

Prüfbericht-Nr.: <i>Test Report No.:</i>	50350420 001	Auftrags-Nr.: <i>Order No.:</i>	170134259	Seite 1 von 11 <i>Page 1 of 11</i>
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	685445	Auftragsdatum: <i>Order date:</i>	25.02.2020	
Auftraggeber: <i>Client:</i>	SunRack Solar Co., Ltd. No. 333 Qimen Road, Shushan District, Hefei, Anhui 230071, China.			
Prüfgegenstand: <i>Test item:</i>	Mechanical test for components of ground mounting system			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	Declared by client			
Auftrags-Inhalt: <i>Order content:</i>	Mechanical test for components of ground mounting system			
Prüfgrundlage: <i>Test specification:</i>	According to client's requirement			
Wareneingangsdatum: <i>Date of receipt:</i>	02.03.2020	See details in page 4		
Prüfmuster-Nr.: <i>Test sample No.:</i>	170134259-07-170134259-011			
Prüfzeitraum: <i>Testing period:</i>	03.03.2020-09.03.2020			
Ort der Prüfung: <i>Place of testing:</i>	Guangzhou			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Guangdong)., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	See details in page 6 to page 10			
geprüft von / tested by:		kontrolliert von / reviewed by:		
Yakov Yang/Project engineer				
<u>10.03.2020</u>	<u>Tiqo You/trainee</u>	<u>11.03.2020</u>	<u>Susie Ni / Reviewer</u>	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
				Unterschrift <i>Signature</i>
Sonstiges / Other:				
1) The test report is including 6 connection parts of ground mounting system.				
2) Place of testing: No.199 Kezhu Road, Guangzhou Science City · Guangzhou · 510663, P.R. China				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Tensile Machine	WDW-50M	2020-09-05

To be continued

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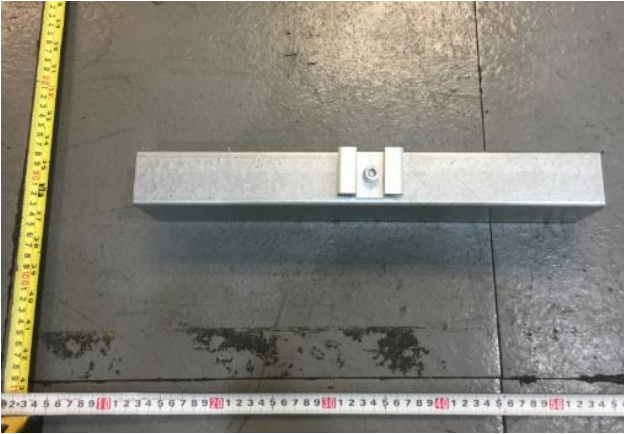




Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	Connection parts of ground mounting system
2	Maße <i>Dimensions</i>	./.
3	Bedienelemente <i>Operating elements</i>	./.
4	Ausstattung / Zubehör <i>Equipment / Accessories</i>	./.
5	Verwendete Materialien <i>Used materials</i>	1) Middle clamp –AL/6005-T5 2) End clamp –AL/6005-T5 3) Rail –Zinc-Aluminum-Magnesium Coated Steel 4) Girder – Zinc-Aluminum-Magnesium Coated Steel 5) Upright – Zinc-Aluminum-Magnesium Coated Steel
6	Sonstiges <i>Other</i>	./.

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Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

<p>Middle clamp on the rail</p> 	<p>End clamp on the rail</p> 
<p>Upright and girder connect with bolt</p> 	<p>Rails connected with bolt</p> 
<p>Rail and girder connect with bolt</p>	<p>N/A</p>
	<p>N/A</p>

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Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
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7	Test item and requirement		
7.1	Tensile test for middle clamp on the rail Install the middle clamp according to client's requirement. Perform the tensile force till the big deformation happened. One sample need to be tested and result will be recorded.		
7.2	Tensile test for end clamp on the rail Install the end clamp according to client's requirement. Perform the tensile force till the big deformation happened. One sample need to be tested and result will be recorded.		
7.3	Tensile test for upright and girder connect with bolt Install the Upright and girder with bolt according to client's requirement. Perform the tensile force till the big deformation happened. One sample need to be tested and result will be recorded.		
7.4	Compressive force test for rails connected with bolt Install the splice between two rails with flange facing self-tapping screw according to client's requirement. Place between two weights with a span of 40 cm. Perform the compressive force till the big deformation happened. One sample need to be tested and result will be recorded.		
7.5	Tensile test for rail and girder connect with bolt Install the rail clamp between the rail and the girder according to client's requirement. Perform the tensile force till the big deformation happened. One sample need to be tested and result will be recorded.		

