

December 2023



Logicwall[®] Certification, Load resistance, FRL Certification, CSIRO Assessment, Acoustic Performance, Thermal Performance, Compaction Test, Bracing Design.



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L1. Certification

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It is the responsibility of the customer to ensure that CSR's products are suitable for their chosen application, including in respect of project-specific matters such as, but not limited structural adequacy, acoustic, fire resistance/combustibility, thermal, and weatherproofing requirements. All information relating to design/installation/application of these products is offered without warranty and no responsibility can be accepted by CSR for errors and omissions, or for any use of the relevant products not in accordance with CSR's technical literature or any other relevant industry standards. For current technical and warranty documentation relating to CSR's products, visit the AFS website at www.afsformwork.com.au

Structure

In October 2004 Logicwall[®] was subjected to a lateral load resistance test by the University of Canterbury in New Zealand.

The following letter (Fig L1)from Van Der Meer Consulting Engineers is a summary of the test and its results.

Fig L1: Van Der Meer Consulting Letter

Our Ref: SY0 Enquiries to: M	30230 Neil Bonser	VAN	DER MEER
Our Ref. SY0: Enquirie	so230 s to: AD		
21/9/2009 Architectu PO Box 8	5 ural Framing Systems 199		
Attentior	n: Mr Andrew Horsfall		
Dear Sir,			
RE:	LATERAL LOAD RESISTANCE OF AFS WALL PANE RESULTS OF STRUCTURAL TESTING	LS	
We unde panels, ti design of	erstand concern has been raised over the ductility of he ability of the panels to perform under lateral loads the wall panels is achieved in compliance with AS3600.	AFS wall , and how	SYDNEY Level 5 35 - 37 Chandos Street St Leonards NSW 206
In Octobe Canterbu Systems series of the latera	er 2004, the Department of Civil Engineering at the U ry was commissioned and instructed by Architectura (not Van der Meer Consulting Pty Ltd) to conduct insitu t AFS wall panels. The purpose of the research was to al load resistance of AFS wall panels. This was ac	niversity of al Framing esting on a investigate chieved by	PH (61-2) 9436 043 FAX (61-2) 9436 1371 www.vandermeer.com.a
and then experiment theoretica	g horizontal earthquake loading in the form of reverse cyu evaluating the subsequent performance of the par ntal results were compared against predicted beha al models.	clic loading tels. The viour from	MELBOURNI
Following	the testing in New Zealand, the Department of Civil E Report C2004-02. This report outlines the testing proc	ngineering cedure and	GOLD COAS
theory, th test result	e measured behaviour of the AFS wall panels, and cor is against predicted theory.	npares the	HANOI
Van der M conclusion complete,	Meer Consulting Pty Ltd has reviewed the report and as ns put forward by the authors. The report is quite de although the following salient points should be noted:	sessed the stailed and	VDM (NSW) Pty Ltd
 In reg perform testing manner 	ions of seismic activity, reinforced concrete walls are r m in a ductile manner when subjected to lateral load g showed that the AFS wall panel systems behaved in a f or, achieving a displacement ductility level in excess of 6.	equired to ling. The ully ductile	ABN 48109 529 512
	2005 1.24 PM	Page 1 of 2	



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Van Der Meer Consulting Letter

A better solution ...



- The flexural response of the AFS wall panels was adequately predicted using conventional reinforced concrete theory and analysis techniques. In fact, testing showed that the actual lateral load resisting capacity of the wall panels exceeded the theoretical value by as much as 38%.
- The vertical steel stud members in the AFS wall panels act as flexural reinforcement in the wall panels, effectively limiting the length of the plastic hinge zone to the junction between the wall and foundation members. This did not adversely affect the performance of the walls in the experimental testing.
- We are aware concern has been raised in the past regarding the slip shear interface between the concrete and the vertical steel studs in the wall panels. The testing has shown that the shear reinforcement requirements for the AFS wall panel systems are adequately predicted using the AFS design method (as outlined in the AFS Technical Manual). The authors recommend that the conservative estimates of β_4 & β_5 developed by AFS be adopted.
- No shear deformations were found to occur within the AFS wall panels during the testing. This finding was the case for all test specimens and was independent on the amount of shear reinforcement.
- Testing confirms AFS' recommendations that the height-to-length ratio of the wall panels should not exceed 1.0 when being relied upon as shear walls.

