

**Test Report No. 7191106914-MEC15-DL**  
dated 13 Mar 2015



PSB Singapore

Choose certainty.  
Add value.

**Note:** This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

**SUBJECT:** Endurance test (100,000 cycles) of CKS-SL890 top hanging sliding glass door system.

**TESTED FOR:** CKS Glass Hardware Sdn Bhd  
No. 37 Jalan Tembaga SD5/2G  
Bandar Sri Damansara  
52200 Kuala Lumpur  
Malaysia  
Attn: Ms. Hedy Loh

**TEST METHOD:** Endurance test (100,000 cycles):  
The suspended glass door was subjected to 100,000 cycles of opening and closing operation (sliding to and fro), at the rate of 4 cycles per minute. The system was inspected after 100,000 cycles to examine for any obvious damage on the door rollers.

Test requirement:  
Adopted from SS 268: 1983 Specification for aluminium framed sliding glass doors  
Appendix A - Clause A.4 –Test 4 –Ease of sliding

**SAMPLE DESCRIPTION:** One unit of top hanging frameless glass door system comprising of one glass door panel was installed onto the test rig for endurance test.  
The glass door was suspended by a top hanging track and two pieces of carriage rollers affixed to the top of the glass door.

Model of door roller : CKS-SL890  
Size of glass door : 1200 mm (W) x 2700 mm (H) x 12 mm (Thk)  
Weight of glass door panel : 97 kg

**DATE OF SAMPLE SUBMITTED:** 5 Feb 2015

**DATE OF TEST:** 11 Feb 2015

**DRAWING SUBMITTED:** 2 sheets of sliding glass door drawing  
1 sheet of door roller drawing



TÜV SÜD PSB

Laboratory:  
TUV SUD PSB Pte. Ltd.  
No.1 Science Park Drive  
Singapore 118221

Phone : +65-6885 1333  
Fax : +65-6776 8670  
E-mail: testing@tuv-sud-psb.sg  
www.tuv-sud-psb.sg  
Co. Reg : 199002667R

Regional Head Office:  
TUV SUD Asia Pacific Pte. Ltd.  
3 Science Park Drive, #04-01/05  
The Franklin, Singapore 118223  
TUV®

**Test Report No. 7191106914-MEC15-DL**  
dated 13 Mar 2015



PSB Singapore

**TEST RESULTS:**

Endurance test (100,000 cycles)

Test		Number of cycles											SS 268: 1983 Requirements	
		Initial	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000		
Observation		No visual damage was observed.											No visual damage to the fastener / hardware shall be detected.	
Ease of movement of sash	Force to initiate movement (N)	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	8.8	8.8	8.8	8.8	≤ 120N
	Force to sustain movement (N)	3.9	3.9	4.9	4.9	4.9	4.9	4.9	4.9	5.9	5.9	5.9	5.9	≤ 80N

Results: Passed.

Remarks: (1) No visual damage was observed on the CKS-SL890 door rollers after 100,000 cycles of endurance test. (See Figure 4 & 5 on page 7 & 8)  
(2) The CKS-SL890 top hanging sliding door system was able to operate (slide to and fro) normally after the 100,000 cycles of endurance test.

