KAS - KEYLESS ACCESS SECURITY

DOOR HARDWARE ASSESSMENT

KAS NEO and LMS-Platinum locksets, ML series mortise locks and various backset tubular latches

Prepared for

Report sponsor: KAS - Keyless Access Security

Products: KAS NEO and LMS-Platinum locksets, ML series mortise locks and various backset tubular latches

Report number: FAS210013

Revision: DHAR2.0

Issued date: 22 May 2026 Expiry date: 31 May 2031

JENSEN HUGHES

Quality management

Revision	Issued date	Expiry date	Revision description		
DHAR1.0	18 February 2021	28 February 2026	Initial issue		
			Prepared	**Reviewed**	**Authorised**
			Kevin Feng	Imran Ahamed	Omar Saad
DHAR2.0	22 May 2026	31 May 2031	Report revalidated and updated into a master door hardware assessment report		
			Prepared	**Reviewed**	**Authorised**
			Samuel Moeser	Kevin Feng	Alim Rasel
Note: The stated expiry date is dependent on the continued validity of report FCO 3428 throughout the duration of this report's validity period. Therefore, it is essential to read this report in conjunction with FCO 3428.					

Jensen Hughes Fire Testing Pty Ltd
ABN 81 050 241 524
Formerly Warringtonfire Australia Pty Ltd[1]

[1] Warringtonfire Australia Pty Ltd was acquired by Jensen Hughes in December 2023. Jensen Hughes Fire Testing Pty Ltd is not affiliated, associated, authorised, or endorsed by Warringtonfire Australia Pty Ltd, Warringtonfire Testing and Certification Limited or its "Warringtonfire" or "Certifire" brands.

Table of contents

1.0 Introduction

This report documents the findings of the assessment to determine the expected fire resistance level (FRL) of KAS Keyless Access Security locksets installed in Firecore doorsets in accordance with AS 1530.4:2014[2] and AS 1905.1:2015[3] (as applicable).

Jensen Hughes performed this assessment at the request of the report sponsors listed in Table 1.

Table 1 Report sponsor details

Report sponsor	Address
KAS Keyless Access Security	45/215 Brisbane Road Biggera Waters QLD 2416 Australia

2.0 Baseline test data for full scale doorset

Firecore doorsets were previously tested in accordance with AS 1530.4:2005. In addition, Firecore doorsets were further tested in accordance with AS 1530.4:2014. Based on the test data, Firecore doorsets were assessed in accordance with AS 1530.4:2014 in FCO 3428. Based on the above – the achieved performance is summarised in Table 2.

Table 2 Referenced test reports and assessments

Test / assessment reference	Doorset description	Reference doorset	Test standard	FRL
FSV 1382a	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick	A	AS 1530.4:2005	-/120/30
FSV 1418a	Single leaf TVC40 core Firecore doorset, nominally 48 mm thick	B		-/240/30
FSV 1391a	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick	C		-/240/30
FCO 3428	Single leaf TVC30 core Firecore doorset, nominally 38 mm thick	D	AS 1530.4:2014	Up to -/120/30
	Single leaf TVC40 core Firecore doorset, nominally 48 mm thick	E		Up to -/240/30
	Double leaf TVC40 core Firecore doorset, nominally 48 mm thick	F		

Notes:

- It should be noted that the performance of the doorset varied based on their construction and test standards. The relevant doorsets were referenced in section 5 as defined in this table.
- Please contact Firecore Pty Ltd for the latest version of FCO 3428.

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

3.0 Hardware considered in this report

A range of door hardware was considered in this report. The hardware considered is listed in Table 3.

