



# TEST REPORT

No. : SHIN1410042988ML

Date : Oct 30, 2014

Page: 1 of 9

CUSTOMER NAME: Changzhou Tensun Hi-Tech Co., Ltd.  
ADDRESS: Building 2, West Road 21# Laodong Road, Tianning District Changzhou China

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : Slewing ring  
SGS Ref. No. : SUZML140901020  
Material and Mark : 42CrMo  
Other Information : 1# Outer ring; 2# Inner ring; 3# Out ring raceway; 4# Inner ring raceway;  
5# Steel ball  
Test Required : Tensile Test  
, Impact Test, Press Test, Hardness Test,  
Case-Hardened Depth Test, Dimension Measurement  
Date of Receipt : Oct 15, 2014  
Testing Start Date : Oct 15, 2014  
Testing End Date : Oct 30, 2014  
Test result(s) : For further details, please refer to the following page(s)

Signed for  
SGS-CSTC Standards Technical  
Services (Shanghai) Co., Ltd.

Kelly Shi  
Authorized signatory



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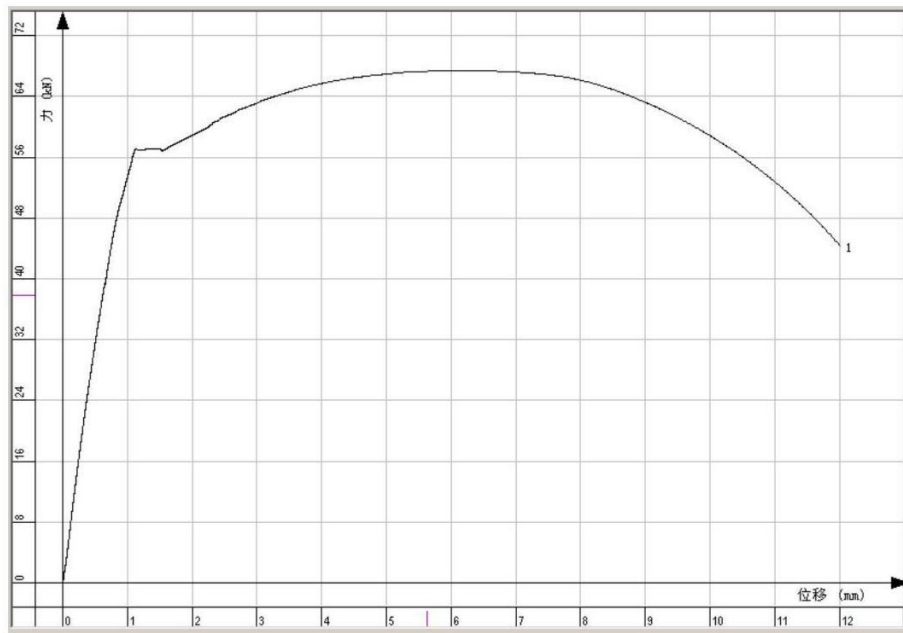
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### 1. Tensile Test:

Test Method: GB/T 228.1-2010

Test item	Specimen type	Tensile strength (R <sub>m</sub> ) (MPa)	Yield strength (R <sub>eL</sub> ) (MPa)	Elongation after fracture(A) L <sub>o</sub> =5d (%)	Conclusion
Req.	-	≥785	-	≥12	-
Result-1#	Round specimen	884	746	21.5	Pass
Result-2#	Round specimen	955	(R <sub>p0.2</sub> ) 823	19.5	Pass