David Li  
Associate Engineer

Ong Khay Beng  
Executive Engineer  
Building  
Mechanical Centre

APPENDIX I: COMPONENTS OF CKS-SL890 TOP HANGING SLIDING GLASS DOOR SYSTEM

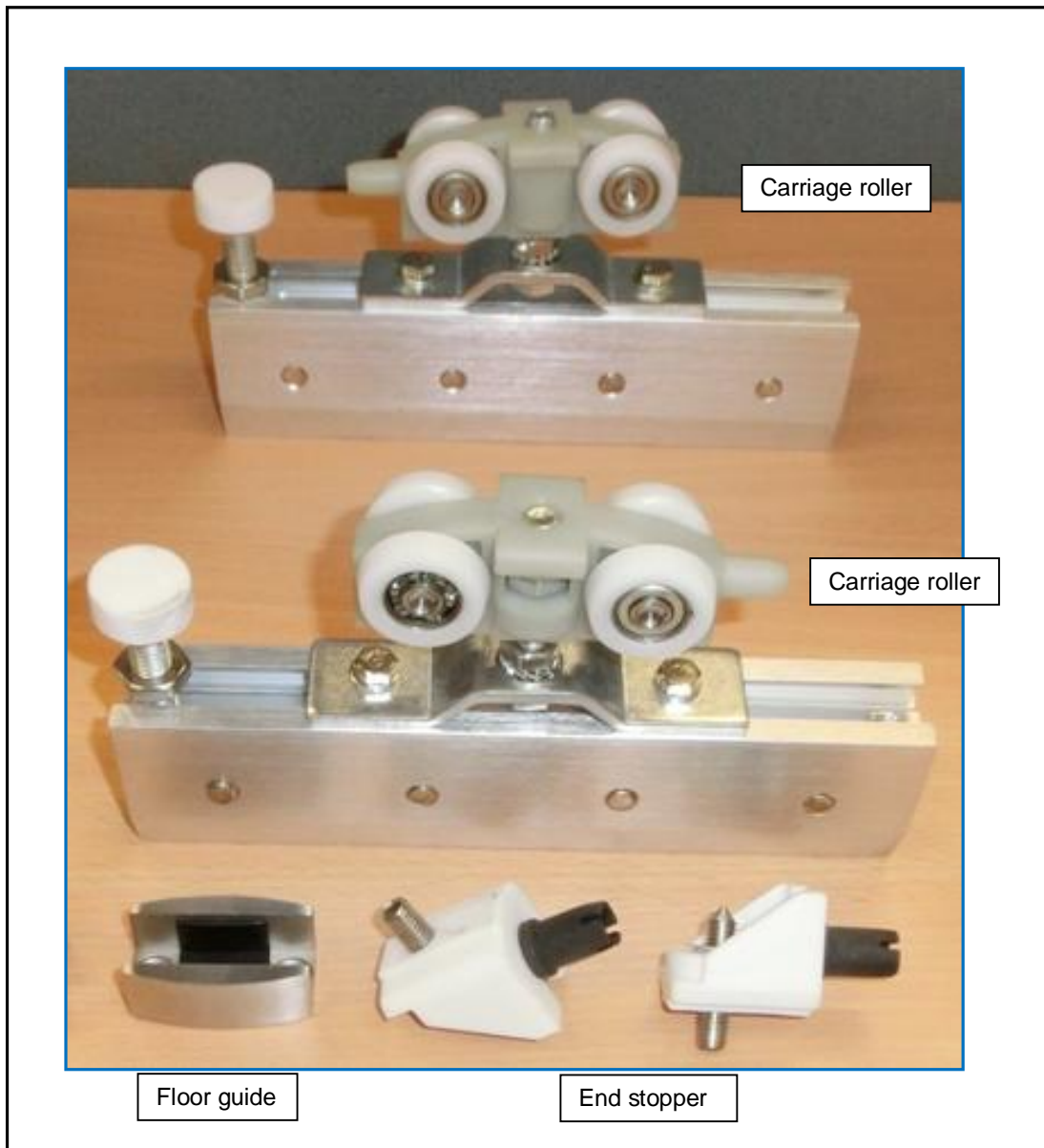


