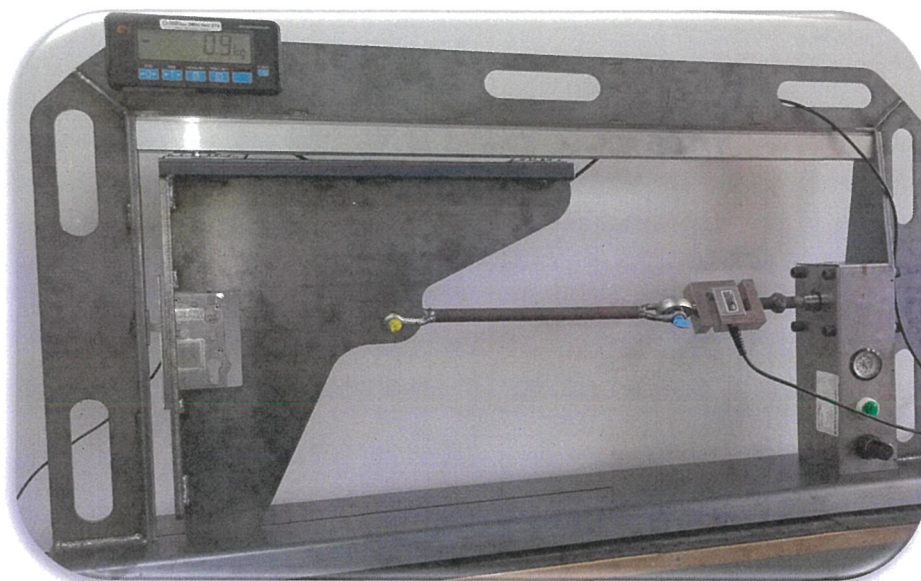

TEST REPORT

CL 100 Opening Force

To establish Resistance to Opening Force



1. Introduction

To establish Compliance to Standard AS4145.2-2008 [Locksets and hardware for doors and windows.

Part 2: Mechanical locksets for doors and windows in buildings].

2. Tested Components

- CL 100 Lock-case.

3. Testing Setup

- Air Supply.
- Lock-case Testing Jig.
- Load Cell.

4. Method

1. A Randomly selected CL 100 lock-case was fitted to the testing apparatus.
2. Air Pressure was then slowly applied to an air ram to create the door opening forces specified in tables 3.4 and 3.5 of the Standard. [See appendix]
3. Forces were monitored via the load cell over a 1-minute period. [See figs 1, 2, & 3.]
4. Deflection was measured with a Vernier. [See fig 4]
5. The Lock was then checked for operation.



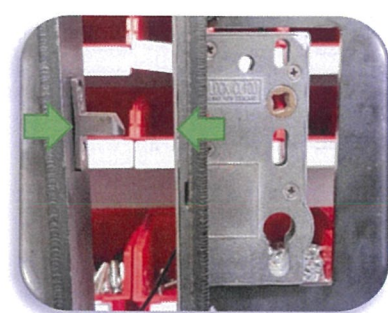
(fig: 1)



(fig: 2)



(fig: 3)



(fig: 4)

5. Results

- Deflection [See fig: 4] was from 0 to 2.3mm.

Opening Force - Horizontal Movement

Lock-case	Mounting	Load KN x 1 Minute		
		3kn	4kn	5kn
CL100	As per instructions	0.80mm	1.60mm	2.3mm

6. Analysis

- Yield was minimal at all loadings
- The lock-case remained operational after each loading

7. Summary

- The Lock-case complies with section, [C6.18 Resistance of sliding door lockset force, of Standard AS4145.2-2008], to all designations up to and including S8. [See appendix]

8. Recommendations from testing

- N/A

Test Engineer: Alex Ford

Date: 11/06/2020

Signed: 

Engineering Manager: Stacey Kenny

Date: 11/06/2020

Signed: Skenny

General Manager: Nick Bridge

Date: 11/06/2020

Signed: 

9. Referenced Documents

- Standard AS4145.2-2008 Part 2: Locksets and hardware for doors and windows.

C6.18 Resistance of sliding door lockset to force

The procedure shall be as follows:

- Mount the lockset in a test sliding apparatus and lock the door in the closed position, that is, with the bolt fully engaged in the strike.
- Apply a load dynamometer parallel with the face of the door and in line with the centre of the bolt.
- Apply the force specified in Tables 3.4 and 3.5 gradually, without shock, and in the direction in which the door opens. Maintain the force for a period of 1 min.
- Remove the force and attempt to open the door.

TABLE 3.4
REQUIREMENTS FOR PHYSICAL SECURITY OF LOCKS

Locks (excluding furniture and cylinder security)	Value for designations									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
<i>Strength tests</i>										
Resistance of bolt to end pressure	N/A	N/A	670 N	670 N	670 N	670 N	670 N	1200 N	N/A	N/A
Resistance of strike box (security) to crushing* (optional)†	N/A	N/A	—	4500 N	4500 N	4500 N	4500 N	9000 N	N/A	N/A
Resistance of hub to torque	N/A	N/A	25 Nm	25 Nm	50 Nm	50 Nm	50 Nm	80 Nm	N/A	N/A
Resistance of bolt to horizontal impact	N/A	N/A	2 × 60 J blows	2 × 60 J blows	2 × 60 J blows	As for S5 plus 2 × 100 J blows	As for S6 plus 2 × 100 J blows	As for S7 plus 2 × 160 J blows	N/A	N/A
Resistance of deadbolt to static force	N/A	N/A	3 kN	3 kN	4 kN	4 kN	5 kN	6 kN	N/A	N/A
Resistance of latchbolt to static force	N/A	N/A	3 kN	3 kN	4 kN	4 kN	5 kN	5 kN	N/A	N/A
Resistance of sliding door lockset to force	N/A	N/A	3 kN	3 kN	4 kN	4 kN	4 kN	5 kN	N/A	N/A
Resistance of swing/hook bolt to vertical impact	N/A	N/A	2 × 20 J blows	2 × 20 J blows	3 × 20 J blows	4 × 20 J blows	5 × 20 J blows	10 × 20 J blows	N/A	N/A
Resistance of deadbolt to sawing‡	N/A	N/A	—	5 min	5 min	5 min	5 min	5 min	N/A	N/A