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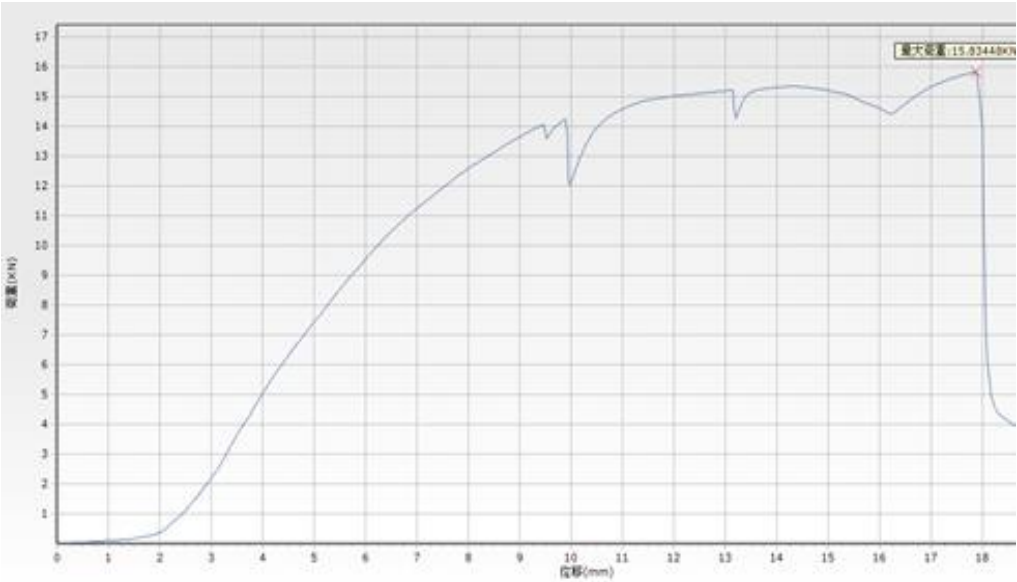
Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
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8 Test result

8.1 Tensile test for middle clamp on the rail:

Test result(N)	15834,5
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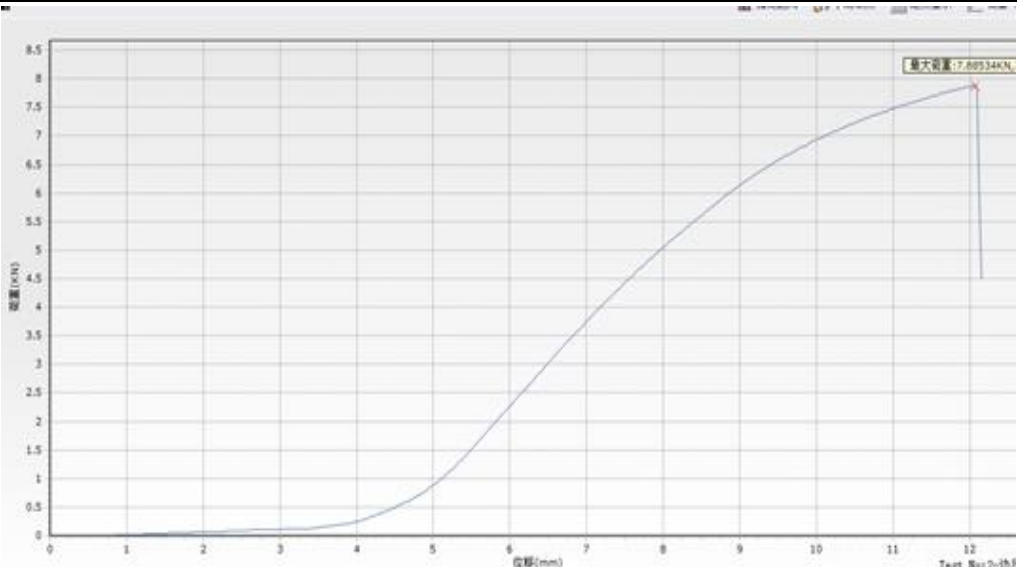
Test curve:



8.2 Tensile test for end clamp on the rail:

Test result(N)	7885,3
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Test curve:



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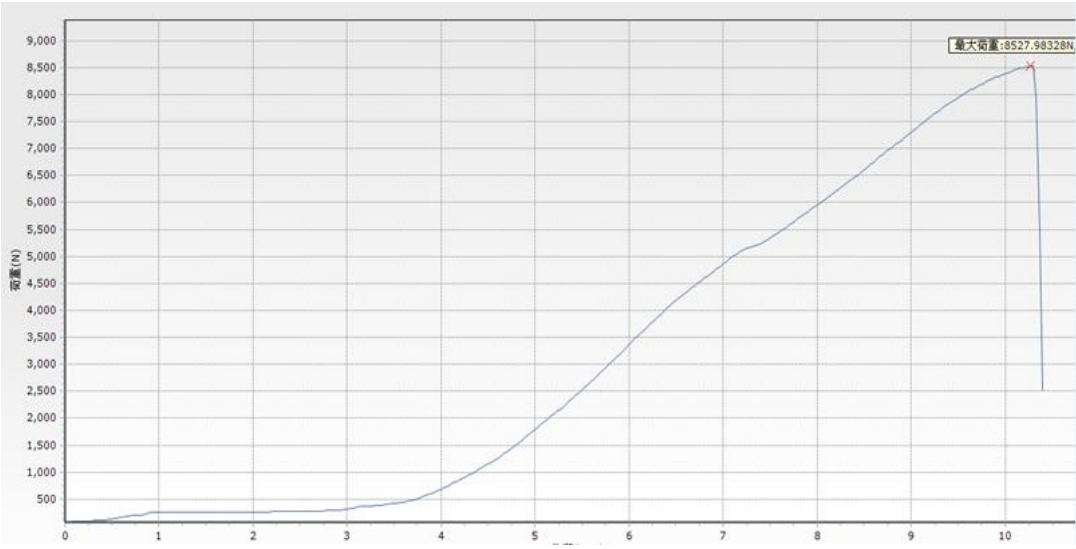
Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
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8.3

Tensile test for upright and girder connect with bolt:

Test result(N)	8527,9
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Test curve:



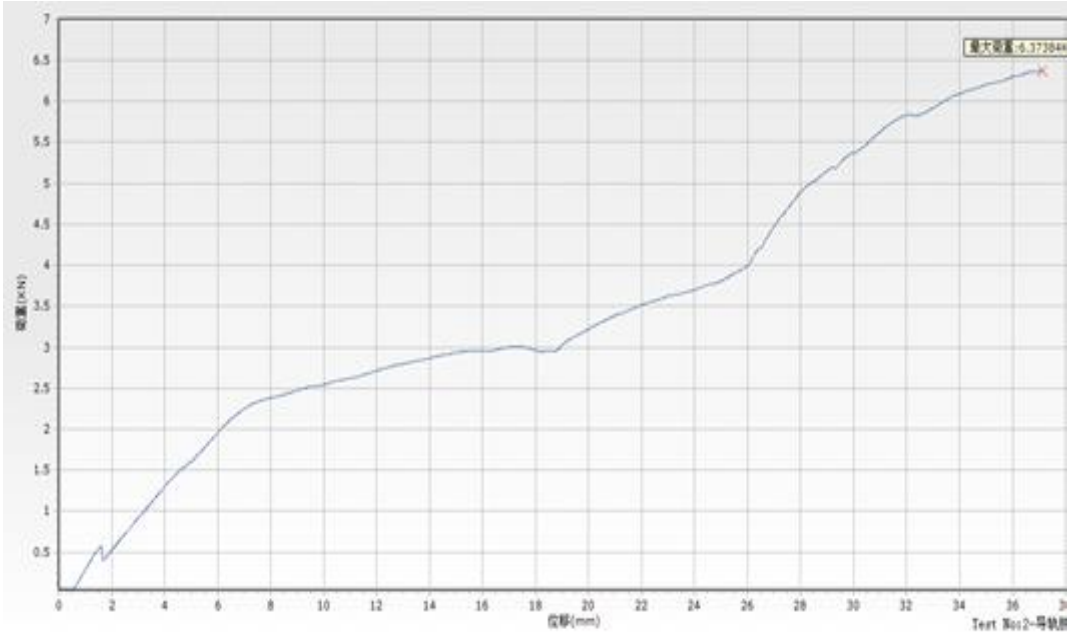
The graph displays a tensile test curve. The vertical axis represents force in Newtons (N), ranging from 0 to 9,000. The horizontal axis represents displacement in millimeters (mm), ranging from 0 to 10. The curve shows a non-linear increase in force with displacement, reaching a maximum value of 8527.98328N at approximately 10.5mm displacement. After the peak, the force drops sharply to zero.