Figure 1: Components of CKS-SL890 top hanging sliding glass door system



APPENDIX II: PHOTOS TAKEN DURING TEST

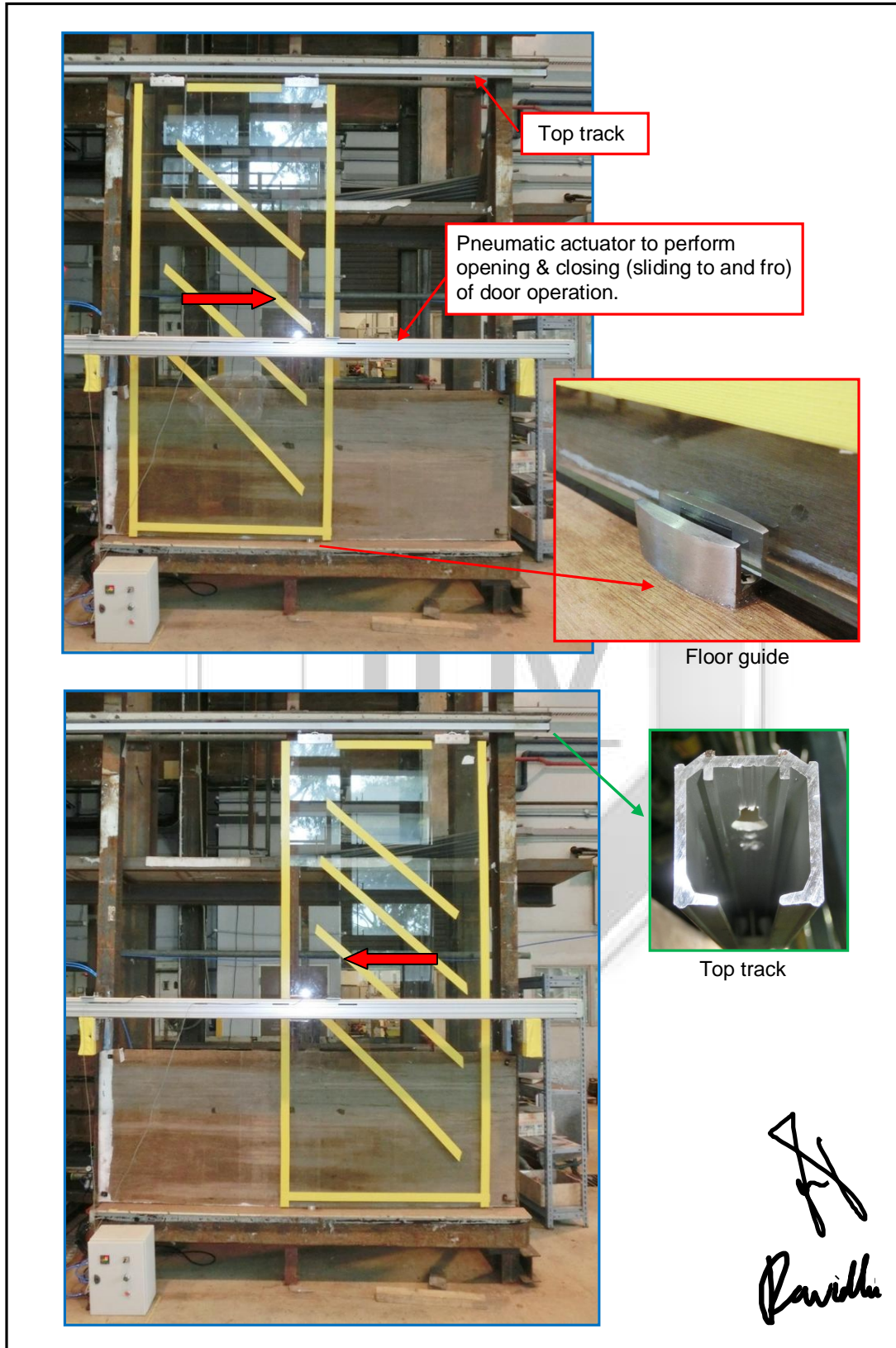


Figure 1: CKS-SL890 sliding glass door system undergoing endurance test

APPENDIX II: PHOTOS TAKEN DURING TEST (CONT'D)

