aspects 1 ^(D)], 7.1.6 ^(D) [Aspects 1 ^(D)] and 7.1.7 ^(D) [Aspect 1 ^(D)]. See section 8 of this Certificate. With Pressure 1 The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 10 of this Certificate. Regulation: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 34(a)(b) Internal fire spread — Linings Internal fire spread — Structure The buildings will satisfy the relevant Regulations, within the limitations set out in this Ce	Standard	6.2	Building insulation envelope		
Standard: Comment: 7(a)(b) Statement of sustainability The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾ [Aspects 1 ⁽¹⁾], 7.1.6 ⁽¹⁾ [Aspects 1 ⁽¹⁾] and 7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic). Weylet The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Regulation: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability Comment: Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: Comment: 31 Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: Comment: 34(a)(b) Internal fire spread — Linings Internal fire spread — Structure Regulation: 35 (6(a)(b)		0.2	-		
Comment: The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. Regulation: 21 Fitness of materials and workmanship Comment: The Buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability Comment: 31 Disproportionate collapse Comment: 34(a)(b)	comment.		The buildings are acceptable. See section o of this certificate.		
Comment: The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. Regulation: 21 Fitness of materials and workmanship Comment: The Buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability Comment: 31 Disproportionate collapse Comment: 34(a)(b)	Standard	7(a)(b)	Statement of custainability		
Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard. In addition part of systems can contribute to a construction meeting a higher level of sustainability. See section 11 of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate. Regulation: 30 Stability Comment: Comment: 31 Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation:		7(a)(b)			
level of sustainability as defined in this Standard. In addition, the systems can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾ [Aspects 1 ⁽¹⁾], 7.1.6 ⁽¹⁾ [Aspects 1 ⁽¹⁾] and 7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic).Freegulation:Case Section 8 of this Certificate. Section 8 of this Certificate.Regulation:Case Section 9 of this Certificate.Comment:Case Section 14 and the Installation part of this Certificate.Regulation:Case Section 14 and the Installation part of this Certificate.Regulation:Case Section 14 and the Installation part of this Certificate.Regulation:Case Section 14 and the Installation part of this Certificate.Regulation:Condensation The buildings are acceptable. See section 11 of this Certificate.Regulation:Stability The buildings are acceptable. See section 9 of this Certificate.Regulation:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:35Internal fire spread — Linings The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:35(a)(b)External fire spread — Structure The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drain	Comment:				
contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹¹⁾ [Aspects 1 ⁽¹¹⁾], 7.1.6 ⁽¹¹⁾ [Aspects 1 ⁽¹¹⁾] and 7.1.7 ⁽¹¹ [Aspect 1 ⁽¹¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic).The Building Regulations (Northern Ireland) 2012 (as amended)Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the <i>Installation</i> part of this Certificate.Regulation: Comment:28(a)(b)Regulation: Comment:29Condensation Comment:29Condensation The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:30Stability Comment:30Stability Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: 3534(a)(b)Internal fire spread — Linings Regulation: 3511 ternal fire spread — Linings The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: Balaion: Balaion: Balaion:34(a)(b)Regulation: Balaion: Comment:34(a)(b)Regulation: Balaion: <b< td=""><td></td><td></td><td>-</td></b<>			-		
Standard, with reference to clauses 7.1.4 ⁽¹⁾ [Aspects 1 ⁽¹⁾], 7.1.6 ⁽¹⁾ [Aspects 1 ⁽¹⁾] and 7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic). The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 14 and the Installation part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather Comment: The buildings are acceptable. See section 11 of this Certificate. Regulation: 29 Condensation The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 30 Stability The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 31 Disproportionate collapse Comment: 35 Internal fire spread — Linings Regulation: 35 Internal fire spread — Structure Regulation: 36(a)(b) External fire spread Comment: The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.					
7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 8 of this Certificate. (1) Technical Handbook (Non-Domestic). The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship Comment: The buildings are acceptable. See section 14 and the Installation part of this Certificate. Regulation: Condensation Comment: The buildings are acceptable. See section 11 of this Certificate. Regulation: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 31 Obsproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 34(a)(b) Internal fire spread — Linings Regulation: 35 Stability Comment: The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. Regulation:					
(1) Technical Handbook (Non-Domestic). The Building Regulations (Northern Ireland) 2012 (as amended) Regulation: 23 Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate. Regulation: 28(a)(b) Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate. Regulation: 29 Condensation The buildings are acceptable. See section 9 of this Certificate. Regulation: 30 Stability The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 31 Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate. Regulation: 35 Internal fire spread - Linings Regulation: Stability See section 6 of this Certificate. Regulation: 35 Internal fire spread - Structure Regulation: Stability See section 6 of this Certificate. Regulation: 35 Internal fire spread - Structure The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate. Regulation: 82(a)(b) Rainwater drainage					
