

Test Report No. 7191147996-MEC16/01-MHA
dated 20 Feb 2017
(2191049303)



PSB Singapore

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SUBJECT:

Cyclic movement endurance test on 'Ocius' OFH 84 EN3 floor spring submitted by Ocius Hardware.

TESTED FOR:

Ocius Hardware
Jakarta
Indonesia

DATE SUBMITTED:

04-Oct-2016

Test duration:

14-Dec-2016 to 15-Feb-2017

METHOD OF TEST:

BS EN 1154:1997/A1:2002 - Clause 7.3 (excluding clause 7.2.2 & 7.4) : Mechanical performance and durability.

The test was conducted at TÜV SÜD PSB fire test laboratory located at No. 10, Tuas Avenue 10, Singapore 639134.

Ang. David



LA-2007-0380-A
LA-2007-0381-F
LA-2007-0382-B
LA-2007-0383-G
LA-2007-0384-G
LA-2007-0385-E
LA-2007-0386-C
LA-2010-0464-D

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1 Science Park Drive, #02-01
Singapore 118221
TUV®



DESCRIPTION OF SAMPLES :

1.0 Two pieces of floor springs were received. The following descriptions were said to be :

- 1.1 Brand : 'Ocuis' OFH 84 EN3 with no backcheck
- 1.2 Overall dimension (Closer with casing) : 306mm (L) x 109mm(W) x 42mm(D)
- 1.3 Country of origin : China
- 1.4 Permanent marking on closer body : 'Ocuis' OFH 16 10
(Brand/model number/
year and week of manufacture)
- 1.5 The manufacturer's installation instruction was provided.
- 1.6 There is no manual hold open device.
- 1.7 The control regulators operated only by means of a tool.
- 1.8 There is no delay action function.
- 1.9 Free play at the zero position does not exceed 3mm.

RESULTS:

2.0 Measurement after 5,000 test cycles

Description		Measurements		Requirements (Size 3)
		Right	Left	
Between 0° to 4°	Closing moment	23.3	24.3	18 to < 26 Nm
	Opening moment	31.3	32.3	-
Between 88° to 92°	Closing moment	13.4	12.5	6 Nm minimum
	Opening moment	28.5	29.8	-
Min. closing torque at max. opening angle permitted by the closer	Closing moment	14.5	13.6	4 Nm minimum
Between 0° to 60°	Opening moment	33.6	34.4	47 Nm maximum
Between 0° to 4°	Efficiency	74.4	75.2	55% minimum
Closing time from 90°				
Adjustability		2.3	2.3	3 sec. or less
		> 20		20 sec. or more
Closing overload test		Yes		Able to withstand

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2.1 Verification after 100,000 test cycles

Description	Measurements		Requirements (Size 3)
	Right	Left	
Backcheck	Not Applicable	Not Applicable	The test door shall stop before the 90° open position.

2.2 Measurement after 500,000 test cycles

Description	Measurements		Requirements (Size 3)	
	Right	Left		
Time taken to close from 90° to fully closed position	4.4 <small>(original value : 4.3sec)</small>	4.3 <small>(original value : 4.3sec)</small>	Shall be less than 2 times or more than 0.7 times the original value. <small>(i.e Right: Between 3.0 and 8.6 sec) (i.e Left: Between 3.0 and 8.6 sec)</small>	
Between 0° to 4°	Closing moment	22.6	24.5	18 to < 26 Nm
	Opening moment	29.7	32.0	-
Between 88° to 92°	Closing moment	13.1	12.7	6 Nm minimum
	Opening moment	28.3	29.5	-
Min. closing torque at max. opening angle permitted by the closer	Closing moment	17.6	16.8	4 Nm minimum
Between 0° to 60°	Opening moment	30.1	33.0	47 Nm maximum
Between 0° to 4°	Efficiency	76.1	76.6	55% minimum
Closing time from 90°				
Adjustability	2.3	2.3	3 sec. or less	
	>20		20 sec. or more	
Closing overload test	Yes		Able to withstand	
Free play at the zero position	1mm	1mm	6mm maximum	

2.3 Observations throughout test

Description	Measurements	Requirements (Size 3)
Fluid leakage	No leakage	No fluid leakage from door closer.
Damage	No damage	No damage to door closer or its arms that would adversely affect its performance.

Ang David



CONCLUSION :

According to SS 332: 2007: Annex F:- Clause 5.1 - For mechanical performance and durability, the test results obtained showed that the sample tested meet the requirements and is classified as:.

3	8	3	0	1	0
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REMARK :

The floor spring was installed according to the installation manual for size 3.



Aung Min Htet
Higher Associate Engineer

David Ang
Product Manager
(Fire Property)
Mechanical

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July 2011

