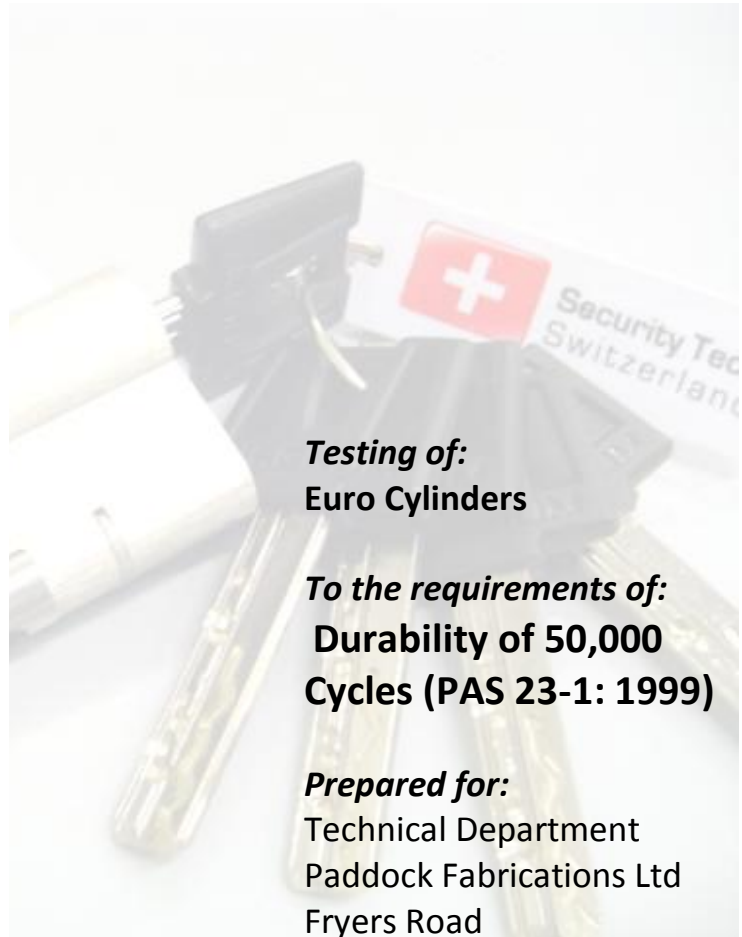


PaddockTM Innovators in hardware



Testing of:
Euro Cylinders

To the requirements of:
Durability of 50,000
Cycles (PAS 23-1: 1999)

Prepared for:
Technical Department
Paddock Fabrications Ltd
Fryers Road
Bloxwich
Walsall
WS2 7LZ

Date:
13th July 2009

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1 Introduction

This report details the results of durability testing conducted on Euro cylinders in accordance with PAS 23. The cylinders were manufactured for and supplied by Paddock Fabrications Ltd.

The test program was performed at the request of Paddock Fabrications Technical Department.

A durability of 100,000 cycles was specified. (The standard asks for 50,000)

Testing was carried out between 1st June & 13th July 2009 and performed on an in-house Cyclic Test Rig.

Each cycle consisted of:

- (a) Door closed.
- (b) Lift handle to engage.
- (c) Return handle to centre.
- (d) Rotate key to lock.
- (e) Rotate key to unlock.
- (f) Lower handle to disengage.
- (g) Door opens.
- (h) Return handle to centre.
- (i) Door closes.

2 Test Details

Client Details

Company Name	Technical Department
Address	Paddock Fabrications Ltd
	Fryers Road
	Bloxwich
	Walsall
	WS2 7LZ

Contact

Stuart Carpenter

Sample Details

Product	Euro cylinders
Model	
Part Number	
Finish	Natural
Manufacturer	Magnum
Other Information	

Test Details

Date Test Started	14/05/09
Date Test Completed	29/05/09
Test specification	PAS 23

Standard Requirements 50,000 Cycles (Paddock require 100,000)

Test Conducted By Rob Goodwin

3 Test Results

No. of Cycles	Operation
10,000	Ok
20,000	Ok
30,000	Ok
40,000	Ok
50,000	Ok
60,000	OK
70,000	Ok
80,000	Ok
90,000	Ok
100,000	Ok

4 Conclusions

After 100,000 cycles the cylinder was removed and checked for operation. The cylinder remained fully operational and showed no adverse signs of wear. The cylinder fulfilled the criteria of Durability of 100,000 cycles.

The cylinder was turned around and the test was repeated until 100,000cycles were achieved.

Upon removal the cylinder was found to be functioning normally.

TEST RIG DETAILS

Cycles per hour	480
Operating Pressure	90 psi
Handle up/down	Double action cylinder/Rack & pinion
Door open/close	Double action cylinder
Key Return	Double action cylinder/Rack & pinion
Control Panel	SMC PnuAlpha Electronic Controller

5 Photographs

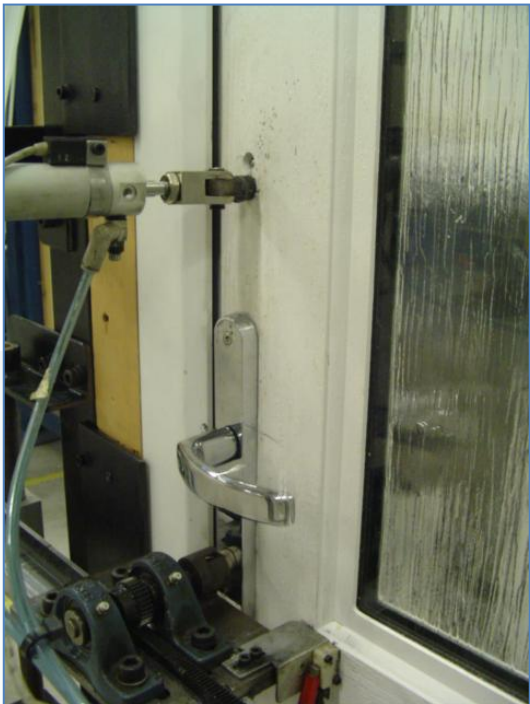


Cyclic test rig.



Handle lifts to engage.





Handle centre, key rotates to lock.



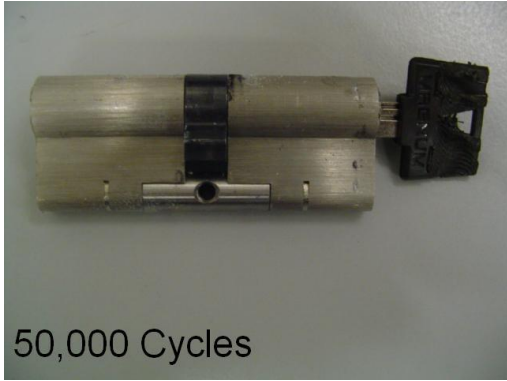
Key rotates to unlock, handle lowers to disengage.



Door Opens



Before Testing
Cylinder Before Testing



50,000 Cycles

Cylinder after 50,000 Cycles



100,000 Cycles

Cylinder after 100,000 Cycles



200,000 Cycles

Cylinder after 200,000 Cycles

End of Report