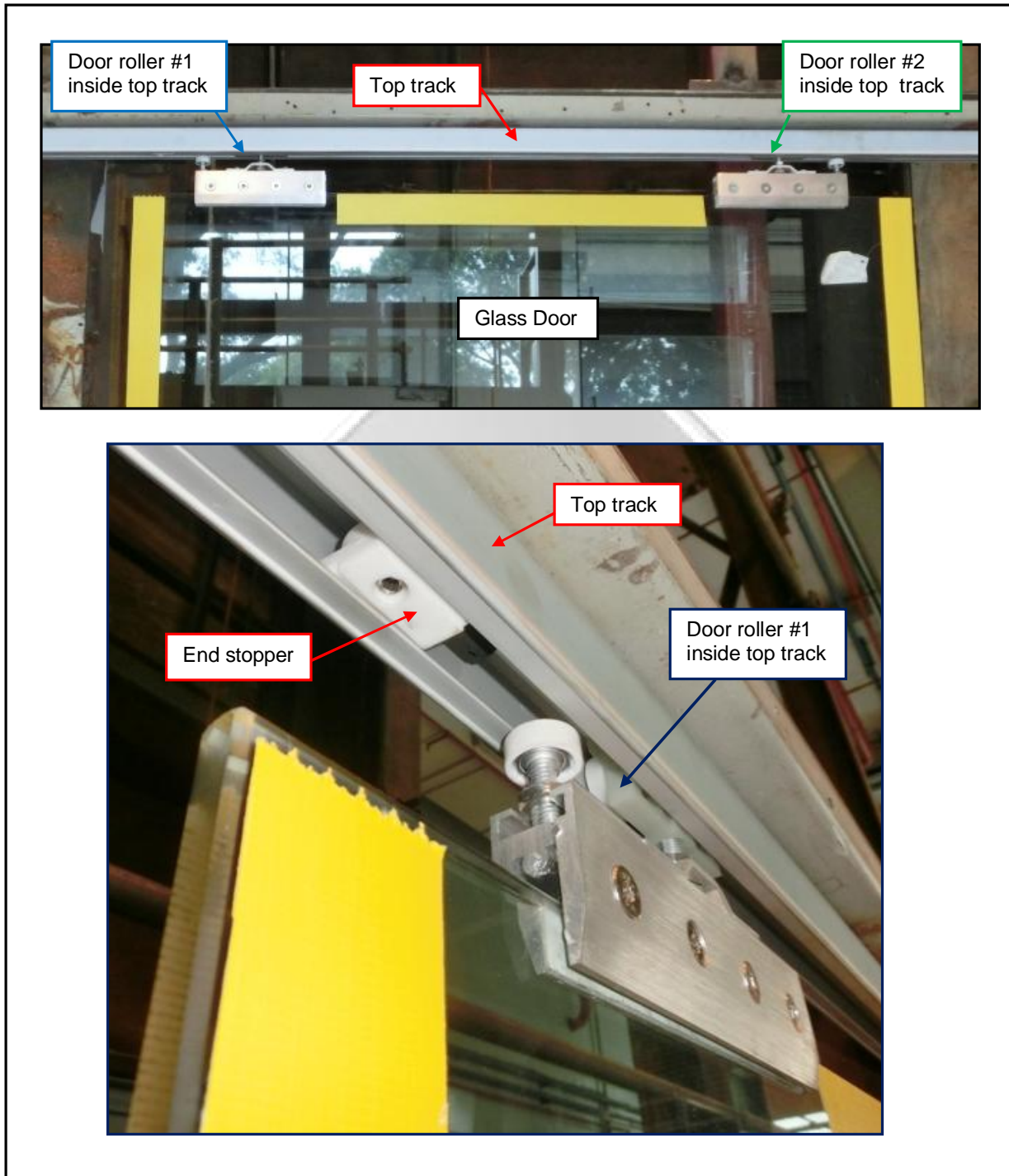
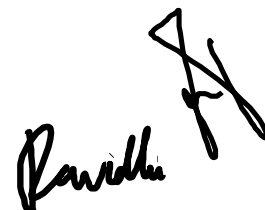


Figure 2: Installation of CKS-SL890 door roller at the top of glass door



APPENDIX II: PHOTOS TAKEN DURING TEST (CONT'D)

