ASSA ABLOY

EN1303:2005

Test of:

Yale KM 1 star euro profile cylinders

Building Hardware – Cylinders for locks
Requirements and test methods

Customer:

BSI Group

UKAS TESTING
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AUTHORISATION

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Report issued by: Richard Darrell (Senior Test Engineer)

Signed:

Date: 29th June 2016

For and on behalf of ASSA ABLOY UK Test Laboratory

Report authorised by: Ian Bridge (Test Laboratory Manager)

Signed:

Date: 29th June 2016

For and on behalf of ASSA ABLOY UK Test Laboratory

Date report issued: 29th June 2016

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Note that tests marked "Not UKAS Accredited" are not covered by the Laboratory UKAS accreditation schedule

Origin of Request

Client Details

Company Name	BSI Group
Address	Kitemark Court Davy Way Knowhill Milton Keynes
Post Code	MK5 8PP
Contact	Christine Axelson – Certification Manager – Light Construction

Order Details

Order Number	SMO 8365395
Dated	1st July 2015

Test Details

Sample Details

Product	Euro profile cylinders
Model Number	KM 1 star
Marking / Brand	Yale
Manufacturer	ASSA ABLOY UK
Date of Manufacture	Not known
Other information	The customer supplied appropriate differ keys

Test Specification / Details	EN1303:2005 – Building Hardware – Cylinders for locks Classification 1|6|0|1|0|C|5|2 but including security clauses 4.9.1, 4.9.4 & 4.9.5 and excluding corrosion clause 4.7.1
Date samples received	20th November 2015
Date test commenced	24th May 2016
Date test completed	15th June 2016
Job Number	2016-148
Any special test requirements	None

Test Conclusions

Clause No.	Description	Compliance
4.1	**General**	
4.2	Key strength	Yes
4.3	Durability	Yes
4.4	Door Mass	N/A
4.5	**Fire Resistance**	Yes
4.6	**Safety**	N/A
4.7	**Corrosion Resistance**	
4.7.1	General	Not Tested
4.7.2	Operation at extremes of temperature	Not Tested
4.8	**Key Related Security**	
4.8.1	General	Yes
4.8.2	Minimum number of effective differs	Yes
4.8.3	Minimum number of moveable detainers	Yes
4.8.4	Maximum number of identical steps	Yes
4.8.5	Direct coding on key	Yes
4.8.6	Operation of security mechanism	Yes
4.8.7	Torque resistance of plug/cylinder relevant to key related security	Yes
4.9	**Attack Resistance**	
4.9.1	Resistance to attack by drilling	Yes
4.9.2	Resistance to attack by chisel	Not Tested
4.9.3	Resistance to attack by twisting	Not Tested
4.9.4	Resistance to attack by plug/cylinder extraction	Yes
4.9.5	Torque resistance of plug/cylinder relevant to attack resistance	Yes
7	**Marking**	Yes

Picture of Samples

One of the samples, all were received in a good working condition

Test Results

5.2 Key Strength

Clause / Description	Requirement	Actual	Assessment
5.2 – Key strength	Apply torque of 2.5 Nm Key subsequently operates cylinder @ <1.5Nm	Sample 1 – 2.5Nm applied subsequently operates @ 0.01Nm Sample 2 – 2.5Nm applied subsequently operates @ 0.011Nm	Pass Pass

5.3 Durability

Clause / Description	Requirement	Actual	Assessment
5.3 – Durability	Grade 6 – 100,000 cycles New original key operates after test @ <1.5 Nm	Sample 1 – 100,000 cycles New original key operates after test @ 0.012Nm Sample 2 – 100,000 cycles New original key operates after test @ 0.011Nm	Pass Pass

5.4 Door Mass

Not applicable to cylinders, no tests required

5.5 Fire Resistance

Warrington Fire assessment report 148484

5.6 Safety

Not applicable to cylinders, no test required

5.7 Corrosion and Extremes of Temperature

Clause / Description	Requirement	Actual	Assessment
5.7 – Corrosion resistance	Not required	Not tested	N/A
		Not tested	N/A
5.7 – Operation at extreme of temperatures	Not required	Not tested	N/A
		Not tested	N/A

