

TUV Rheinland (India) Pvt. Ltd.
Product Safety & Quality

Test Report

**Salt Mist corrosion Testing of
Photovoltaic modules acc IEC 61701:2011,
EN 61701:2012**

TÜV Report No: ULR: TC568820400000167F

Bangalore APRIL 2020



Certificate No. TC -5688

Test report no.: <i>Prüfbericht - Nr.:</i>	ULR: TC568820400000167F		
Client (Customer no. and address): <i>Auftraggeber</i> <i>(Kunden-Nr. u. Adresse):</i>	60143192 NOVASYS GREENERGY PVT. LTD Khasra No - 185, Mouza: Mahalgaon, Tahsil: Kamptee, Nagpur – 441202, Maharashtra, India		
Test item: <i>Gegenstand der Prüfung:</i>	Photovoltaic (PV) Module(s)	Date of receipt: <i>Eingangsdatum:</i>	14/11/2019
Module type designation: <i>Modultypen-Bezeichnung:</i>	Refer Page.no 3 (only valid for the material combination as listed in the constructional data form in the annex of this test report)		
Order no.: <i>Auftragsnummer:</i>	166193321	Quotation no.: <i>Angebotsnummer:</i>	166012364 dtd 17/10/2019
Testing location: <i>Prüfort:</i>	TUV Rheinland(India) Pvt.Ltd, Plot No.27/B, 2nd Cross, Electronic city, Industrial Area,Phase I,Hosur Road Bangalore-560 100,India,		
Test specification: <i>Prüfgrundlage:</i>	IEC 61701:2011, EN 61701:2012 severity 1, (Salt mist corrosion testing of photovoltaic (PV) modules)		
Test result: <i>Prüfergebnis:</i>	All of the required tests were passed according to the pass criteria outlined in test specification noted above.		
compiled by / erstellt:		reviewed by / kontrolliert:	
06/04/2020	Prashanth GS	06/04/2020	K. Ganesh Kamath
Date <i>Datum</i>	Title/Name <i>Titel/Name</i>	Date <i>Datum</i>	Title/Name <i>Titel/Name</i>
<p>This test report relates to the listed test samples. Without permission of the test centre this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</p> <p>Dieser Prüfbericht bezieht sich nur auf die gelisteten Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p>			

Product description:

1	<p>Produktdetails <i>Product details:</i> 6“ Poly crystalline cells: 72 cell series: NOVA335P72, NOVA334P72, NOVA333P72, NOVA332P72, NOVA331P72, NOVA330P72, NOVA329P72, NOVA328P72, NOVA327P72, NOVA326P72, NOVA325P72, NOVA324P72, NOVA323P72, NOVA322P72, NOVA321P72, NOVA320P72, NOVA319P72, NOVA318P72, NOVA317P72, NOVA316P72, NOVA315P72, NOVA314P72, NOVA313P72, NOVA312P72, NOVA311P72, NOVA310P72, NOVA309P72, NOVA308P72, NOVA307P72, NOVA306P72, NOVA305P72 66 cell series: NOVA305P66, NOVA300P66, NOVA295P66, NOVA290P66, NOVA285P66, NOVA280P66 60 cell series: NOVA280P60, NOVA275P60, NOVA270P60, NOVA265P60, NOVA260P60, NOVA255P60 54 cell series: NOVA250P54, NOVA245P54, NOVA240P54, NOVA235P54, NOVA230P54, NOVA225P54 48 cell series: NOVA220P48, NOVA215P48, NOVA210P48, NOVA205P48 36 cell series: NOVA165P36, NOVA160P36, NOVA155P36, NOVA150P36 144 Cut cell series: NOVA330P144, NOVA325P144, NOVA320P144, NOVA315P144, NOVA310P144, NOVA305P144 120 Cut cell series: NOVA275P120, NOVA270P120, NOVA265P120, NOVA260P120, NOVA255P120, NOVA250P120 36 Cut cell series: NOVA125P36, NOVA100P36, NOVA90P36, NOVA75P36, NOVA60P36, NOVA50P36, NOVA40P36, NOVA25P36 6“ Mono crystalline cells: 72 Cell series: NOVA395MP72, NOVA390MP72, NOVA385MP72, NOVA380MP72, NOVA375MP72, NOVA370MP72, NOVA365MP72, NOVA360MP72, NOVA355MP72 66Cell series: NOVA360MP66, NOVA355MP66, NOVA350MP66, NOVA345MP66, NOVA340MP66, NOVA335MP66 60Cell series: NOVA330MP60, NOVA325MP60, NOVA320MP60, NOVA315MP60, NOVA310MP60, NOVA305MP60, NOVA300MP60 54Cell series: NOVA295MP54, NOVA290MP54, NOVA285MP54, NOVA280MP54, NOVA275MP54 48Cell series: NOVA260MP48, NOVA255MP48, NOVA250MP48, NOVA245MP48, NOVA240MP48, NOVA235MP48 36Cell series: NOVA195MP36, NOVA190MP36, NOVA185MP36, NOVA180MP36, NOVA175MP36 32 Cell series: NOVA170MP32, NOVA165MP32</p>
2	<p>Verwendete Materialien <i>Used materials</i></p> <p>see Constructional Data Form (CDF) in the annex of this test report</p>
3	<p>Adresse(n) der Fertigungsstätte(n) <i>Address(es) of the manufacturing site(s)</i></p> <p>NOVASYS GREENENERGY PVT. LTD, Khasra No - 185, Mouza: Mahalgaon, Tahsil: Kamptee, Nagpur – 441202, Maharashtra, India</p>
4	<p>Zusammenfassung der Prüfergebnisse <i>Summary of test results</i></p> <p>According to the inquiry of manufacturer for resistance to salt mist, corrosion of photovoltaic (PV) modules should be assessed in accordance with IEC 61701:2011, EN 61701:2012 with IEC 60068-2-52 severity 1. For the qualification of the modules to this test, initial and final control measurements were performed before and after the salt mist corrosion testing. The measurements included relative power measurements, insulation testing and visual inspections. The maximum permissible power degradation of 5 % must not be exceeded. Furthermore, the minimum requirements for the –Dielectric-insulation test and wet leakage test as defined in MST 16 of IEC 61730-2 and IEC 61215:2005-10.15 have to be met. No major visual defects as defined in IEC 61730-2 shall occur. " The tests have been performed on the specially made small representative samples identical in materials and design to the original one to be certified results were incorporated in this report- ULR: TC568820400000167F</p> <p>The tests of the requirements of IEC 61701:2011 and IEC 60068-2-52 severity 1 were all fulfilled according to its regulations of the pass criteria. The above listed module types have passed all tests of the IEC 61215:2005 standard before salt mist corrosion test was applied.</p>