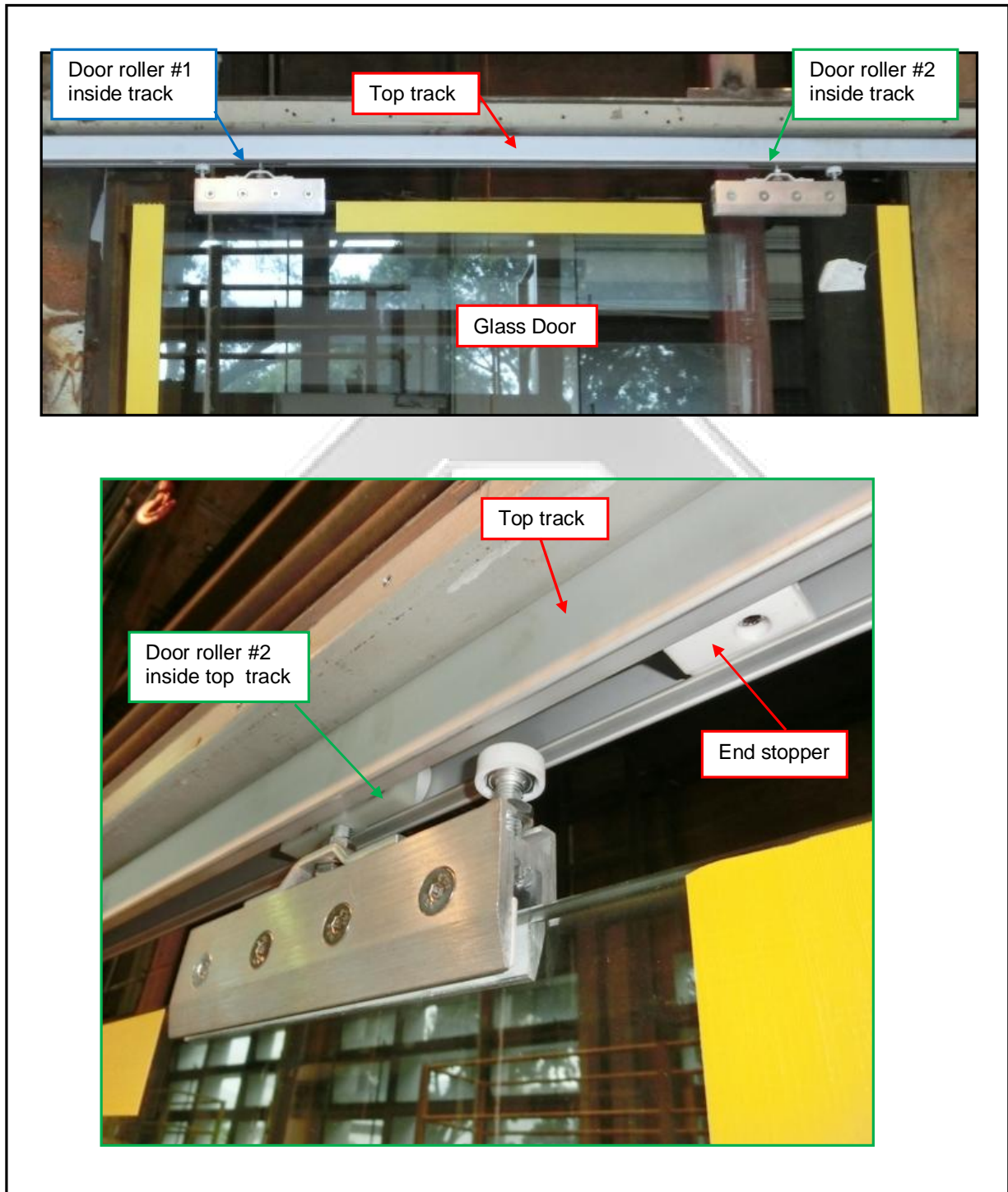


Figure 3: Installation of CKS-SL890 door roller at the top of glass door



APPENDIX III: PHOTOS TAKEN AFTER TEST



Figure 4: CKS-SL890 door roller after 100,000 cycles of endurance test.  
(No cracks and wobbling on the wheels was observed after 100,000 cycles of endurance test)