The Building Regulations (Northern Ireland) 2012 (as amended)Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: 3534(a)(b)Internal fire spread — Linings Internal fire spread — Structure Regulation: 36(a)(b)Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: 82(a)(b)Rainwater drainage			7.1.7 ⁽¹⁾ [Aspect $1^{(1)}$]. See section 8 of this Certificate.		
The Building Regulations (Northern Ireland) 2012 (as amended)Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: 3534(a)(b)Internal fire spread — Linings Internal fire spread — Structure Regulation: 36(a)(b)Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: 82(a)(b)Rainwater drainage					
Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Comment:34(a)(b)Internal fire spread - Linings External fire spread - Structure External fire spread - Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.Regulation: Regulation: Sequiption:S2(a)(b)Rainwater drainage			(1) Technical Handbook (Non-Domestic).		
Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: 3534(a)(b)Internal fire spread - Linings External fire spread - Structure External fire spreadRegulation: Regulation: 36(a)(b)36(a)(b)Rainwater drainage	13				
Regulation: Comment:23Fitness of materials and workmanship The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Comment:34(a)(b)Internal fire spread - Linings External fire spread - Structure External fire spread - Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.Regulation: Regulation: Sequiption:S2(a)(b)Rainwater drainage	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	The Buil	ding Regulations (Northern Ireland) 2012 (as amended)		
Comment:The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: S2(a)(b)82(a)(b)Rainwater drainage	253				
Comment:The buildings are acceptable. See section 14 and the Installation part of this Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: S2(a)(b)82(a)(b)Rainwater drainage	Pogulation:	22	Eitness of materials and workmanshin		
Certificate.Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: 3534(a)(b) 35Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: 82(a)(b)82(a)(b)Rainwater drainage	-	23	-		
Regulation: Comment:28(a)(b)Resistance to moisture and weather The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: S2(a)(b)82(a)(b)Rainwater drainage	comment.				
Comment:The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29 The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b) 35 Sinternal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: B2(a)(b)82(a)(b)Rainwater drainage			Certificate.		
Comment:The buildings are acceptable. See section 11 of this Certificate.Regulation: Comment:29 The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31 The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Begulation: Comment:34(a)(b) 35 Sig(a)(b)Internal fire spread — Linings Internal fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: B2(a)(b)82(a)(b)Rainwater drainage	Pogulation	29(a)(h)	Periotence to mainture and weather		
Regulation: Comment:29Condensation The buildings are acceptable. See section 9 of this Certificate.Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: Comment:82(a)(b)Rainwater drainage	-	20(a)(b)			
Comment:The buildings are acceptable. See section 9 of this Certificate.Regulation:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread Comment:Regulation:35 36(a)(b)Internal fire spread External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.Regulation:82(a)(b)Rainwater drainage	comment:		The buildings are acceptable. See section 11 of this certificate.		
Comment:The buildings are acceptable. See section 9 of this Certificate.Regulation:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread Comment:Regulation:35 36(a)(b)Internal fire spread External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.Regulation:82(a)(b)Rainwater drainage	Descriptions	20	Conduced to a		
Regulation: Comment:30Stability The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate.Regulation: Regulation: Comment:82(a)(b)Rainwater drainage	-	29			
Comment:The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b) 35 36(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation:82(a)(b)Rainwater drainage	Comment:		The buildings are acceptable. See section 9 of this Certificate.		
Comment:The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b) 35 36(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation:82(a)(b)Rainwater drainage					
Regulation: Comment:31Disproportionate collapse The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation: Regulation: Regulation: Comment:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation: Regulation: Comment:82(a)(b)Rainwater drainage	-	30	•		
Comment:The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	Comment:		The buildings will have adequate strength and stability. See section 6 of this Certificate.		
Comment:The buildings will have adequate strength and stability. See section 6 of this Certificate.Regulation:34(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage					
Regulation: Regulation: Regulation: Comment:34(a)(b) 35 36(a)(b)Internal fire spread — Linings Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	Regulation:	31	Disproportionate collapse		
Regulation: Regulation:35 36(a)(b)Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	Comment:		The buildings will have adequate strength and stability. See section 6 of this Certificate.		
Regulation: Regulation:35 36(a)(b)Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage					
Regulation: Regulation:35 36(a)(b)Internal fire spread — Structure External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	Regulation:	34(a)(b)	Internal fire spread — Linings		
Regulation: Comment:36(a)(b)External fire spread The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	Regulation:	35	Internal fire spread — Structure		
Comment:The buildings will satisfy the relevant Regulations, within the limitations set out in this Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	-	36(a)(b)	•		
Certificate. See sections 7.1 to 7.4 of this Certificate.Regulation:82(a)(b)Rainwater drainage	-				
Regulation: 82(a)(b) Rainwater drainage					
	Regulation	82(a)(b)	Rainwater drainage		
	-	02(d)(D)	-		
	connient.				
Certificate. See section 11.5 of this Certificate.					