Note: The results comply with client's requirement



Force-displacement curve of sample 1#



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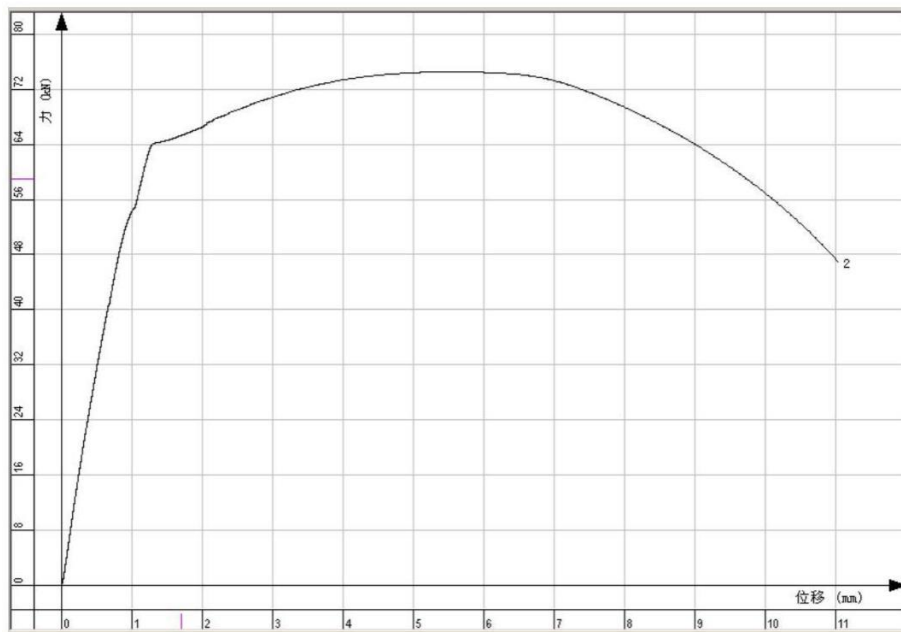
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Force-displacement curve of sample 2#

### 2. Impact Test:

Test Method: GB/T 229-2007

Test item	Test condition	Sample	Absorbed energy (J)	Requirement (J)	Conclusion
Charpy Impact	Specimens: Charpy V-notch Dimension of specimens: 55mm×10mm×10mm Temperature: Ambient	1#	127	≥47	Pass
			132		
			142		
Charpy Impact	Specimens: Charpy V-notch Dimension of specimens: 55mm×10mm×10mm Temperature: Ambient	2#	120	≥47	Pass
			133		
			118		

Note: The results comply with client's requirement.



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## 3.Press Test:

Test Method: Per client's requirement

Step 1. Fix the sample on the test equipment;

Step 2. Drawing at the certain rate until the specimen was broken;

Step 3. Check the location of fracture and write down the force.

Test Result(s):

Sample	Maximum force (kN)	Requirement (kN)	Location of fracture	Conclusion
5#	>510*	≥397	Unbroken	Pass

Note: 1.The result comply with client's requirement

2.\*The maximum range of the machine is 510kN.

## 4.Hardness Test:

Test Method: GB/T 230.1-2009, GB/T 231.1-2009, GB/T 4340.1-2009

Test item	Sample	Test position	Result			Req.	Conclusion
HV1	3#	Subsurface	641	638	649	-	-
Concert to HRC*		-	57.5	57.0	57.5	≥55*	-
HBW 10/3000	1#	Core	269	268	269	250~300	Pass
HV1	4#	Subsurface	618	638	649	-	-
Concert to HRC*		-	56.0	57.0	57.5	≥55*	-
HBW 10/3000	2#	Core	292	290	293	250~300	Pass
HRC	5#	Surface	63.8	63.8	64.0	61~66	Pass

Note: 1. The results comply with client's requirement.

2. Conversion per GB/T 1172-1999, the results are only for reference.

3.\* The requirement is specified by client.



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## 5. Case-Hardened Depth Test:

Test Method: ASTM E384-11<sup>e1</sup>

### 3# Sample

Depth to the surface (mm)	Hardness values(HV1)
0.1	606
0.2	633
0.3	615
0.4	613
0.5	636
1.5	616
3.0	625
3.5	543
3.6	541
3.7	545
3.8	508
3.9	522
4.0	494
4.1	507
4.2	437
4.3	419
4.4	349
4.5	320
4.6	297
4.7	276



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