



Door hardware assessment

Test standard: Section 2 and appendix B11 of AS 1530.4:2014

Report sponsor: Sieper Group and Firecore Pty Ltd

Products: LOCKTON 190 and 195 series door closers

Report number: 34841900a Reference number: FAS200438

Revision: DHAR5.0

Contents

1. Introduction	3
2. Variations considered in this report	3
3. Description of the tested door hardware	3
4. Discussion	4
5. Conclusion	5

1. Introduction

This report documents the findings of the assessment undertaken to determine the likely fire resistance level (FRL) of a Firecore doorset fitted with a LOCKTON door closer with track arm, if tested in accordance with section 2 and appendix B11 of AS 1530.4:2014.

Warringtonfire did this assessment at the request of the test sponsors listed in Table 1.

Table 1 Test sponsor details

Test sponsor	Address
Firecore Pty Ltd	291 Warringah Road Beacon Hill NSW 2100 Australia
Sieper Group	101-109 Deakin Street Silverwater, NSW 2128 Australia

2. Variations considered in this report

The variations considered in this report are fitting the following LOCKTON door closers with track arm instead of the door closer tested in the reference tests reports listed in Table 2.

- SGDC190S-G
- SGDC190S-B
- SGDC195S-G
- SGDC195S-B

Table 3 provides additional supporting information about the doorset.

Table 2 Referenced test reports

Test reference	Doorset description	Test standard
FSV 1382a	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	AS 1530.4:2005
FSV 1418a	Single leaf TVC40 core Firecore doorset, nominally 48 mm thick.	AS 1530.4:2005
FSV 1391a	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick.	AS 1530.4:2005

Table 3 Additional supporting information

Test report	Doorset description	Test duration	Test standard
EWFA 34841900	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	120 minutes	AS 1530.4:2005
A pilot scale fire resistance test – in accordance with section 2 and appendix B11 of AS 1530.4:2005 – was done on a pilot scale doorset on 15 June 2020. It included a LOCKTON SGDC 195S-G CAM Action door closer with track arm fitted to the door leaf.			

3. Description of the tested door hardware

Table 4 describes the tested door hardware specimen. This information was provided by the test sponsor and surveyed by Warringtonfire.

Table 5 describes the pre-test functionality test done on the door system.

Photograph of the test specimen is included in Figure 1.

All measurements were done by Warringtonfire – unless indicated otherwise.

Table 4 Specimen description

Item	Description
Door hardware product name	LOCKTON SGDC 195S-G CAM Action door closer with track arm
Door system properties	
Door leaf thickness	38 mm
Location of the closer	Unexposed side, 45 mm from the top edge and 45 mm from the hinge edge

Table 5 Specimen functionality test

Item	Description						
Opening and closing cycles	The doors were subjected to a series of 50 opening and closing cycles of at least 75° for side-hung doorsets and at least 300 mm for sliding doorsets and shutters – in accordance with clause 7.2.5 of AS 1530.4:2005.						
Average clearance measurement	<table border="1"> <tbody> <tr> <td>Top edge</td> <td>2.1 mm</td> </tr> <tr> <td>Latch edge</td> <td>1.9 mm</td> </tr> <tr> <td>Hinge edge</td> <td>1.6 mm</td> </tr> </tbody> </table>	Top edge	2.1 mm	Latch edge	1.9 mm	Hinge edge	1.6 mm
Top edge	2.1 mm						
Latch edge	1.9 mm						
Hinge edge	1.6 mm						



Figure 1 Unexposed view of the tested hardware

4. Discussion

In relation to fire doors, section 4.5 of AS 1905.1:2015 requires some variations from tested prototypes to be subjected to a pilot test. Appendix B11 of AS 1530.4:2014 specifies suitable procedures for undertaking a pilot test for fire doors.

It is expected if the LOCKTON SGDC 195S-G CAM Action door closer with track arm does not initiate failure of the pilot doorset before failure occurred on the referenced doorsets, then substituting the proposed door closer with the one tested on the reference doorsets will not be detrimental to the performance of the reference doorsets.

The pilot scale fire resistance test EWFA 34841900 were conducted in accordance with AS 1530.4:2005. The furnace heating regime and the parameters outlining the accuracy of control of the furnace temperature, failure criteria for insulation and integrity in AS 1530.4:2014 and AS 1530.4:2005 are not appreciably different.