Table 3 List of locksets with or without additional furniture

Item	Model	Description	Backset	Reference test/assessment
1.	KAS NEO with KAS ML mortice lock	KAS ML-S, ML-V, ML-K mortice locksets	70 mm	EWFA 55693800 FAS210013 DHAR1.0
2.	KAS NEO tubular latch	KAS TL-60, TL-70, TL-127 tubular latches	60 mm, 70 mm or 127 mm	EWFA 55693800 DHAR 55693800a.2
3.	KAS LMS-Platinum latchset with KAS ML mortice lock	KAS ML-S, ML-V, ML-K mortice locksets	70 mm	EWFA 34059800 DHAR 34059800a.2 FAS200488 DHAR4.0
4.	KAS LMS-Platinum latchset tubular latch	Latchset with or without privacy latch. KAS TL-60, TL-70, TL-127 tubular latches	60 mm, 70 mm or 127 mm	EWFA 34059800 FAS200488 DHAR4.0

4.0 Additional supporting data considered in this report

The proposed hardware was assessed based on supporting test data listed in Table 4 and in compliance with AS 1905.1:2015.

Table 4 Additional supporting test data

Test report	Test date	Test scale	Doorset description	Tested hardware	Test duration	Test standard
EWFA 55693800	9 August 2018	Pilot scale	Single Leaf TVC30 Core Firecore Doorset nominally 38 mm thick	KAS NEO Series lock with tubular latch	121 minutes	AS 1530.4:2014
EWFA 34059800	16 June 2015	Pilot scale	Single Leaf TVC30 Core Firecore Doorset nominally 38 mm thick	KAS LMS-Platinum latchset with mortise lockset	240 minutes	AS 1530.4:2005

5.0 Assessment

5.1 Door hardware assessment in accordance with AS 1905.1:2015

The performance of Firecore doors in accordance with AS 1530.4:2005 and AS 1530.4:2014 was established based on a number of fire resistance tests. The outcomes of these tests and a subsequent assessment report – FCO 3428 – are summarised in Table 2. It should be noted that FCO 3428 was issued by CSIRO on 24 December 2021. Jensen Hughes has not verified the outcome of this assessment report. However, for the purpose of this report, it is assumed that the outcome is accurate. This report must be read in conjunction with test and assessment reports listed in Table 2. Therefore, the validity of this report is conditional upon the validity of FCO 3428. Any changes or updates to FCO 3428 may therefore impact on the outcome of this report.

As per section 4 of AS 1905.1:2015, door hardware can be assessed based on additional pilot scale or full-scale tests when conducted in accordance with AS 1530.4. The proposed hardware listed in section 3 was tested in full or pilot scale. The test outcomes are summarised in Table 4. Based on the above, the proposed hardware is assessed in this assessment.

This assessment is conditional upon the operational characteristics and materials of the doorset complying with section 2 of AS 1905.1:2015. The field of application of the hardware included in this report is defined by the field of application of the doorset that the door hardware is installed on.

5.2 Applicability of test data to AS 1530.4:2014

It is noted that the pilot scale test EWFA 34059800 was conducted in accordance with AS 1530.4:2005. The stipulations provided in Appendix B11 of AS 1530.4:2005 and AS 1530.4:2014 are not appreciably different. Therefore, the pilot scale test results can be used to assess the fire resistance performance of the hardware if tested in accordance with AS 1530.4:2014.

5.3 Lockset

5.3.1 Assessment based on pilot/full scale test

Section 4.5 of AS 1905.1:2015 permits the assessment of locksets based on a pilot scale or full-scale fire resistance test in accordance with AS 1530.4. As such, in addition to the full-scale tests listed in Table 2, pilot scale or full-scale tests listed in Table 4 form the basis of this assessment.

It is noted that, some locksets included additional furniture. In such case, the furniture was tested as part of the pilot scale or full-scale tests. Any variation in surface mounted furniture is discussed in section **Error! Reference source not found.**.

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. From the pilot scale or full-scale tests, the attained duration of integrity performance of each lockset based on the above criteria is noted.