Construction (Design and Management) Regulations 2015 Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.2) of this Certificate.

Technical Specification

1 Description

1.1 Portakabin Solus Buildings are based on a structural steel framework and composite wall panels (see Figure 1).

1.2 The buildings are available in the range of sizes given in Table 1. The internal height is 2.3 m.

1.3 The full specification and drawings for the materials and components covered by this Certificate have been examined and are retained by the BBA. This section gives only general details of the system. Typical details are shown in Figure 2.

1.4 This assessment does not cover staircases, windows, doorsets, fittings and raised access to floors or adequacy of the plumbing, drainage and electrical services supplied with the building.

Structural frame

1.5 The steel frame for each building comprises four steel hollow section Lodastrut legs, bolted to cold-formed galvanized steel side beams, with lifting points for crane handling at the top of each Lodastrut leg or a patented lifting arrangement permitting crane connection without the need for the operative to leave the ground. Cold-formed galvanized steel floor joists are mechanically fixed to the side beams. Cold-formed galvanized steel roof joists span each building from side to side. Longitudinal steel floor runners are mechanically fixed to the steel floor joists to assist in the transportation of the module.

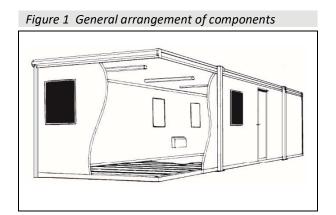
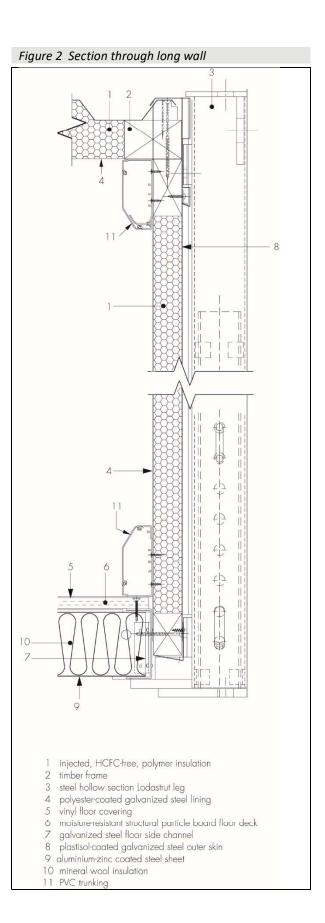


Table 1 Size range				
Туре	Internal length (m)	Internal width (m)	Floor area (m²)	
SL 031	2.808	2.592	7.28	
SL 051	4.808	2.592	12.46	
SL 062	5.808	2.958	17.18	
SL 071	7.208	2.592	18.68	
SL 072	7.208	2.958	21.32	
SL 082	8.408	2.958	24.87	
SL 102	10.008	2.958	29.60	
SL 122	12.008	2.958	35.52	



Floors

1.6 Floors comprise an 18 mm thick, moisture-resistant, structural particle board Type P5 to BS EN 312 : 2010, bonded and fixed to the galvanized steel joists with adhesive and zinc-coated screws.

1.7 The floor is underdrawn with lightly profiled aluminium-zinc coated steel sheet to BS EN 10346 : 2015, bonded and fixed to the joists and side channels with adhesive and zinc-coated screws.

1.8 Thermal insulation is provided by a layer of mineral wool insulation laid on top of the floor underdrawing and packed full length between the floor frame sections. Alternatively, rigid polyurethane recycled from the wall manufacturing process will be used when available, providing the same level of thermal insulation.