AS 1530.4:2014 states that either sustained flaming on the surface of the unexposed face for 10 seconds or longer, ignition of the cotton, or the latching mechanism being disengaged at the end of the test constitutes integrity failure. During the reference test – EWFA 34841900 – the LOCKTON

SGDC 195S CAM Action door closer with track arm did not initiate failure of the doorset for the duration of the test.

The manufacturer has confirmed that the additional door closers (SGDC190S-G, SGDC190S-B and SGDC195S-B) are manufactured from the same materials, use the same internal operating mechanism, are equal or smaller size, are mounted in a similar position (with respect to distance away from hinge stile – not to be less than 110 mm) as per the tested SGDC195S-G closer.

5. Conclusion

It is the opinion of Warringtonfire's accredited fire testing laboratory in Australia that the doorsets listed in Table 6 will achieve the FRL shown in Table 6 if they are fitted with the LOCKTON door closers listed in section 2 on the doorset. This opinion is based on the pilot scale test done.

This assessment report has been prepared in accordance with section 4.5 of AS 1905.1:2015 and is conditional on the operational characteristics and materials of the doorset complying with section 2 of AS 1905.1:2015. The field of application for the door closer is the same as the field of application for the doorset that the door closer is installed on.

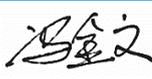
Table 6 Conclusion

Test reference	Description	FRL
FSV 1382a	A LOCKTON SGDC door closer listed in section 2 fitted to a single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	-/120/30
FSV 1418a	A LOCKTON SGDC door closer listed in section 2 fitted to a single leaf TVC40 core Firecore doorset, nominally 48 mm thick.	-/120/30
FSV 1391a	A LOCKTON SGDC door closer listed in section 2 fitted to a double leaf TVC40 core Firecore doorset, nominally 48 mm thick.	-/120/30

Conditions and validity

- The conclusions of this assessment may be used to directly assess the fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.
- Because of the nature of fire resistance testing, and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy of the result. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.
- The assessment can therefore only relate to the actual prototype test specimens, testing conditions and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.
- This assessment is based on information and experience available at the time of preparing this report. The published procedures for the conduct of tests and the assessment of the test results are the subject of constant review and improvement and it is recommended that this report be reviewed by Warringtonfire before the end of the validity date.
- The information in this report must not be used for the assessment of variations other than those stated in the conclusions above. The assessment is valid provided no modifications are made to the systems detailed in this report. All details of construction should be consistent with the requirements stated in the relevant test reports and all referenced documents.
- The data, methodologies, calculations and results documented in this report specifically relate to the tested specimen/s and must not be used for any other purpose. This report may only be reproduced in full. Extracts or abridgements must not be published without permission from Warringtonfire.
- All work and services carried out by Warringtonfire are subject to and conducted in accordance with our standard terms and conditions. These are available on request or at <https://www.element.com/terms/terms-and-conditions>.

Quality management

Revision	Date	Expiry date	Information about the report			
DHAR 34841900a.1	19 June 2015	19 June 2020	Description	Initial issue		
			Name	Prepared by Patrick Chan	Reviewed by Chad McLean	
DHAR 34841900a.2	4 August 2015	19 June 2020	Description	Report updated to specify the door closer name.		
			Name	Prepared by Patrick Chan	Reviewed by Chad McLean	
DHAR 34841900a.4	30 May 2016	19 June 2020	Description	Report updated to address sponsor's comments.		
			Name	Prepared by D. Nicholson	Reviewed by K. Nicholls	
DHAR5.0	26 November 2020	30 November 2025	Description	Revalidation and extending the expiry date for 5 years.		
			Name	Prepared by Kevin Feng	Reviewed by Yomal Dias	Authorised by Mahmoud Akl
			Signature			

warringtonfire

Proud to be part of  element



Warringtonfire Australia Pty Ltd
ABN 81 050 241 524

Perth

Unit 22, 22 Railway Road
Subiaco WA 6008
Australia
T: +61 8 9382 3844

Canberra

Unit 10, Leichhardt Street
Kingston ACT 2604
Australia
T: +61 2 6260 8488

Sydney

Suite 802, Level 8, 383 Kent Street
Sydney NSW 2000
Australia
T: +61 2 9211 4333

Brisbane

Suite 6, Level 12, 133 Mary Street
Brisbane QLD 4000
Australia
T: +61 7 3238 1700

Melbourne – NATA accredited laboratory

409-411 Hammond Road
Dandenong South VIC 3175
Australia
T: +61 3 9767 1000