As the proposed locksets and associated furniture did not cause failure up to the noted timeframes in the pilot scale tests or full-scale tests, substituting the locksets and additional furniture for the hardware tested in the referenced doorsets listed in Table 2 is not expected to affect their performance. Based on the above, the proposed locksets listed in Table 3 are positively assessed. Variations from the tested locksets are discussed in sections 5.3.2, 5.3.3, and 5.3.4

5.3.2 Variation in backset

It is proposed that backset of cylindrical locksets will be varied. AS 1530.4:2014, clause 7.9.7 states that:

(h) The backset of a cylindrical lockset or latchset may be varied, provided no additional encroachment is made on any structural framework of the door leaf and the fixing method remains identical.

For cylindrical locksets, it was confirmed through a survey that no additional encroachment was needed on the leaf and the fixing method remained unchanged. Based on the above, variation in the backset of the cylindrical lock is also positively assessed.

5.3.3 KAS NEO with mortice lock

It is noted that the KAS NEO digital lock was tested with a tubular latch in EWFA 55693800. It is proposed that KAS NEO lockset will be installed in conjunction with a mortice lock instead. It is also noted that, the core hole for the installation of KAS NEO was protected with intumescent in EWFA 55693800. It is proposed that the intumescent will be removed while installing with mortice lock. The intumescent was originally applied as an addition layer of protection. KAS NEO lockset was since tested in similar doorsets without the intumescent and observed to perform up to 120 minutes without failure. Based on these observations, it is concluded that the fire resistance performance of KAS NEO will not be prejudiced if installed without the intumescent in conjunction with mortice locksets.

In reference to test report EWFA 34059800, a KAS LMS- Platinum digital lock was tested in conjunction with a mortice lock. During testing, KAS LMS lockset did not initiate failure of the pilot scale doorset before failure occurred in the referenced test.

For comparative performance analysis, the construction of KAS NEO and KAS LMS locksets were closely analysed. It has been confirmed by the manufacturer that both KAS NEO and KAS LMS locksets were made from the same materials (hence same melting points) and has the same operating function. The major variation between these locksets is KAS LMS is larger in size compared with KAS NEO. It is then considered that under standard fire testing conditions, KAS LMS platinum lockset is expected to expose to more localised heating at the latching zone compared to KAS NEO. This may induce integrity failure due to flaming or gap formation. As both KAS NEO and KAS LMS latchset are otherwise made from same materials and performs same function, it is then expected that, under fire condition, KAS NEO lockset will perform at least similarly or better than KAS LMS.

Based on the above, it is concluded that, KAS NEO lockset will achieve an FRL of -/120/30 if installed in conjunction with KAS ML-S mortice lock in Firecore doorset.

5.3.4 KAS LMS-Platinum latchset with 60mm, 70mm and 127 mm backset tubular latch

In reference to test EWFA 34059800 for KAS LMS-Platinum latchset, the tested mortice lock had the surface size of 93 mm × 139 mm with 70 mm backset and the finishing plate was 25 mm wide × 195 mm long. The proposed tubular latches (Ø23 mm × 82 mm long (TL60), 90 mm long (TL70), 150 mm long (TL127)) have smaller surface size and finishing plate size. Hence, the proposed tubular latches require less material to be removed from the door leaf and edge strip. Also, the material of the proposed tubular latch is not combustible, which minimizes any risk of flaming inside the door leaf. On this basis, it is considered that similar performance would be achieved if the proposed tubular latches were tested instead of the tested doorset.

5.3.5 KAS ML-S, ML-V and ML-K mortise locksets

The proposed KAS ML series mortice locks are made from the same materials and have the same fixing methods with no additional encroachment of door leaf. The schematic of the proposed mortice locks is given in Figure 1.

The tested KAS ML-S mortise lock has a surface size of 98 mm wide × 139 mm high with 70 mm backset. The striking plate was recorded to be 32 mm wide × 203 mm high.

The proposed ML-V mortice lock has similar dimensions to the KAS ML-S with a relocated latchbolt. The relocation of the latchbolt is not expected to negatively impact the performance of the doorsets.