External walls

1.9 External walls are of composite construction, with an external skin of plastisol-coated galvanized steel sheet, timber studs and peripheral frame, and an internal lining of 0.6 mm thick polyester-coated galvanized steel. The void between the external skin and internal lining is filled with injected, HCFC-free polymer insulation. The overall wall thickness is 48 mm.

1.10 Walls are fixed to the steel frame at floor level using zinc-plated self-drilling screws into the floor frame, and at the wall-to-wall corner joint and roof level using zinc-plated wood screws.

Roof and ceiling

1.11 The roof is of composite construction, with an external profiled (trapezoidal) skin of plastisol-coated galvanized steel sheet, rigid polymer inserts, timber peripheral frame, cold-formed steel joists and a ceiling of polyester-coated galvanized steel. The void between the external skin and ceiling is filled with injected HCFC-free polymer insulation.

Protection of steelwork against corrosion

1.12 The side beams and joists are produced from galvanized steel sheet to BS EN 10346 : 2015, with a Z450 coating.

1.13 The Lodastrut legs are shot-blasted, coated with anti-corrosive primer and finished with a goosewing-grey gloss paint. Adjustable inner legs and feet are hot-dip galvanized.

1.14 The external skin of the building is protected by a 200 μ m coating of PVC plastisol applied over a Z275 zinc coating to BS EN 10346 : 2015.

Finishes

1.15 The external faces of wall panels have a plastisol coating, goosewing grey in colour with a leathergrain finish.

1.16 The external face of the roof panel has a plastisol coating, white in colour with a leathergrain finish.

1.17 The ceiling and internal walls have a polyester finish, silk white in colour.

1.18 The Lodastrut legs have a goosewing grey finish.

1.19 The fascias and corner trims have a plastisol coating, goosewing-grey in colour and with a leathergrain finish.

1.20 The bottom wall trims have a plastisol coating, goosewing-grey in colour and with a leathergrain finish.

1.21 In some applications and where water will be present, vinyl flooring is provided with welded joints and sealed upstands at floor/wall interfaces. The vinyl floor covering is specified to BS EN ISO 10581 : 2013 and is classified 23, 24 and 35 in accordance with BS EN ISO 10874 : 2012 and G5ws in accordance with MOAT No 36 : 1987.

2 Manufacture

2.1 Building materials are bought-in materials, and components are to agreed specifications or in accordance with British Standards or BBA Certificates.

2.2 Steel-framed components of the building are constructed using conventional metalworking techniques.

2.3 Quality checks are made on the sub-assemblies, such as wall and roof panels and the steel frame, and on the final assembly of the building. Quality control carried out during manufacture includes checks on dimensions, squareness and welding.

2.4 The management systems of Portakabin Ltd have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by SGS United Kingdom Limited Systems and Services Certification (Certificate GB 91/444).

2.5 The Certificate holder's environmental management system for the offices and manufacturing plant has been assessed and registered as meeting the requirements of BS EN ISO 14001 : 2015 by the BSI (Certificate EMS 515280).

2.6 The Certificate holder also has Occupational Health and Safety Management System certification (OHSAS 18001 : 2007).

3 Delivery and site handling

3.1 The buildings are transported to site on a flat-bed lorry or trailer.

3.2 The buildings can be unloaded using either the Lodastrut legs or by crane. Handling must be in accordance with the instructions given in the manufacturer's handbook.

3.3 The buildings are normally positioned on the day of delivery, which removes the need for site storage.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Portakabin Solus Buildings.

Design Considerations

4 Use

Portakabin Solus Buildings are satisfactory for use as single storey, or two- and three-storey, office and similar accommodation in single or multiple configurations.

5 Practicability of installation

The Certificate holder is responsible for delivery and installation.

6 Strength and stability



6.1 With certain exceptions described in this section, the design of the Portakabin Solus Building is in accordance with:

- BS 6767-1 : 1999
- BS EN 1991-1-1 : 2002
- BS EN 1991-1-3 : 2003
- BS EN 1991-1-4 : 2005
- BS EN 1991-1-7 : 2006
- BS EN 1993-1-1 : 2005
- BS EN 1993-1-3 : 2006
- BS EN 1995-1-1 : 2004.

6.2 Where required, structural testing has been used to verify the relevant aspects of the design outside the scope of the codes, including resistance of panels to racking, fastening characteristics and interaction of components.

6.3 One-, two- or three-storey buildings will have adequate resistance to wind loads in areas within the 25 ms⁻¹ basic wind contour in accordance with BS EN 1991-1-4 : 2005. Three-storey buildings must be side-to-side linked or braced to an existing structure in agreement with the Certificate holder. Professional advice should be sought to ensure the adequacy of the existing structure.