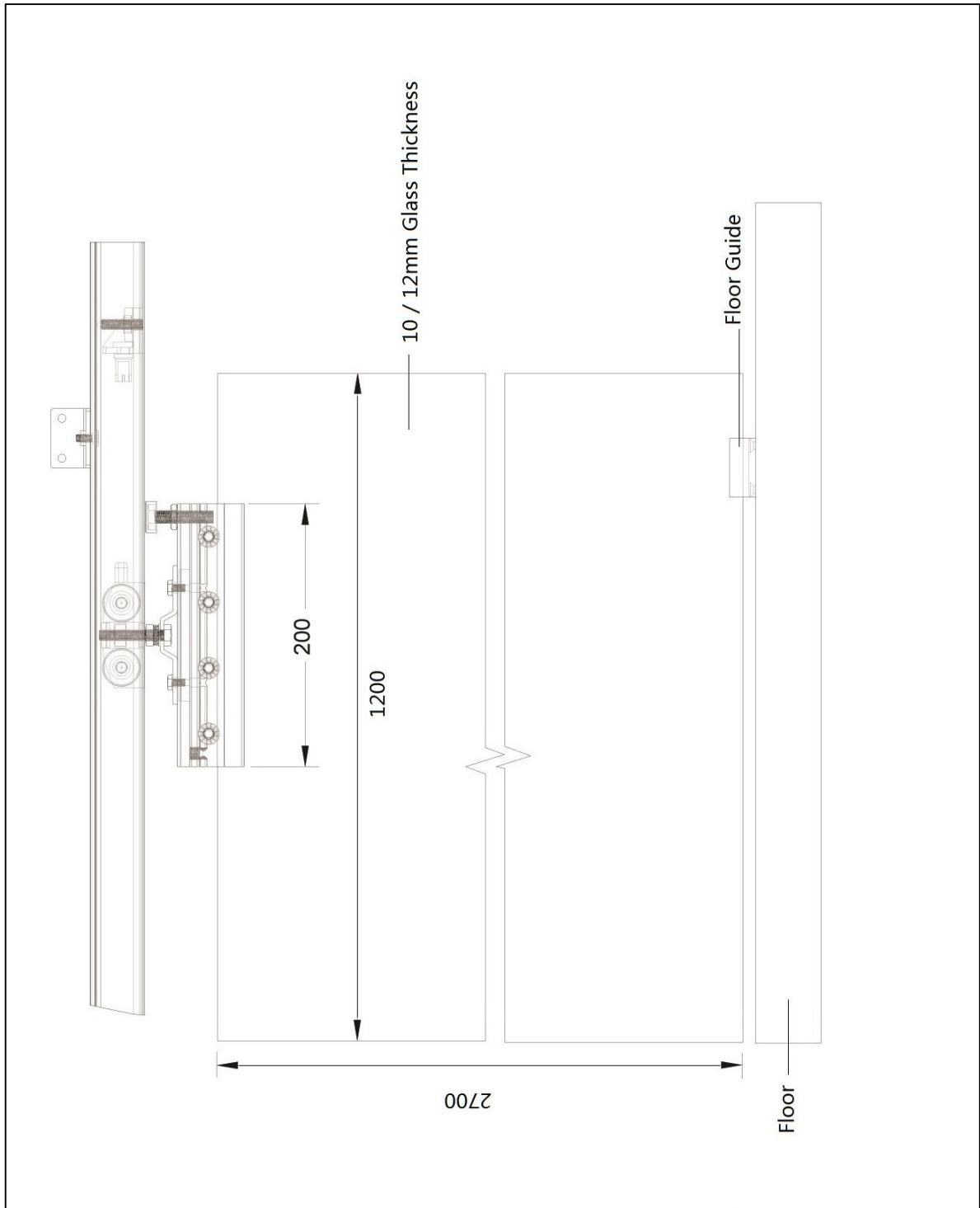
APPENDIX III: PHOTOS TAKEN AFTER TEST (CONT'D)