The proposed KAS ML-K mortice lock has a reduced height and width compared with KAS ML-S which represents a reduction in removal of door core for the installation of the lockset. As the door core is the primary barrier against thermal deterioration, such increase in door core material is likely to improve the overall integrity performance. As such, it is expected that KAS ML-K lockset will perform at least similarly or better than KAS ML-S under fire condition. The backset of all proposed lockset remains unchanged as 70 mm.

On this basis it is considered that similar performance would be achieved if the proposed ML series locks were tested in lieu of the tested lockset.

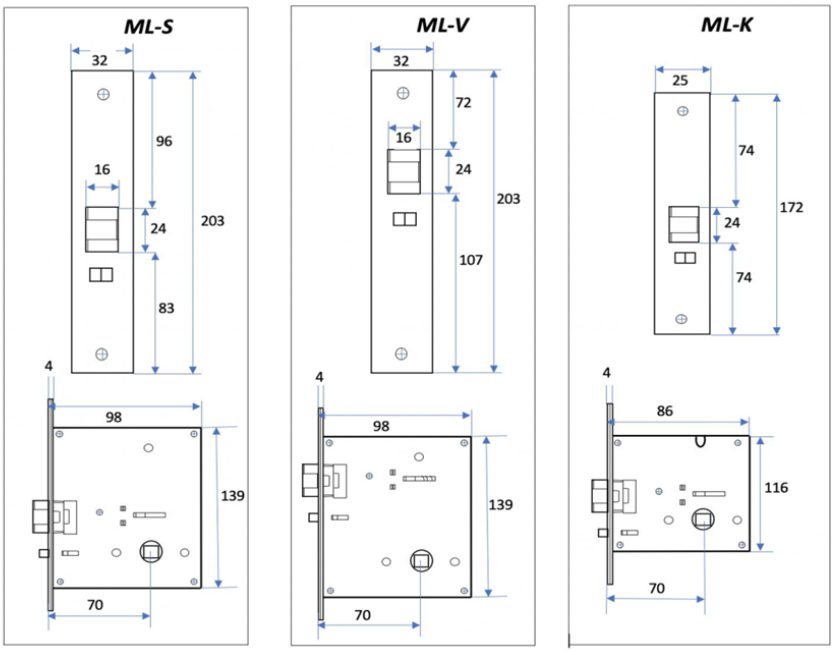

Figure 1 KAS ML series mortise locks

5.3.6 Conclusion

Based on the discussion above, it is the opinion of this laboratory that the proposed locksets listed in Table 5 are capable of achieving the FRLs listed in Table 5 – if they are fitted in the referenced Firecore doorsets.

Table 5 Fire resistance level of locksets installed in Firecore doorset

Item	Model	Description/ Additional furniture	Reference doorset as listed in Table 2	FRL
1.	KAS NEO with KAS ML mortice lock	KAS ML-S, ML-V, ML-K mortice locksets	A, B, C, D, E, F	-/120/30
2.	KAS NEO tubular latch	KAS TL-60, TL-70, TL-127 tubular latches	A, B, C, D, E, F	-/120/30
3.	KAS LMS-Platinum latchset with KAS ML mortice lock	KAS ML-S, ML-V, ML-K mortice locksets	A, D	-/120/30
			B, C, E, F	-/240/30
4.	KAS LMS-Platinum latchset tubular latch	Latchset with or without privacy latch. KAS TL-60, TL-70, TL-127 tubular latches	A, D	-/120/30
			B, C, E, F	-/240/30

Note:

+ The listed FRL is the maximum FRL assigned to the hardware. The system FRL needs to be determined in conjunction with the FRL of the referenced doorset. The lowest index between the FRL of the hardware and doorset will be the applicable FRL of any particular combination. Therefore, this report needs to be read in conjunction with the referenced reports listed in Table 2.

6.0 Summary of assessments

The door hardware assessed in this report and their reference outcome table are summarised in Table 6.

Table 6 Summary of assessment

Hardware	Reference table
Locksets	Table 5

7.0 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.
- 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 Jensen Hughes.