6.4 The roof is designed to support a uniformly distributed imposed load of 0.75 kNm⁻² or a concentrated load of 0.9 kN, in accordance with BS EN 1991-1-1 : 2002 and BS EN 1991-1-7 : 2006, and therefore is acceptable where access is not provided, other than that necessary for cleaning or repair.

6.5 The floor is designed to support a uniformly distributed imposed load of 3 kNm⁻² or a concentrated load of 2.7 kN, in accordance with BS EN 1991-1-1 : 2002 and BS EN 1991-1-7 : 2006, and therefore is acceptable, for example, in classrooms and offices for general use.

7 Behaviour in relation to fire



7.1 The reaction to fire classification for the following building system elements is Class 0/'low risk', in accordance with national Building Regulations:

- plastisol-coated steel external wall, roof and trim surfaces
- internal wall surfaces
- polyester-coated steel ceiling surfaces
- steel floor underdrawing.

7.2 For buildings subject to Building Regulations, the building is suitable only for use more than one metre from the boundary.

7.3 The building system is not classified as 'non-combustible'; therefore calculations for unprotected areas may apply, dependent on the fire resistance characteristics of the wall.

7.4 The roof is designated AA/'low vulnerability' in accordance with the national Building Regulations.

7.5 Adequate provision must be made for escape in case of fire.

7.6 Where it is necessary for fittings, services or ducts to penetrate part of the fire-resisting construction, the detailing must ensure that the relevant fire resistance is not impaired.

8 Thermal performance



8.1 Single modules, and thermally separated configurations of modules with a separate heating control, are classified as 'stand-alone buildings'.

8.2 The buildings in section 8.1 are exempt from Regulations relating to carbon emissions and minimum fabric performance.

8.3 The buildings can adequately reduce heat loss when, in conjunction with the U values in Table 2, window/door areas and U values are selected to meet the 'compensatory approach' described in paragraphs 6.2.11 and Annex 6.B.2 of the Technical Handbook (Non-Domestic).

Table 2 Element U values ($W \cdot m^{-2} \cdot K^{-1}$)			
Element	U value		
Wall	0.59		
Floor	0.35		
Roof	0.42		

9 Condensation



9.1 The buildings are not suitable for use where the internal relative humidity is expected to exceed 70% for any significant length of time, as condensation may occur. Assuming normal internal conditions of temperature and humidity, and appropriate ventilation (see section 10), it is considered that the amount and duration of condensation will be insufficient to significantly affect the structural or thermal properties of the building.

9.2 If the floor is penetrated by services, eg soil pipes, the joints between the services and the floor deck and floor insulation must be adequately sealed to prevent the ingress of water and water vapour.

9.3 Equipment producing large quantities of water vapour, for example flueless heaters, must not be used.

9.4 Adequate underfloor ventilation is provided to ensure that any condensation on the steelwork or insulation is effectively dispersed (see section 10).

10 Ventilation

The design of the windows should allow adequate ventilation and is an important factor in reducing the incidence of surface condensation. The windows should be designed so that the amount of openable window ventilation is a minimum of 5% of the floor area, or provision of mechanical ventilation should be considered. The Certificate holder should be consulted with regard to the requirements for background ventilation.

11 Weathertightness and damp-proofing



11.1 The steel supporting columns raise the building clear of the ground, giving it an inherent resistance to ground moisture.

11.2 The ground beneath the building, as a minimum, should be effectively cleared of turf and other vegetable matter, and treated with a chemical weedkiller.

11.3 The roof and external wall surfaces will provide adequate weather resistance.

11.4 The performance of windows and doors is not covered by this Certificate. However, the perimeter joints between windows and doors and the wall panels have been assessed and are adequate to ensure that water penetration will not occur at these positions.

11.5 The buildings are provided with suitable rainwater gutters and downpipes.

12 Services

Electrical and plumbing services are outside the scope of this Certificate. However, in designing and installing these services, precautions must be taken to avoid the possible risk of long-term damage to the structure or the services by, for example, the ingress of water, water vapour or condensate from cold water service pipes.

13 Maintenance



13.1 External cladding requires an occasional washing down with water containing a mild detergent. Where a high aesthetic standard is required, maintenance painting may be required after a period of 10 to 30 years, depending on colour and environmental conditions, using a paint recommended by the Certificate holder.

