

MCGRATH LOCKS PTY LTD

DOOR HARDWARE ASSESSMENT



Test standard: Section 2 and appendix B11 of AS 1530.4:2014
Product: ML Bardon digital lock with F54 ANSI mortice and scar plate
Reference number: FRT250547
Test date: 17 April 2025 Revision: DHAR1.0



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1.0 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 1530.4:2014¹ and assessed in accordance with AS 1905.1:2015².

Jensen Hughes performed this assessment at the request of the test sponsor listed in Table 1. Table 2 lists the hardware supplier.

Table 1 Test sponsor details

Test sponsor	Address
McGrath Locks Pty Ltd	140-158 Dryburgh Street North Melbourne VIC 3051 Australia

Table 2 Hardware supplier details

Doorset supplier	Address
Firecore Pty Ltd	291 Warringah Road Beacon Hill NSW 2100 Australia

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.

2.0 Variations considered in this report

The variations considered in this report are:

Fitting an ML Bardon digital lock with F54 ANSI mortice and scar plate instead of the corresponding hardware installed on the doorsets in the referenced test reports listed in Table 3. Table 4 provides additional supporting information about the tested specimen.

Table 3 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
FSV 2133	Single leaf TVC30 core Firecore doorset, nominally 37 mm thick.	AS 1530.4:2014
FSV 1954	Single leaf TVC40 core Firecore doorset, nominally 47 mm thick.	AS 1530.4:2014
FSV 1928	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick – opening towards fire source.	AS 1530.4:2014

Table 4 Additional supporting information

Test report	Test date	Doorset description	Test duration	Test standard
FRT250547 R1.0	17 April 2025	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	120 minutes	AS 1530.4:2014

3.0 Description of the tested door hardware

Table 5 describes the tested door hardware. This information was provided by the test sponsor and the hardware was surveyed by Jensen Hughes.

Photographs of the test specimen are included in Figure 1 to Figure 4.

All measurements were done by Jensen Hughes – unless indicated otherwise.

Table 5 Specimen description

Item	Description	
Door hardware product name	ML-Bardon digital lock with F54 ANSI mortise and scar plate	
Manufacturer/supplier	McGrath Locks Pty Ltd	
Lock type	Mortice	
Note	The mortice lockset comes with a deadbolt function which was connected to a turn snib. The deadbolt can be operated manually and left protruding potentially preventing the fire door from closing. AS 1905.1 does not allow for this. For the lockset to be used on a fire door, the deadbolt cannot be operable. Therefore, the dead bolt function was not engaged for the test.	
Latchset material	Latch bolt	Stainless steel
	Cover plate	Stainless steel
	Retainer plate	Steel
	Strike plate	Stainless steel
	Mortice body and mechanism	Steel and stainless steel
Latchset size	Cut out	To fit mortice
	Latchset body	148 mm × 99 mm × 22 mm
	Cover plate	202 mm × 32 mm × 1.5 mm
	Strike plate	65 mm × 40 mm × 1.2 mm
	Retainer plate	200 mm × 32 mm × 2.2 mm
	Backset	70 mm
	Throw	19 mm
Furniture material	Body	Aluminum alloy with raised buttons and tempered glass screen, 4 × AA batteries, electrical components, wires, plastic and steel.
	Lever	Steel and stainless steel
Furniture size	Body	272 mm × 65 mm × 24 mm
	Lever	128 mm × 22 mm × 20 mm
Scar plate	Size	350 mm × 85 mm × 2.0 mm
	Material	Stainless steel
Installation	Some holes were cut out on the door leaf based on drawing shown in Figure 5. The scar plate was installed to cover the cut-out holes on the door leaf, where the bottom of the scar plate was 136 mm from the bottom of the door leaf. The lockset was installed on the scar plate where the bottom of the lockset was located 146 mm from the bottom of the door leaf.	
Door leaf thickness	38 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 *Figure 4 Pre-installation: tested hardware*



Figure 5 Cutout holes

4.0 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 3, a pilot scale test listed in Table 4 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 - FRT250547 . It included a lockset fitted onto 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 – FRT250547 – the lockset did not initiate failure of the doorset for the duration of the test.

As the proposed lockset did not cause failure in FRT250547, then substituting the proposed hardware for the hardware tested in the referenced doorset reports is not expected to affect their performance.

4.1 Variation in doorset

In addition to assessing the lockset on Firecore doorsets tested full scale to AS 1530.4:2005, the lockset has been assessed for use on the newer Firecore doorsets tested to AS 1530.4:2014. The test references for both older and newer model doorsets are found in Table 3.

The newer model doorsets have enhanced features – such as integrated intumescent seals - that improve the integrity performance of the doorsets – such as by expanding and sealing gaps around the door leaf/leaves as they develop during fire exposure. This behaviour reduces exposure to surface-mounted hardware and therefore, it is considered more onerous to test on the older doorsets compared to the newer doorsets.

As the proposed hardware is surface mounted and its installation does not require the removal of – or interference with – significant portions of these doorset enhancements, the hardware, when tested on AS 1530.4:2005 doorsets, is expected to achieve equivalent or better performance if tested on AS 1530.4:2014 doorsets. Based on the above, the proposed additional AS 1530.4:2014 doorset applicability is positively assessed.

5.0 Conclusion

It is the opinion of Jensen Hughes' accredited fire testing laboratory in Australia that the proposed doorsets are expected to achieve the FRLs shown in Table 6 if fitted with the listed hardware.

This assessment report has been prepared in accordance with section Choose an item. 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 6 Conclusion

Reference test and standard	Description	Assessed hardware	FRL*#
FSV 1382a to AS 1530.4:2005	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick.	ML Bardon digital lock with F54 ANSI mortice and scar plate	-/120/30
FSV 1418a to AS 1530.4:2005	Single leaf TVC40 core Firecore doorset, nominally 48 mm thick.		-/240/30
FSV 1391a to AS 1530.4:2005	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick.		-/240/30
FSV 2133 to AS 1530.4:2014	Single leaf TVC30 core Firecore doorset, nominally 37 mm thick.		-/60/30
FSV 1954 to AS 1530.4:2014	Single leaf TVC40 core Firecore doorset, nominally 47 mm thick.		-/240/30
FSV 1928 to AS 1530.4:2014	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick – opening towards fire source.		-/120/30

*FRL is only valid for the standard used for the reference test.

#The ML Bardon digital lockset comes with a deadbolt function which was connected to a turn snib. The deadbolt can be operated manually and left protruding potentially preventing the fire door from closing. AS 1905.1 does not allow for this. For the lockset to be used on a fire door, the deadbolt cannot be operable. The FRL is only valid for locksets that have the deadbolt function disabled.

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 Jensen Hughes 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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