8.4

Compressive force test for rails connected with bolt:

Test result(N)	6373,8
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Test curve:



The graph displays a compressive force test curve. The vertical axis represents force in kilonewtons (kN), ranging from 0 to 7. The horizontal axis represents displacement in millimeters (mm), ranging from 0 to 38. The curve shows a steady, non-linear increase in force with displacement, reaching a maximum value of 6373.8kN at approximately 36mm displacement. The curve exhibits some minor fluctuations but generally follows a smooth upward path.

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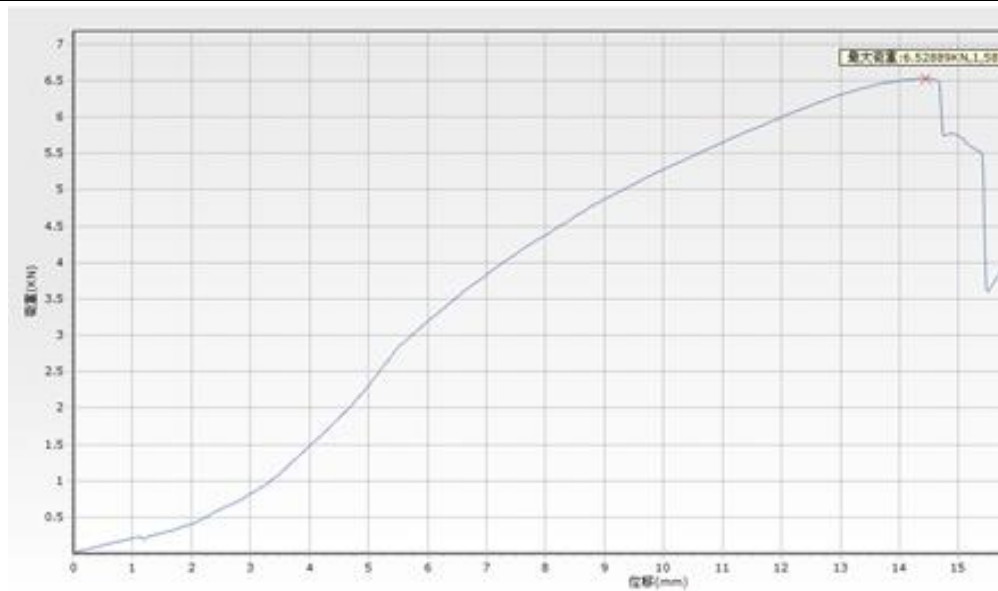
Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

Tensile test for rail and girder connect with bolt:

Test result(N)	6528,9
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Test curve:

8.5



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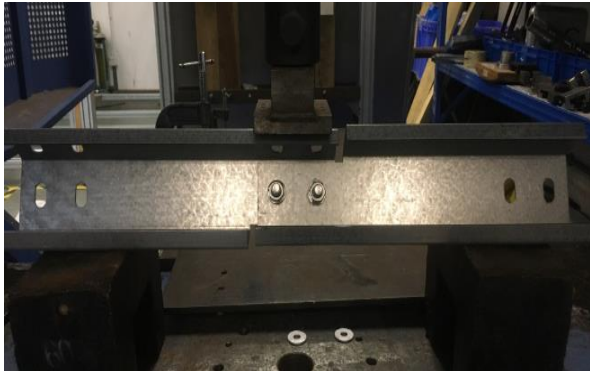
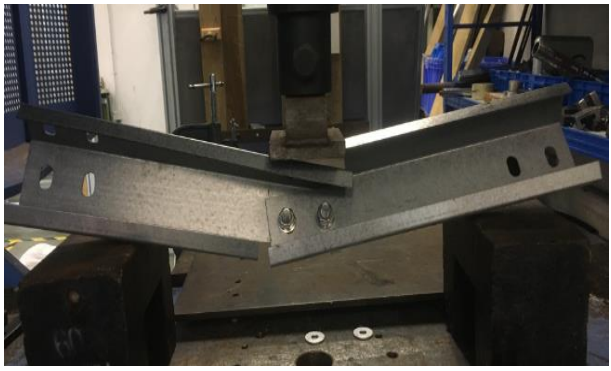


Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

9	Test photo:		
	Tensile test for middle clamp on the rail		
9.1			
	Before test	After test	
	Tensile test for end clamp on the rail		
9.2			
	Before test	After test	

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Absatz	According to client's requirement	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

9.3	Tensile test for upright and girder connect with bolt	
		
	Before test	After test
9.4	Compressive force test for rails connected with bolt	
		
	Before test	After test
9.5	Tensile test for rail and girder connect with bolt	
		
	Before test	After test

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*** End of Report ***