13.2 In the event of impact or other damage to an external wall, a replacement plastisol-coated steel panel can be fitted over the original panel by the Certificate holder. If necessary, damage to the foam core of the wall can be made good before fitting the replacement panel. This will restore the appearance and ensure that the weathertightness and insulation are unaffected.

13.3 The ceiling and internal surfaces can be cleaned using water containing a mild detergent. These surfaces can be decorated using a paint recommended by the Certificate holder.

13.4 Should it be necessary to replace or repair the vinyl floor covering, all joints must be welded. Any replacement vinyl floor covering must be to an equivalent specification as the original.

14 Durability



14.1 The main structural framework is assessed as capable of achieving a design life of 60 years. Other elements can achieve a design life of between 25 and 60 years depending on the use, environment and degree of maintenance. Reference may be made to BS 7543 : 2015, or relevant BBA Certificate in this respect.

14.2 Foot traffic over the roof should be restricted to the purpose of maintenance, and suitable precautions must be taken to avoid the risk of damaging the plastisol coating.

14.3 The plastisol coating and galvanizing will be effective for the building's envisaged life.

14.4 The ceiling and internal surfaces of the walls will remain effective for this period.

14.5 The vinyl floor covering may require replacement during this period, depending on the use.

Installation

15 Preparation

Clients/users are normally responsible for provision of suitable foundations and services and, therefore, the following aspects must be subject to adequate supervision and should be checked before the buildings are delivered to site:

- setting out and level of foundations
- setting out of service connections.

16 Siting

16.1 The arrangements for siting on prepared foundations must have been assessed and found to be satisfactory.

16.2 Where specified, the buildings must be bolted to the foundations.

16.3 Buildings having the Lodastrut leg centres can be multi-stacked. The Lodastrut legs must be fully retracted with the leg pin fitted through the outer leg. The lower building must be fixed to suitable foundations through the two holes in each leg base plate. The buildings must be bolted together at the Lodastrut leg points.

Technical Investigations

17 Tests

Test data and calculations were examined to determine:

- behaviour of floor panels under loading
- behaviour of roof panels under loading
- suitability of three-storey applications.

18 Investigations

18.1 An examination of existing data was made to assess:

- behaviour under loading of structural components and complete buildings
- physical properties of injected, HCFC-free polymer insulation
- impact resistance of wall panels
- practicability of positioning using the Lodastrut legs
- practicability of positioning by crane
- weathertightness
- durability
- maintenance requirements.

18.2 Calculations were undertaken and examined in conjunction with the aforementioned data to establish the structural strength and stability of the buildings.

18.3 Calculations were made and computer simulations carried out to determine the effectiveness of the thermal insulation arrangements and the risk of condensation.

18.4 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.5 The behaviour of the buildings in fire has been assessed on the basis of test data and reports.

Bibliography

BS 6767-1 : 1999 Transportable Accommodation Units — Recommendations for Design and Construction of the Basic Unit

BS 7543 : 2015 Guide to durability of buildings and building elements, products and components

BS EN 312 : 2010 Particleboards — Specifications

BS EN 1991-1-1 : 2002 Eurocode 1 : Actions on structures — General actions — Densities, self-weight, imposed loads for buildings BS EN 1991-1-3 : 2003 Eurocode 1 : Actions on structures — General actions — Snow loads BS EN 1991-1-4 : 2005 Eurocode 1 : Actions on structures — General actions — Wind BS EN 1991-1-7 : 2006 Eurocode 1 : Actions on structures — General actions — Accidental actions

BS EN 1993-1-1 : 2005 Eurocode 3 : Design of steel structures — General rules and rules for buildings BS EN 1993-1-3 : 2006 Eurocode 3 : Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting

BS EN 1995-1-1 : 2004 Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings

BS EN 10346 : 2015 Continuously hot-dip coated steel flat products — Technical delivery conditions

BS EN ISO 9001 : 2015 Quality management systems - Requirements

BS EN ISO 10581 : 2013 Resilient floor coverings — Homogeneous poly(vinyl chloride) floor covering — Specifications

BS EN ISO 10874 : 2012 Resilient, textile and laminate floor coverings - Classification

BS EN ISO 14001 : 2015 Environmental Management Systems — Requirements with guidance for use

MOAT No 36 : 1987 UEAtc Directives for the Assessment of Manufactured Plastic Floorings

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

British Board of Agrément		
Bucknalls Lane		tel: 01923 665300
Watford		clientservices@bbacerts.co.uk
Herts WD25 9BA	©2019	www.bbacerts.co.uk