ASSA ABLOY

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TEST REPORT

No. TR 270-11

Test of: Cylinder

Issue Date: 19th September 2011

UKAS TESTING
2526

Test to: BS EN 1303 : 2005,category of use grade 1 , durability grade 6 , corrosion resistance grade C, key security grade 3		
Client Details: ASSA ABLOY	**Contact:** J McGuinness - Product Management EMEA	
Sample Details: Yale EMEA 6 pin flat key cylinder 1000 series, 13 samples supplied.		
Samples Received: 2nd September 2011	**Date Test Completed:** 19th September 2011	**Job Number:** 2011-242

Picture of Sample

Samples were received in a good condition

Test Conclusions

Clause No	Description	Compliance
5.2	Key strength	Yes
5.3	Durability	Yes
5.4	Door Mass	N/A
5.5	Fire resistance	No
5.6	Safety	N/A
5.7	Operation at extreme temperatures	Yes
5.8.1	Minimum number of effective differs	Yes
5.8.5	Operation of security mechanism	*N/A
5.8.6	Torque resistance of plug/cylinder	Yes
5.7	Corrosion resistance	Yes

* Operation of security mechanism could not be fully checked as next closest differ keys were not supplied.

Classification Achieved

Category of use	Durability	Door mass	Fire resistance	Safety	Corrosion resistance & temperature	Key related security	Attack resistance
1	6	0	0	0	C	3	0

Disposal

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

Senior Test Engineer: Richard Darrell

Authorised by: Ian Bridge (Laboratory Manager)

Results

5.2 Key strength

Clause / Description	Requirement	Actual	Assessment
5.2 – Key strength	Apply torque of 2.5 Nm Key subsequently operates cylinder @ <1.5 Nm	Sample 1 - 2.5 Nm applied subsequently operates @ <1.5 Nm	Pass
		Sample 2 - 2.5 Nm applied subsequently operates @ <1.5 Nm	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 @ <1.5 Nm	Pass
		Sample 2 - 100,000 cycles new original key operates after test @ <1.5 Nm	Pass

5.4 Door mass

Not applicable to cylinders, no tests required.

5.5 Fire resistance

No evidence submitted by customer.

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	Grade C – 96 Hours exposure subsequently operates with max torque of 1.5 Nm	Sample 12 – After 96 hours exposure the cylinder operates @ 0.06 Nm	Pass
		Sample 13 – After 96 hours exposure the cylinder operates @ <0.05 Nm	Pass
5.7 – Operation at extreme temperatures	Grade C – + 80˚c -20˚c At each temperature the key will operate and not exceed the torque of 1.5 Nm	Sample 1 – <0.05 Nm @ +80˚c <0.05 Nm @ -20˚c	Pass
		Sample 2 – <0.05 Nm @ +80˚c <0.05 Nm @ -20˚c	Pass

5.8 Key related Security

Clause / Description	Requirement	Actual	Assessment
5.8.1 – Min number of effective differs	Grade 3 – 15,000 differs	15,071 differs	Pass
5.8.2 – Min number of moveable detainers	Grade 3 – 5 moveable detainers	System has 6 moveable detainers	Pass
5.8.3 – Max number of identical steps	Grade 3 – 60 %	3 identical steps (50%) max of 2 adjacent	Pass
5.8.4 – Direct coding of key	Grade 3 – Coding not allowed on key	Sample 1 – No coding on key	Pass
		Sample 2 – No coding on key	Pass
5.8.5 – Operation of security mechanism	Grade 3 – Following durability next closest key up and down shall not operate @ max torque of 1.5 Nm	Sample 1 – No closest differ keys supplied	Not tested
		Sample 2 – No closest differ keys supplied	Not tested
5.8.6 - Torque resistance of the plug/cylinder	Grade 3 – Cylinder shall not operate with torque of 15 Nm applied via suitable tool	Sample 9 - 15 Nm does not operate	Pass
		Sample 10 - 15 Nm does not operate	Pass

Notes

Clause 5.3 – Pro Natur was used to lubricate the keys at the start of test and thereafter at 25,000 cycle intervals.

Clause 5.7 – No lubrication was required for the operation of cylinder following this test.

Marking

No Marking details were supplied.