Based on the testing and the conclusions of the authors, we advise that the behaviour and design of AFS wall panels for lateral loads can satisfactorily be undertaken in accordance with AS3600, modified as noted in the AFS Technical Manual.

Yours faithfully, Van der Meer Consulting Pty Ltd

Neil Bonser Managing Director

\\SYD-SERV002\Projects\SY03\SY030230\Letters\Lateral test.doc Created on 21/09/2005 1:16 PM Page 2 of 2





smarter permanen formwork Fig L2: Lateral Load Resistance of AFS Wall Panels.



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afs logicwall



concrete walls. Once constructed, the formwork does not contribute to the structural capacity of the wall which acts as a normal reinforced concrete structure.

2. Discussion

The concrete and reinforcement are encapsulated within the fibre cement shell and coating which together act as a protective barrier. When used in the construction of walls in interior and exterior environments, the presence of the protective barrier enhances the protection against the effects of the prevailing environment.

LOGICWALL walls designed in accordance with AS 3600 will be subjected to environments consistent with a B2 exposure classification. AS3600 states that protective coatings can be taken into account when assigning exposure classification. Accordingly, the coating system plays a significant role in the design of the system in compliance with AS3600. In a typical

Specialist Consultants in -Concrete Technology -Structure Condition Assessment -Building Repair Management -Materials Testing -Product Development Since 1978





Durability Compliance

AFS Systems Pty LtdPage 2 of 2Re : AFS LOGICWALL – AS3600 Durability Review3 November 2014

environment, the main agent of deterioration is carbonation. Therefore, the coated external skin in combination with concrete cover to the reinforcement, meets the durability and service life requirement of the standard.

The galvanised steel stud framework becomes embedded in concrete. Field evidence has shown that galvanised steel is durable in concrete in the harshest marine environment. In carbonated concrete, galvanized steel is even more resistant to corrosion.

3. Conclusion

Walls constructed using the LOGICWALL system comply with AS3600 provided that the concrete strength and cover meet the requirements of the standard for exposure classifications up to and including B2. Additional protection is provided to the concrete and reinforcement as well as to the components of the LOGICWALL system by the specified protective coating.

Yours faithfully, Mahaffey Associates Pty Ltd

allahaffer

D. R. Mahaffey











Fig L5: FRL Certificate for LW150 Logicwall®

Certificate of Test No. 1745 "Copyright CSIRO 2004 ©" Copying or alteration of this report without written authorisation from CSIRO is forbidden. This is to certify that the element of construction described below was tested by the CSIRO Division of Manufacturing and Infrastructure Technology in accordance with Australian Standard 1530, Methods for fire tests on building materials, components and structures, Part 4-1997 on behalf of: Architectural Framing Systems Pty Ltd 29 Prime Drive SEVEN HILLS NSW A full description of the test specimen and the complete test results are detailed in the Division's sponsored investigation report numbered FSV 1038. Product Name: Permanent formwork, load-bearing, reinforced concrete wall system Description: The specimen comprised a reinforced concrete wall system of dimensions 2980-mm high x 3000-mm wide x 150-mm thick made up of 3 pre-fabricated permanent formwork panels filled with insitu concrete after assembly. The formwork panels were fabricated from two 2980-mm high x 1200-mm wide x 6-mm thick fibre cement sheets bonded to 10 galvanised C-section metal studs of dimensions 136-mm x 35-mm x 0.6-mm using "AV Syntec" general purpose building glue. The studs were spaced at 100-mm centres and fixed together in a rigid frame. The studs had 90-mm diameter round holes spaced at 150-mm centres for a provision of horizontal reinforcing bars. The panels were fixed to a floor track (galvanised steel C-section) with provision for reinforcing starter bars from a completed floor slab. Succeeding panels were fitted together in a tongue and groove arrangement, and fixed with 9-18 x 20-mm fibretecs csk rib head screws at 500-mm centres. The wall was reinforced with N12 reinforcing bars at 450-mm centres, horizontally and vertically. Electrical services were installed in the cavity of the wall, that included two general power outlets and associated PVC conduits at 1200-mm centres. The panels were appropriately braced and 32 Mpa concrete 32-10-120 was pumped in through the top openings in 1500-mm layers and trowelled-off when completely filled. The specimen was subjected to an evenly distributed total load of 600 kN. Details of panel construction are shown in drawing numbered 146-01 Issue B, dated 17 December 2003, by LGDS. The element of construction described above satisfied the following criteria for fire-resistance for the period stated. Structural Adequacy no failure at 240 applicable Integrity no failure at 240 applicable Insulation 236 minutes and therefore for the purpose of Building Regulations in Australia, achieved a fire-resistance level (FRL) of 240/240/180. The FRL is applicable for exposure to fire from either direction. Testing Officer: Chris Wojcik Date of Test: 25 February 2004 Issued on the 12th day of March 2004 without alterations or additions. Collino jarry C Garry E Collins Manager, Fire Testing and Assessments This laboratory is accredited (Accreditation No. 3632) by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of accreditation. **CSIRO Manufacturing & Infrastructure Technology** 14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA CSIRO Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555





