

**Test Report No. 7191106956-MEC15/01-OHH**  
**dated 02 MAR 2015**



PSB Singapore

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**SUBJECT:**

Load test for Rotule & Spider

**TESTED FOR:**

CKS Glass Hardware Sdn Bhd  
NO. 37, Jalan Tembaga SD5/2G  
Banda Sri Damansara  
52200 Kuala Lumpur  
Malaysia

Attn: Ms Hedy

**SAMPLE DESCRIPTION:**

The following samples were submitted on 27 Jan 2015 with emboss marking

Brand - "CKS"  
Material – SUS 304

**TEST PROCEDURE:**

Client's Specification:

Spider Fitting: The test sample was placed in the fixture and mounted on to the Universal Testing Machine. A tensile or compression load was then gradually applied till the proof load and relaxed. A subsequent test to failure was then conducted on the same sample. The maximum force was the recorded.

Rotule: test sample was placed in the fixture and mounted onto the Universal Testing Machine. A tensile or compression load was then gradually applied till the proof load and relaxed. A subsequent test to failure was then conducted on the same sample. The maximum force was the recorded.

Appendix show the sample as submitted and test setup



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**TUV**<sup>®</sup>

**TEST RESULTS:**

**1. Rotule – Tensile & Shear**

Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)	Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)
<b>Tensile (CKS-PTA)</b>	0.3	0.35	55.76	<b>Shear (CKS-PTA)</b>	0.3	0.96	33.51
	0.6	0.65			0.6	1.18	
	0.9	0.89			0.9	1.29	
	1.2	1.26			1.2	1.38	
	1.5	1.33			1.5	1.48	
	1.8	1.45			1.8	1.57	
	2.1	1.65			2.0	1.63	
	2.4	1.78			1.8	1.61	
	2.7	1.86			1.5	1.58	
	3.0	1.96			1.2	1.55	
	3.3	2.07			0.9	1.50	
	3.6	2.23			0.6	1.45	
	3.9	2.39			0.3	1.36	
	4.2	2.48			0.0	0.95	
	4.5	2.67					
	4.2	2.58					
	3.9	2.09					
	3.6	2.40					
	3.3	2.30					
	3.0	2.23					
	2.7	2.13					
	2.4	2.04					
	2.1	1.97					
	1.8	1.86					
	1.5	1.77					
	1.2	1.67					
	0.9	1.58					
	0.6	1.49					
0.3	0.60						
0.0	0.50						





2. Load Test on Spider fitting (Axial)

Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)	Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)
<b>Compress CKS-F200-4</b>	0.3	0.30	7.26	<b>Compress CKS-F200-2</b>	0.3	0.43	7.19
	0.6	0.47			0.6	0.60	
	0.9	0.62			0.9	0.79	
	1.2	0.74			1.2	1.03	
	1.5	0.87			1.5	1.22	
	1.8	1.00			1.8	1.44	
	2.1	1.14			2.1	1.67	
	2.4	1.28			2.4	1.93	
	2.7	1.44			2.7	2.22	
	3.0	1.60			3.0	2.53	
	3.3	1.79			3.3	2.85	
	3.6	2.00			3.6	3.19	
	3.3	1.92			3.3	3.09	
	3.0	1.83			3.0	2.98	
	2.7	1.74			2.7	2.85	
	2.4	1.65			2.4	2.72	
	2.1	1.55			2.1	2.58	
	1.8	1.46			1.8	2.39	
	1.5	1.36			1.5	2.21	
	1.2	1.26			1.2	2.03	
0.9	1.15	0.9	1.83				
0.6	1.04	0.6	1.61				
0.3	0.89	0.3	1.39				
0.0	0.57	0.0	1.03				



3. Load Test on Spider fitting (Radial)

Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)	Sample reference	Force at dwell (kN)	Deflection (mm)	Maximum force (kN)
<b>Compression CKS-F200-4</b>	0.3	0.36	6.69	<b>Compression CKS-F200-2</b>	0.3	0.56	7.52
	0.6	0.70			0.6	0.86	
	0.9	0.96			0.9	1.14	
	1.2	1.22			1.2	1.41	
	1.5	1.47			1.5	1.77	
	1.8	1.72			1.8	2.15	
	1.5	1.53			1.5	1.93	
	1.2	1.29			1.2	1.68	
	0.9	1.05			0.9	1.42	
	0.6	0.79			0.6	1.14	
	0.3	0.54			0.3	0.85	
	0.0	0.11			0.0	0.35	



Sean Loh  
Associate Engineer

Oh Heng Hwa  
Engineer  
Industrial Products  
Mechanical Centre

Appendix:



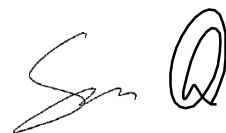
Photo. 1 : Rotule-CKS-PTA



Photo. 2 : Spider fitting - CKS-F200-2



Photo. 3 : Spider fitting - CKS-F200-4



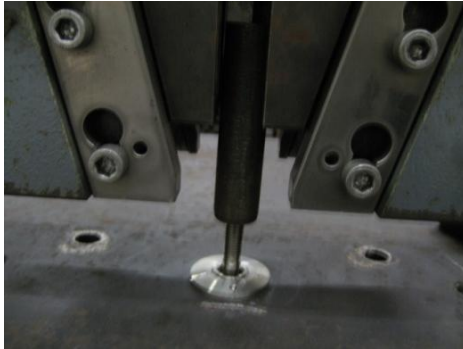



Photo. 4: Test Setup -Rotule



Photo. 5: Test setup-Spider fitting (CKS-F200-4)



Photo. 6: Test setup-Spider fitting-CKS-F200-2



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July 2011