5.8 Key Related Security

Clause / Description	Requirement	Actual	Assessment
5.8.1 – Min number of effective differs	Grade 6 – 100,000 minimum differs	System provides 30,614 effective differs	Pass
5.8.2 – Min number of moveable detainers	Grade 6 – 6 moveable detainers	System has 6 moveable detainers	Pass
5.8.3 – Max number of identical steps	Grade 6 – 50 %	Sample 1 – 50 % (max of 3)	Pass
		Sample 2 – 50 % (max of 3)	Pass
5.8.4 – Direct coding of key	Grade 6 – No coding on key	Sample 1 – No coding on key	Pass
		Sample 2 – No coding on key	Pass
5.8.5 – Operation of security mechanism	Grade 6 – Following durability next closest key up and down shall not operate @ max torque of 1.5 Nm	Sample 1 – Up key does not operate	Pass
		Down Key does not operate	Pass
		Sample 2 – Up key does not operate	Pass
		Down Key does not operate	Pass
5.8.6 - Torque resistance of the plug/cylinder	Grade 6 – Cylinder shall not operate with torque of 15 Nm applied via suitable tool	Sample 9 – 20Nm bit 'cammed' out of keyway Cylinder remained secure	Pass
		Sample 10 – 18Nm bit 'cammed' out of keyway Cylinder remained secure	Pass

5.9 Attack Resistance

Clause / Description	Requirement	Actual	Assessment
5.9.1 – Resistance to drilling	Grade 2 – 5 minutes drilling time 10 minutes total attack time. Rotation of cylinder should not occur using a max torque of 5Nm	Sample 3 – 5 minutes drilling, 10 minutes total attack time. Cylinder did not rotate with a max torque of 5Nm	Pass
		Sample 4 – 5 minutes drilling, 10 minutes total attack time. Cylinder did not rotate with a max torque of 5Nm	Pass
5.9.2 – Resistance to chisel	Not required	Not tested	N/A
		Not tested	N/A
5.9.3 – Resistance to twisting	Not required	Not tested	N/A
		Not tested	N/A
5.9.4 – Resistance to plug extraction	Grade 2 – 15kN, total working time of 5 minutes	Sample 7 – Extraction screw pulled from plug @ 4.28kN. Total working time 2 minutes 6 seconds	Pass
		Sample 8 – Extraction screw pulled from plug @ 4.26kN. Total working time 2 minutes	Pass
5.8.6 – Torque resistance of plug/cylinder	Grade 2 – Cylinder shall not operate with torque of 30Nm applied via suitable tool	Sample 9 – 16Nm torque bit 'cammed' out of plug Cylinder does not operate	Pass
		Sample 10 – 16Nm torque bit 'cammed' out of plug Cylinder does not operate	Pass

Clause 6 – Classification of cylinder

	Category of use	Durability	Door mass	Fire resistance	Safety	Corrosion resistance & temperature	Key related security	Attack resistance
Required	1	4, 5 or 6	0	0 or 1	0	0, A, B or C	1 - 6	0, 1 or 2
Specified	1	6	0	1	0	Not tested	5	2
Achieved	1	6	0	1	0	Not tested	5	2
Pass/Fail	Pass	Pass	Pass	Pass	Pass	Not tested	Pass	*Pass

*Note only clauses 4.9.1, 4.9.2 and 4.9.5 covered as no suitable hardware supplied to cover the remaining clauses

Clause 7 – Marking

Requirement	Actual	Assessment
The classification in clause 6 shall be quoted in the accompanying documents relevant to the cylinder, on its labelling or packaging and/or by marking the product itself or by more than one of these methods	Products and packaging show correct classification code	Pass
If a cylinder requires the use of escutcheons or protective security furniture in order to meet a grade claimed by the manufacturer, then this should be stated on the fixing instructions or other literature, which should be provided by the manufacturer	Stated on supplied literature	Pass

Notes

Clause 5.3 – Pro Natur was used to lubricate the keys at the commencement of testing and at each 25,000 cycle interval

Clause 5.8.1 – Key differ details supplied by customer reference chart 10202V00H_130116

Clause 5.9.1 – Drill sizes used for testing were: Test 1 - 3mm & 4mm HSS and Test 2 - 3mm & 4mm HSS

Clause 5.9.4 – Traction screw size used – 3.9mm self-tapping for both samples 7 & 8

Disposal

Samples will be retained for a minimum of one week prior to disposal

Picture

Marking details on packaging