Fig L6: FRL Certificate for LW120 Logicwall®

	Certificat	te of Ie.	st	
		without written	No. 2347 "Copyright CSIRO 2011 ©" Copying or alteration of this report authorization from CSIRO is forbidden.	
This is to certify that th Manufacturing and Infr fire tests on building m of construction on beha	e element of construction des astructure Technology in acc aterials, components and stru alf of:	scribed below was test ordance with Australia uctures, Part 4-2005, F	ed by the CSIRO Division of n Standard 1530, Methods for Fire-resistance test of elements	
	AFS Products Group Pty L 22-24 Sommerville Circuit EMU PLAINS NSW	td		
A full description of the sponsored investigation	test specimen and the comp n report numbered FSV 1513	lete test results are de A.	tailed in the Division's	
PRODUCT NAME	120-mm thick, load-bearing	g AFS structural wall s	ystem.	
DESCRIPTION:	The specimen comprised a 3000-mm wide x 120-mm for formwork panels core-filled The pre-fabricated perman comprised two 6-mm thick bonded to the perforated s studs, nominally 2900-mm shown in drawing numbere Peter Ellsmore & Associati panel at nominally 140-mm bars at 400-mm centres ve The panels were appropria pumped in through the top when completely filled. A total load of 700 kN was	a reinforced concrete w hick made up of three I with concrete after as ent formwork panels, fibre cement sheets (C teel stud assembly usi long x 108-mm wide x d AFS-CSIR-23-11-11 as Pty Ltd., were equal n centres. The wall was ritically and 600-mm ce tely braced and 32 Mp openings in 1500-mm applied to the specime	vall system 3000-mm high x pre-fabricated permanent sembly. 1200-mm wide x 3000-mm high, CSR Waterblock Technology) ng AFS Structural Adhesive. The 35-mm high, with perforations , dated 23 November 2011, by ly spaced over the width of the s reinforced with N12 reinforcing entres horizontally. va 120-mm slump concrete was high layers, and trowelled off en for the duration of the test.	
The element of construstated	ction described above satisfi	ed the following criteria	a for fire-resistance for the period	
	Structural adequacy	-	no failure at 241 minutes	
	Integrity Insulation	-	no failure at 241 minutes 190 minutes	
and therefore for the pr 240/240/180. The FRL	urpose of Building Regulation is applicable for exposure to	ns in Australia, achieve fire from either directio	d a fire-resistance level (FRL) of on.	
This certificate is provide requirements for evider	ded for general information o nce of compliance.	nly and does not comp	ly with the regulatory	
Testing Officer: Chris Issued on the 16 th day	Wojcik Date of Test: of December 2011 without a	23 November 2011 terations or additions.		
Gorry Cle	U			
Garry E Collins Manager, Fire Testing	and Assessments			
CSIRO I 14 Julius Telephor	Materials Science and Engi Avenue, Riverside Corporat e: 61 2 9490 5444 Facsimil	neering e Park, North Ryde NS e:61 2 9490 5555	W 2113 AUSTRALIA	
This doct	ument is issued in accordanc	e with NATA's accredi	tation requirements	





Fig L7: FRL Assessment







Fig L8: CSIRO Assessment Report









Fig L9: Acoustic Performance Assessment

Acoustic test reports available on request:

AFS Logicwall 120mm Base Wall - Acoustic Performance Opinion - AFS1001. ref - 20181292.1/1302A/R0/JL
AFS Logicwall 150mm Base Wall - Acoustic Performance Opinion - AFS2001 ref - 20181292.1/1502A/R0/JL
AFS Logicwall 162mm Base Wall - Acoustic Performance Opinion - AFS3001 ref - 20181292.1/2502A/R0/JL
AFS Logicwall 200mm Base Wall - Acoustic Performance Opinion - AFS4001 ref - 20181292.1/2502A/R0/JL
262MM THICK AFS LOGICWALL - ACOUSTIC ASSESSMENT. ref - 20181292.6/1606A/R1/GW
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1101. ref - 20181292.1/1302A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1102. ref - 20181292.1/1302A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1103. ref - 20181292.1/1302A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1301. ref - 20181292.1/1302A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1302. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1401. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1402. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1501. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1502. ref - 0181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1503. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 120mm Wall System - Acoustic Performance Opinion - AFS1504. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Base Wall - Acoustic Performance Opinion - AFS2001. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2101. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2102. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2103. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2301. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2302. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2401. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2402. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2501. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2502. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2503. ref - 20181292.1/1502A/R0/JL
AFS Logicwall 150mm Wall System - Acoustic Performance Opinion - AFS2504. ref - 20181292.1/1502A/R0/JL



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CSIRO MANUFACTURING & INFRASTRUCTURE TECHNOLOGY www.cmit.csiro.au Graham Road, Highett, Victoria 3190, Australia Postal Address: PO Box 56, Highett, Victoria 3190, Australia Telephone 61 3 9252 6000 Facsimile 61 3 9252 6244 CSIRO LABORATORY MEASUREMENT OF AIRBORNE SOUND INSULATION MEASUREMENT NO: TL463 DATE OF MEASUREMENT: 20 - 26 July, 2006 COMMISSIONED BY: Architectural Framing Systems 29 Prime Drive, Seven Hills, NSW, 2147. SUMMARY The sound transmission loss (TL) of a masonry wall; bare and also with two (2) different framing/plasterboard/insulation cladding combinations, has been determined. The measurement was performed in compliance with the requirements of AS 1191-2002 "Acoustics - Method for Laboratory Measurement of Airborne Sound Insulation of Building Elements". The Sound Transmission Class (STC) and the Weighted Sound Reduction Index (R_w) of the wall were calculated using the procedures respectively specified by AS 1276-1979 and AS/NZS ISO 717.1:2004. © 2006 CSIRO © 2000 CSIRO To the extern permitted by law, all rights are reserved and no part of this publication covered by copyright may be reproduced or copied in any form or by any means except with the written permission of CSIRO. While CSIRO takes care in preparing the reports it provides to clients, it does not warrant that the information in this particular report will be free of errors or omissions or that it will be stubilishe for the client's purposes. CSIRO will not be responsible for the results of any actions taken by the client or any other person on the basis of the information contained in the report or any opinions expressed in it. CSIRO Manufacturing & Infrastructure Technology has offices in: Melbourne + Sydney + Adelaide + Brisbane FREECALL 1300 363 400

Fig L10: CSIRO Laboratory Measurement of Airborne Sound Insulation





TOTAL R FOR INSULATION PATH ONLY THERMAL PERFORMANCE CALCULATIONS TO AS/NZS 4859 Parts 1 & 2:2018

The following calculations by James M Fricker Pty Ltd are based upon:

- a) AS/NZS 4859.1:2018 "Thermal insulation materials for buildings. Part 1: General criteria and technical provisions",
- b) AS/NZS 4859.2:2018 "Thermal insulation materials for buildings. Part 2: Design",
- c)t he Australian Institute of Refrigeration Air-conditioning & Heating (AIRAH) Handbook (Edition 6, 2021), and (if necessary) the ASHRAE Fundamentals Handbook.

Total R values are reported for the insulation path only. These Total R-values include surface film resistances but not thermal bridging.

Total R-values are based on product in-service conditions in accordance with AS/NZS 4859.2:2018 including the alteration of insulation Material R for temperature, and Air Space R for temperature and infrared emittance.

Each calculation result is subject to any specific notes and assumptions listed on the calculation.