* For locks supplied with strike boxes only

† Minimum value

‡ If a component is structurally weakened, replace it before the next test

TABLE 3.5
REQUIREMENTS FOR PHYSICAL SECURITY OF DOOR LOCKSETS

	Locksets (including furniture and cylinder security)		Value for designations							
	S _t 1	S _t 2	S _t 3	S _t 4	S _t 5	S _t 6	S _t 7	S _t 8	S _t 9	S _t 10
<i>Strength tests</i>										
	N/A	N/A	670 N	670 N	670 N	670 N	670 N	1200 N	N/A	N/A
Resistance of bolt to end pressure	N/A	N/A	—	4500 N	4500 N	4500 N	4500 N	9000 N	N/A	N/A
Resistance of strike box (security) to crushing* (optional)†	N/A	N/A	25 Nm	25 Nm	50 Nm	50 Nm	50 Nm	80 Nm	N/A	N/A
Resistance of hub to torque	N/A	N/A	2 × 60 J blows	2 × 60 J blows	2 × 60 J blows	2 × 60 J blows	As for S _t 6 plus 2 × 100 J blows	As for S _t 7 plus 2 × 160 J blows	N/A	N/A
Resistance of bolt to horizontal impact	N/A	N/A	3 kN	3 kN	4 kN	4 kN	5 kN	6 kN	N/A	N/A
Resistance of deadbolt to static force	N/A	N/A	3 kN	3 kN	4 kN	4 kN	5 kN	5 kN	N/A	N/A
Resistance of latchbolt to static force	N/A	N/A	3 kN	3 kN	4 kN	4 kN	4 kN	5 kN	N/A	N/A
Resistance of sliding door lockset to force	N/A	N/A	2 × 20 J blows	2 × 20 J blows	3 × 20 J blows	4 × 20 J blows	5 × 20 J blows	10 × 20 J blows	N/A	N/A
Resistance of swing/hook bolt to vertical impact	N/A	N/A	—	5 min	5 min	5 min	5 min	5 min	N/A	N/A
Resistance of deadbolt to sawing‡	N/A	N/A	2 × 20 J blows	2 × 20 J blows	5 × 20 J blows	5 × 20 J blows	5 × 20 J blows	10 × 20 J blows	N/A	N/A
Resistance of turnknob, knob or lever to vertical impact	N/A	N/A	4.8 kN	4.8 kN	11 kN	11 kN	11 kN	16 kN	N/A	N/A
Resistance of cylinder escutcheon to pulling	N/A	N/A	50 Nm	50 Nm	100 Nm	120 Nm	140 Nm	160 Nm	N/A	N/A
Resistance of escutcheon to torque†	N/A	N/A	50 Nm	50 Nm	110 Nm	110 Nm	110 Nm	160 Nm	N/A	N/A
Resistance of turnknob, knob or lever to torque	N/A	N/A	0.7 kN	0.7 kN	0.8 kN	0.9 kN	1 kN	1.1 kN	N/A	N/A
Resistance of lever to axial force‡	N/A	N/A	0.7 kN	1.1 kN	1.2 kN	1.3 kN	1.5 kN	1.6 kN	N/A	N/A
Resistance of knob to vertical load‡	N/A	N/A	0.7 kN	1.1 kN	1.2 kN	1.3 kN	1.5 kN	1.6 kN	N/A	N/A
Resistance of lever to vertical load‡	N/A	N/A	1.3 kN	1.3 kN	1.3 kN	4.8 kN	4.8 kN	11.0 kN	N/A	N/A
Resistance of cylinder to pull force attached to lockset	N/A	N/A	1.1 kN	1.1 kN	1.4 kN	1.5 kN	2.0 kN	2.3 kN	N/A	N/A
Resistance of cylinder to torque attached to lockset	N/A	N/A	1 × 50 J blow	1 × 50 J blow	2 × 50 J blows	2 × 50 J blows	2 × 50 J blows	5 × 50 J blows	N/A	N/A
Resistance of knob to axial load‡	N/A	N/A	1 × 20 J blow	1 × 20 J blow	2 × 20 J blows	2 × 20 J blows	5 × 20 J blows	15 × 20 J blows	N/A	N/A
Resistance of cylinder to horizontal impact attached to lockset	N/A	N/A	1 × 20 J blow	1 × 20 J blow	2 × 20 J blows	2 × 20 J blows	5 × 20 J blows	15 × 20 J blows	N/A	N/A
Resistance of cylinder to vertical impact attached to lockset	N/A	N/A	Refer to Clause 3.8.3							
Strength of lever return mechanism										

* For locks supplied with strike boxes (security) only

† Maximum value

‡ If a component is structurally weakened, replace it before the next test