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Door hardware assessment

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

Report sponsor: ASSA ABLOY Australia Pty Ltd and Davcor Group Pty Ltd

Product: Carbine CEL-3IN1 Digital Door Lock

Report number: FRT220272

Revision: DHAR1.0

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1. Introduction

This report documents the findings of the assessment undertaken to determine the expected fire resistance level (FRL) of a lockset tested in accordance with section 2 and appendix B11 of AS 1530.4:2014[1] and assessed in accordance with AS 1905.1:2015[2].

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

Table 1 Test sponsor details

Test sponsor	Address
ASSA ABLOY Australia Pty Ltd	235 Huntingdale Road Oakleigh VIC 3166 Australia
Davcor Group Pty Ltd	14 John Hines Avenue Minchinbury NSW 2770 Australia

2. Variations considered in this report

The variations considered in this report are:

Fitting a Carbine CEL-3IN1 Digital Door Lock instead of the hardware tested refenced in the test reports listed in Table 2. Table 3 provides additional supporting information about the tested hardware.

Table 2 Referenced test reports

Test reference	Doorset description	Test standard
FR 2482	Single leaf Maxi Pyropanel Pandor doorset, nominally 48 mm thick.	BS 476:Part 22:1987
FR 2485	Maxi Pyropanel Pandor double doorset, nominally 48 mm thick.	BS 476:Part 22:1987

Table 3 Additional supporting information

Test report	Test date	Doorset description	Test duration	Test standard
FRT220272 R1.0	4 August 2023	Single leaf Maxi Pyropanel Pandor doorset, nominally 48 mm thick.	60 minutes	AS 1530.4:2014

[1] Standards Australia, 2014, Methods for fire tests on building materials, components and structures – Part 4: Fire-resistance tests for elements of construction, AS 1530.4:2014, Standards Australia, NSW.

[2] Standards Australia, 2015, Components for the protection of openings in fire-resistant walls Fire-resistant doorsets, AS 1905.1:2015, Standards Australia, NSW.

3. Description of the tested door hardware

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

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	Carbine CEL-3IN1 Digital Door Lock	
Manufacturer/supplier	Davcor Group Pty Ltd	
Material	Lever	Stainless steel
	Latch bolt	Brass
	Retainer plate	Stainless steel
	Strike plate	Stainless steel
	Lock body and mechanism	Stainless steel, plastic, electronic components
Lock type	Tubular latch	
Lock details	Cut out	To fit lock mechanism
	Backset	70 mm
	Furniture Size	155 mm tall × 70 mm wide × 30 mm deep
Installation	The spindle of the lockset was located 250 mm from the bottom of the door leaf.	
Door leaf thickness	44 mm	

Figure 1 Unexposed side view of the tested hardware

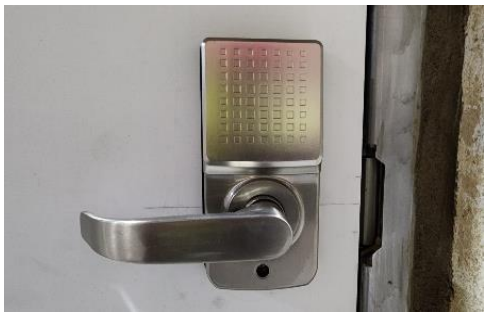

Figure 2 Exposed side view of the tested hardware

Figure 3 Latch edge side view of the tested hardware

4. Assessment

Section 4 of AS 1905.1:2015 requires some variations from tested prototypes to be subjected to a pilot scale test for assignment of FRL. As such, in addition to the full-scale tests listed in Table 2 a pilot scale test listed in Table 3 forms the basis of this assessment.

A pilot scale fire resistance test – in accordance with section 2 and Appendix B11 of AS 1530.4:2014 – was done on a pilot scale doorset under the test reference - FRT220272. It included a lockset fitted to the door leaf.

AS 1530.4:2014 states that either sustained flaming on the surface of the unexposed face for 10 seconds or longer, ignition of a cotton pad, gap gauge failure or the latching mechanism being disengaged at the end of the test constitute integrity failure. During the test – FRT220272 – the lockset did not initiate failure of the doorset for the duration of the test.

As the proposed lockset did not cause failure in FRT220272, then substituting the proposed hardware for the hardware tested in the referenced doorsets is not expected to affect their performance.

5. Conclusion

It is the opinion of Warringtonfire's accredited fire testing laboratory in Australia that the proposed doorsets are expected to achieve the FRLs shown in Table 5 if fitted with the listed hardware.

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 lockset is the same as the field of application for the doorset that the lockset is installed on.

Table 5 Conclusion

Reference test and standard	Description	Assessed hardware	FRL*
FR 2482 to BS 476:Part 22:1987	Single leaf Maxi Pyropanel Pandor doorset, nominally 48 mm thick.	Carbine CEL-3IN1 Digital Door Lock	**-/60/30**
FR 2485 to BS 476:Part 22:1987	Maxi Pyropanel Pandor double doorset, nominally 48 mm thick.		**-/60/30**

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.
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Quality management

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DHAR1.0	28 September 2023	28 September 2028	Description	Initial issue		
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