If a construction differs from the described system, the thermal resistance may be different.

All calculations were done by James M Fricker, F.AIRAH F.IEAust CPEng NER APEC Engineer IntPE(Aus)



ENGINEERS AUSTRALIA Chartered Professional Engineer MEMBER 1179647

JAMES M FRICKER PTY LTD 54 Felix Crescent Ringwood North VIC 3134 Australia Mobile: 0414 804 097 Phone: (03) 9879 5744 fricker@optusnet.com.au http://fricker.net.au





Fig L12: Corefill Compaction Test









Corefill Compaction Test (continued)

LOCATION:	20 Drime Drive Seven Hills NSW
	29 Prime Drive, seven Hills NSW
PRESENT:	Harold Roper / Materials Professor Robert Herbertson / Wellstructured Structural Engineers Nick Crennan / Colin Biggers & Paisley Lawyers Peter Saddington / Coffey International Steven Nash / PDR Smart Structures AFS (Directors) Clyde Daish / HD Projects Andrew Bonnette / Bonnette Marketing Lenny Casella / Hanson Concrete Willy Reinhardt / ANF Concrete Pumping
RECORD OF EVENTS:	
MONDAY 16/11/09	
11.05am	Concrete arrives (refer docket 50410305). Mixed on site for 1 ½ minutes.
11.10am	Commenced slump test – result 130mm. Added 10 litres water to mix.
11.17am	Another slump test – result 140mm
11.20am	Commenced core filling wall
11.24am	Finish first lift (1600mm) Temperature at 11:30am - 32°C. WAIT BETWEEN LIFTS
11.55am	Another slump test – result 85mm Added 30 litres water & mixed for 5 minutes.
12:04pm	Retest slump – result 110mm Added another 20 litres water & mixed for 4 minutes
12:12pm	Retest slump – result 135mm
12:13pm	Commenced core-filling
12:18pm	Finished second lift.
2:00pm	Commenced stripping the Perspex panels & strips from one of the fibre cement panels
3:30pm	Commenced filming the stripping procedure & the compacted walls
4:15pm	Finish filming stripping procedure & compacted walls
TUESDAY 17/11/09	
4.00-5:30pm	Coffey International core-drilled 6 samples from unstripped wall, at base,



Corefill Compaction Test (continued)







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Corefill Compaction Test (continued)







PROJECTS P. 02 9999 5288 F. 02 9999 5014 PO Box 1585 Mona Vale NSW 1660 16/8 Jubilee Ave Warriewood NSW 2102 www.hdprojects.com.au ABN. 84 099 530 588 LIC. 1333220 AFS Products Group Att: Dan Arkoll 18th November, 2009 RE: AFS Wall Compaction Test - performed at 29 Prime Drive, Seven Hills 16/11/09 Dear Dan, We confirm that we were in attendance and assisted with the above test with the following items: Supply of boom concrete pump Supply of the HD Projects 32/10/120 Wall Mix . • Vibration of the mix being placed. We confirm that the test that was undertaken, excepting the volume of the test, was an accurate representation of how we would core fill walls on a typical site including vibration of the steel studs and concrete placement. The concrete we supplied was of a typical consistency of what we would expect on site. For any queries please do not hesitate to contact me. AS PER Curre Darsus. Regards, Clyde Daish Operations Director





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Corefill Compaction Test (continued)

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'a Co	ring Pty Lt	d. 4 Rothwall Ava, /	PO Box 329 NATA LA	B NO. 844	Form C1 Rev. 2	AS 10	ung of Co 012 parts 1	1, 3, 8.1,	8.2, & 13.	_JOB NO. 8	0546
		and interest in monthly									



Corefill Compaction Test (continued)