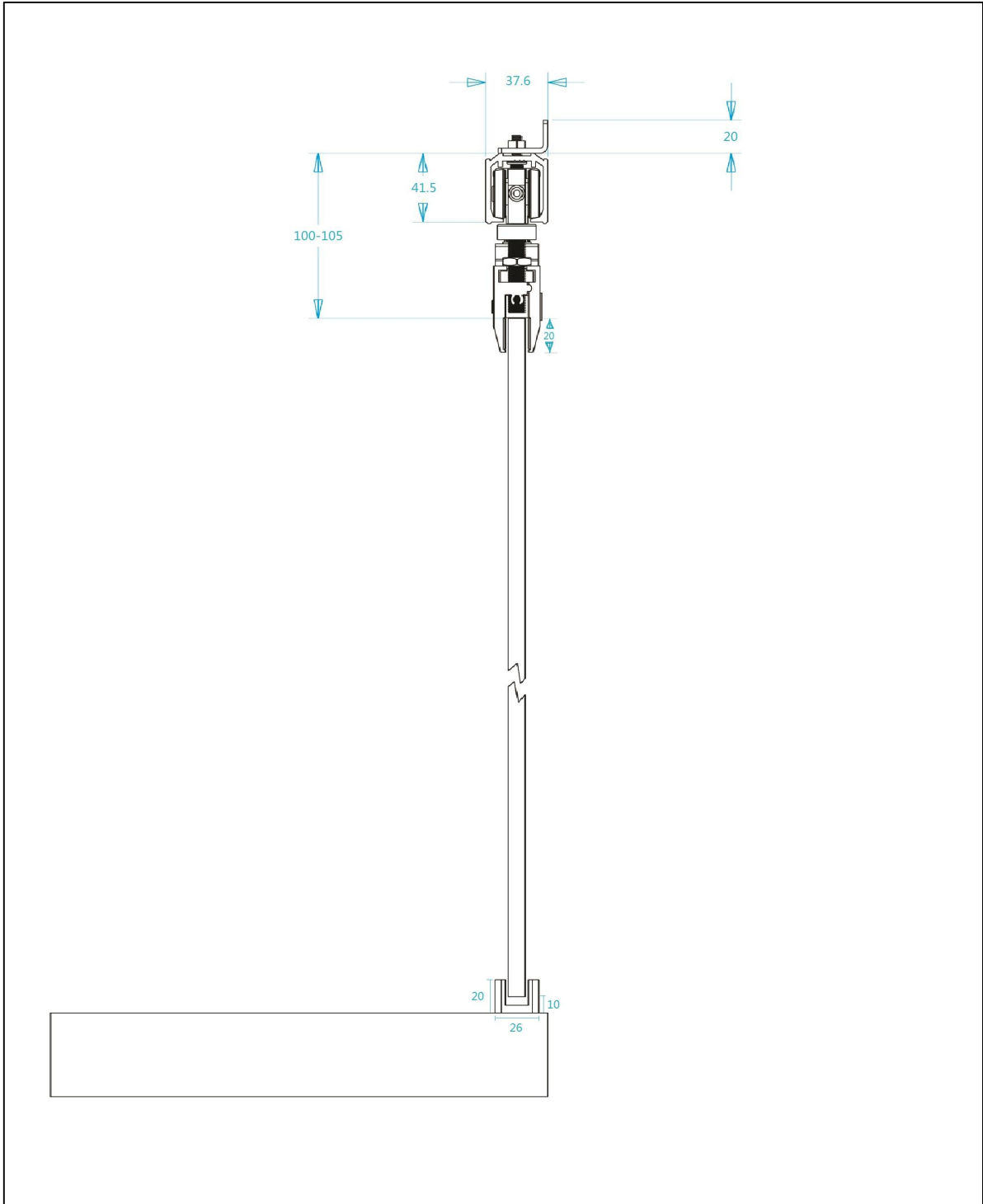
Figure 5: CKS-SL890 door roller after 100,000 cycles of endurance test.  
(No cracks and wobbling on the wheels was observed after 100,000 cycles of endurance test)

