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Door hardware assessment

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

Report sponsor: Sieper Group and Firecore Pty Ltd

Product: LOCKTON EA3000KD knobset

Report number: 30726900b Reference number: FAS200438

Revision: DHAR3.0

Contents

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 EA3000KD knobset, 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 a LOCKTON EA3000KD knobset instead of the door lockset tested in the referenced test reports listed in Table 2. 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 30726900	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 12 August 2015 It included a LOCKTON EA3000KD knobset 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.

Photographs of the test specimen are included in Figure 1 to Figure 3.

All measurements were done by Warringtonfire – unless indicated otherwise.

Table 4 Specimen description

Item	Description
Door hardware product name	LOCKTON EA3000KD knobset
Door system properties	
Door leaf thickness	38 mm
Backset	70 mm
Lockset type	Tubular latch
Turning moment	0.0 Nm (symmetrical)
Cut out size of lockset	Ø52 mm hole through the leaf for the knobset body with Ø22 mm bore into the leaf edge for the tubular latch.

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.	
Opening force	0.2 N	
Closing force	0.98 N	
Latching force	26 N	
Average clearance measurement	Top edge	2.1 mm
	Latch edge	2.1 mm
	Hinge edge	1.2 mm

Figure 1 Unexposed view of the tested hardware

Figure 2 Exposed view of the tested hardware

Figure 3 Latch edge 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 EA3000KD knobset does not initiate failure of the pilot doorset before failure occurred on the referenced doorsets, then substituting the proposed door knobset 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 30746900 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 30726900 – the LOCKTON EA3000KD knobset did not initiate failure of the doorset for the duration of the test.

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 a LOCKTON EA3000KD knobset 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 latchset is the same as the field of application for the doorset that the door latchset is installed on.

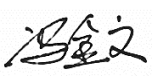
Table 6 Conclusion

Test reference	Description	FRL
FSV 1382a	A LOCKTON EA3000KD knobset fitted to a single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	**-/120/30**
FSV 1418a	A LOCKTON EA3000KD knobset fitted to a single leaf TVC40 core Firecore doorset, nominally 48 mm thick.	**-/120/30**
FSV 1391a	A LOCKTON EA3000KD knobset 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 30726900b.1	8 October 2015	8 October 2020	Description	Initial issue		
			Name	Prepared by	Reviewed by	
				Patrick Chan	Steven Halliday	
DHAR 30726900b.2	8 October 2015	8 October 2020	Description	Report updated to change sponsor's name.		
			Name	Prepared by	Reviewed by	
				Patrick Chan	Steven Halliday	
DHAR3.0	26 November 2020	30 November 2025	Description	Revalidation and extending the expiry date for 5 years.		
				Prepared by	Reviewed by	Authorised by
			Name	Kevin Feng	Yomal Dias	Mahmoud Akl
			Signature			

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