L24

TES ABI PH	STRITE N 921114 364046 9736 3922 FAX 9743 5860			TEST	RITE			4 ROTHU PO BOX : NSW	/ELL A\ 329 CC 2138	/ENUE, DNCORD	WEST
REPO CON	DRT ON COMPRESSIVE STRENGTH OF CRETE CORES (AS1012.14)	REPOR	T FOR COR	ES DRILLED	& TESTE	D BY LAB	ORATORY	REPORT N PAGE NO : TOTAL NO.	O : CORES:	81025 1 OF 1 3	
CLIE ADD	ENT : AFS Product RESS : P.O. BOX 899 SEVEN HILLS NSW 1730								LED : This dou issued i with NA accredit	10.12.09 cument is n accordanc .TA's tation	e
PRC	DJECT : Prime Drive, Seven Hills								requirer	nents.	
-				ŋ	DIMEN	SIONS :	MASS	PER UNIT	COMPF	RESSIVE	
ABORATORY PECIMEN NO.	LOCATION OF CORE IN STRUCTURE AND OTHER IDENTIFICATION DATA	ONCRETE AGE lays) [if known]	ATE TESTED	RECONDITIONII See notes below)	AVE. DIAM.	ENGTH	VOLUN RAPID METHOD A.S. 1012.12	IE (kg/m3) WATER DISPL'MNT METHOD A.S.1012.12	CORE STRENGTH (See notes) (See notes)	ORRECTED TRENGTH See notes)	LENGTH AS DRILLED (mm)
<u>ຼ</u> ສ	Top. Test Wall.	0 <u>0</u> 28	<u>م</u> 14.12.09	E 0) WET/3 (w)	(mm) 76.2	별 <u>등</u> 131	Section 1 NR	Section 2 N/R	45.5	ວ່ວ <u>0</u> 44.5	
2	Middle. Test Wall.	28	14.12.09	WET/3 (w)	76.4	130	NR	N/R	48.0	47.0	
3	Base. Test Wall.	28	14.12.09	WET/3 (w)	76.4	132	NR	N/R	47.5	46.5	
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- SYMP	OLS USED ABOVE FOR A.S 1012.14 STANDARD PREC		- ING METHOD	- s	-	-	-	-	-	-	
DRY: NOTE	7 days in air at 18 to 28 deg.C, and 40 to 60 % Rela : If these symbols appended with (w), corresponding	ative Hum cores sto	idity. red in water	at 21 - 25 deç	WET/3 : : g C from r	3 days in H eceipt unti	H2O @ 18-2 I the start of	8 deg.C. WET	T/V : 3 hrs	vacuum sat	uration
SYMB	OLS USED WITH CORE DIMENSIONS	REIN THE	(L): MAX.LEN	IGTH AVAILAB		DIAM RAT		AN THE ALLOW	ABLE MININ	IUM OF 1:1	
MASS	PER UNIT VOLUME - SYMBOLS & NOTES		RAPID METH	IOD: VOL. BY [DIMENSIO	NS, H2OE	DISPLACEME	NT METHOD : \	/OLUME BY	IMMERSED I	MASS
X: INV COMF	ALID TEST DUE DEFECT. PRESSIVE STRENGTH - SYMBOLS & TERMS		NR: TEST NO	N/C : NO COR	RECTION	REQ'D FOI	R L : D RATIO	N/A: NO COF	R. AVAILAE	BLE FOR THIS	L: D RATIO.
CORE	STRENGTH: NO ADJUSTMENT MADE FOR LENGTH TO		ER RATIO.					F/D : TO BE TE	STED AT A	FUTURE DA	TE.
SYMB	OLS FOR DEFECTS NOTED BEFORE OR AFTER TEST	H: HONE	YCOMBED,	/S: VOIDS ARC	DUND STE	EL, S: SE	GREGATION,	N: NUMER	OUS VOIDS	, Solphur	WIATURE.
V: VO	ID, C(x): CRACK & ITS LENGTH, D: DRY JOINT / SEP.	ARATION,	F: FOREIG	N MATTER	B: CORE D	IAMETER	LESS HAN 3	TIMES NOMIN	AL SIZE OF	AGGREGATI	•
	NATA ACCREDITATION NO: 84	4		. 5000L0 0K	LOONED,	7. VAD	NAME OF /	APPROVED S	IGNATOR	Y: J.HEWLI	NG
REM	ARKS:							Som H	and the second	5	





25 Nov 2009 1	3:40 Ha	nson		029897	71425	p.1
Fax	message			1 J	Hanson Construction	on Materials Pty Ltd
Date To Comp Projec Fax From	25/11 Clyd any HD P t Prim 9999 Hans	1/09 e Projects P/L e Dr, Seven Hills 5014			Tachnical Services Ce 1/29 Crescent Street Granville NSW 2142 Tel (02) 8888 1600 Fox (02) 9807 2081 www.hancon.biz	ntre
Subje Pages	nans ct	Test	Results luding this one	.		_
Field	Sheet Spec	imen Date Cast	Product Description	Age	Strength MPa	