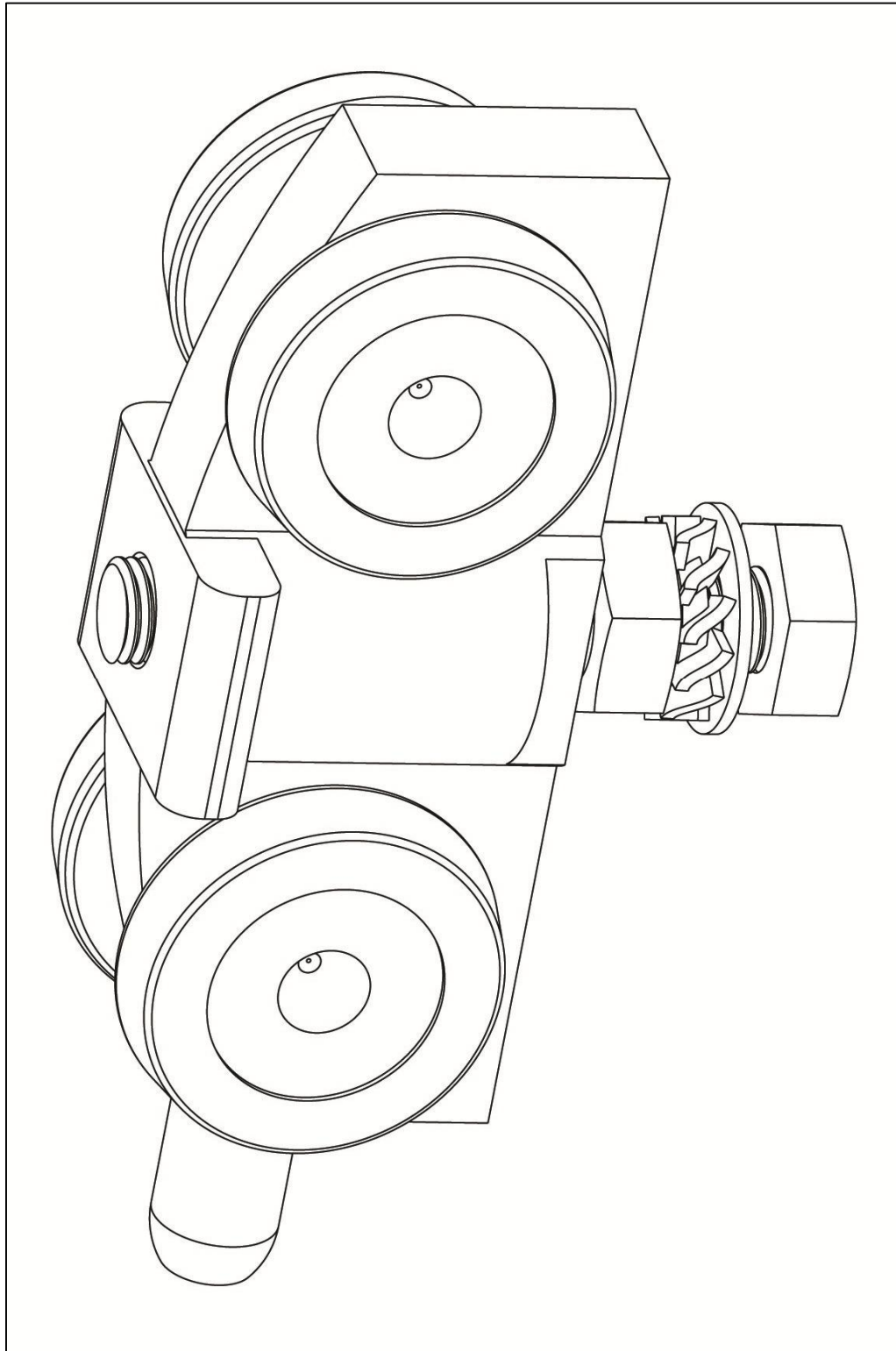






*David*





*Ravelli* 



Please note that this Report is issued under the following terms :

1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
3. Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
4. This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.

July 2011