Fig L13: Weatherproofing









	ABN: 36 102 975 Level 2 Suite 201C 19 Harris St, Pyrmont, NSW 3 Tel: 02 9817 2 Email: info@mydconsulting.
28 th Novem	ber 2018
	Certificate of Structural Design
Client:	AFS Systems Pty Ltd
Elements:	AFS Lifting Bar
We MYD Co Building Co drawing No:	onsulting Engineers, being professional Engineers in accordance with th de of Australia, certify that the structural details as shown in the structur s.
• P244	5 S-01/Rev 01 Logicwall Lifting Bar Details,
was prepare accordance Standards i	ed by a professional Structural Engineer certified under NER, in with the relevant structural requirements of the BCA, and Australian n particular:
• AS 4	100 (1998) - Steel Structures Codes.
AS 1AS 36	170 (2011) - Parts 1 Loading Codes. 610 (1995,2010)-Formwork Design Code.
The AFS re document fo	eport titled – Lifting Bar Test Rev B June 18 was used as a referen or the verification of the lifting bar capacity
The use of following co	the lifting bar as detailed in the drawings above shall be limited to the nditions: I speeds not greater than 15m/s
MaxiLiftin	mum lifting weight 150kg g strap located at centroid of load and to be checked to be in satisfacto
cond	ition prior to lifting g bar undamaged (not bent or kinked)
Liftin	





Lifting Bar Certification (continued)

2

Exclusions:

• Adequacy and certification of Lifting strap used around lifting bar

Any scenarios outside these conditions, MYD consulting shall be consulted for further advice.

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

P. Maullo

Peter Marzullo B.Sc, B.E., MIE Aust, CP Eng For and behalf of MYD Consulting Engineers.

myd Consulting Engineers





Lifting Bar Certification (continued)





Fig L15: Bracing Design Certification

	ABN: 36 102 9 Level 2 Suite 201C 19 Harris St, Pyrmont, NS Tel: 02 981
11 th Decemb	Email: info@mydconsulti er 2018
	Certificate of Structural Design
Client:	AFS Systems Pty Ltd
Elements:	AFS Logicwall® Standard Propping Details
We MYD Cor Building Cod drawing Nos	nsulting Engineers, being professional Engineers in accordance with e of Australia, certify that the structural details as shown in the struct
 P2351 P2351 P2351 P2351 	S-01/Rev DAFS Brace Arrangement Type L1,S-02/Rev DAFS Brace Details Type L1,S-03/Rev DAFS Brace Arrangement Type S1,S-04/Rev DAFS Brace Details Type S1,
Were prepare accordance v Standards in	ed by a professional Structural Engineer certified under NER, in with the relevant structural requirements of the BCA, and Australian particular:
 AS 41 AS 11 AS36⁻ AS 22 AS 17 AS 36 	00 (1998) - Steel Structures Codes. 70 (2011) - Parts 1 and 2 Loading Codes. 10 (1995,2010)-Formwork Design Code. 69 (2004)-Structural Plywood Code. 20 (2010) - Timber Structures. 00(2009) - Concrete design Code.
The use of the following control of the end of the region of the end of the e	the propping as detailed in the drawings above shall be limited to iditions: n A (non cyclonic) ory 3 t limited to 8 storeys above surrounding ground level rops are to temporarily support the Logicwall formwork only. Based num brace installation period of 4 days. ngs to concrete slab based on the slab having a minimum thickness m



afs logicwall



2

Exclusions:

- The prop shall not support backfill behind the wall.
- The structural design and certification of the slabs is by the project engineer
- The structural requirements of the Logic wall to support the structure shall be verified and certified by the project engineer

Any scenarios outside these conditions, MYD consulting shall be consulted for further advice.

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

P. Maullo

Peter Marzullo B.Sc, B.E., MIE Aust, CP Eng For and behalf of MYD Consulting Engineers.

myd Consulting Engineers







Fig L16: CodeMark Certificate of Conformity





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