

ESD CONSULTING

7 Temasek Boulevard, #12-07,
Suntec Tower One,
Singapore 038987

ESD QUALIFICATION REPORT

Customer

Great Utopian Sdn Bhd
No 3418, Jalan Pekeliling Tanjung 27/1,
Kawasan Perindustrian Indahpura,
81000 Kulai, Johor.

ESD Report

Report No. : EQ-2212-02 (B)
Receive Date : 12-Dec-22
Conditioning Date : 13-Dec-22
Test Date : 16-Dec-22

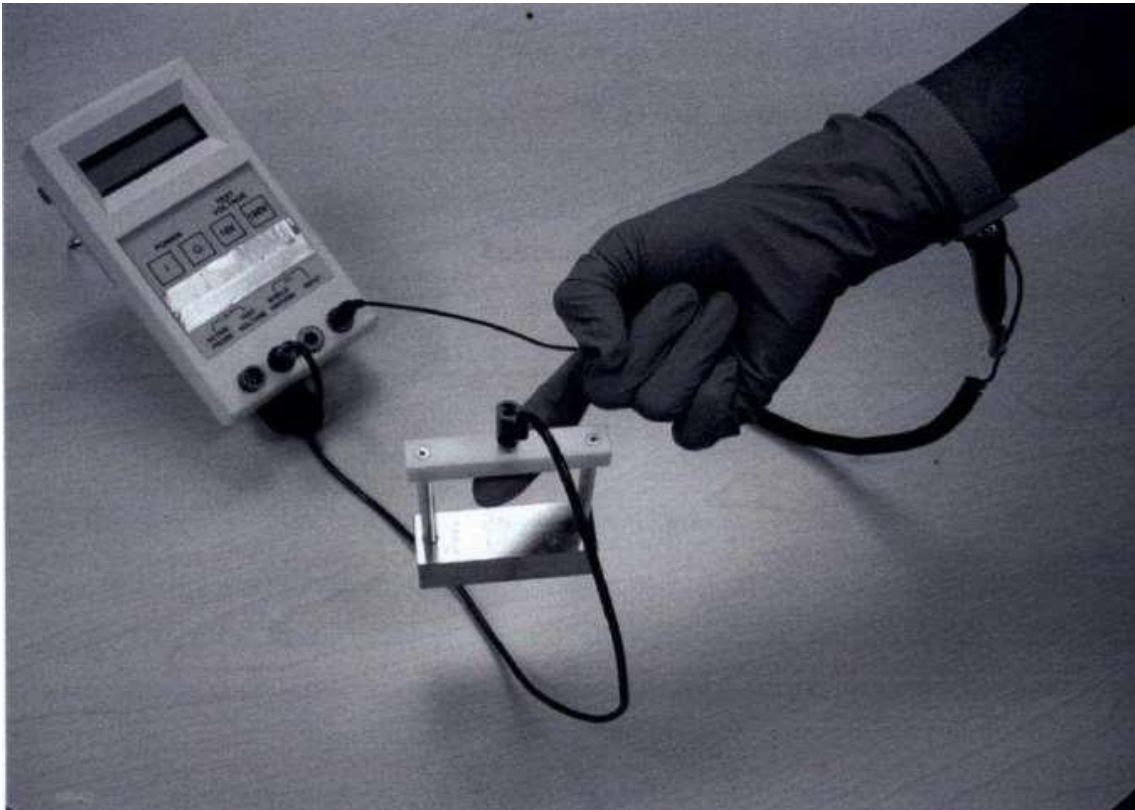
ESD Control Item

Name : CR 100 12inch nitrile glove
Brand : Ultraclean
Model : (Datasheet as attached)

Environment Conditions

Temperature : 25.8 °C
Relative Humidity : 50.0 %RH

Test Method: ANSI/ESD STM15.1



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Calibrated Equipment in Use (Cal Cert as attached)

No	Test Equipment	Brand/Model	Serial No	Next Due Date
1	Surface Resistance Meter	Acestar AS2000	SR365218	24-Nov-23
2	Digital Thermohygrometer (in chamber)	UNI-T UT335+	C221405710	24-Nov-23

Test Result

Moderate Humidity Environment			Temp: 25.8degC	Humidity: 50.0%	
Resistance Measurement Testing with CAFÉ (ohm)					
Sample	Test Point 1	Test Point 2	Test Point 3	Test Point 4	Test Point 5
1 - Left	1.29E+08	1.78E+08	1.09E+08	1.08E+08	1.56E+08
1 - Right	1.80E+08	1.56E+08	1.55E+08	1.78E+08	1.76E+08
2 - Left	1.19E+08	2.14E+08	2.07E+08	1.34E+08	1.48E+08
2 - Right	1.87E+08	1.35E+08	1.11E+08	2.11E+08	2.14E+08
3 - Left	1.97E+08	1.43E+08	1.57E+08	1.89E+08	1.92E+08
3 - Right	1.88E+08	2.07E+08	2.03E+08	2.02E+08	1.67E+08

Low Humidity Environment			Temp: 25.0degC	Humidity: 12.1%	
Resistance Measurement Testing with CAFÉ (ohm)					
Sample	Test Point 1	Test Point 2	Test Point 3	Test Point 4	Test Point 5
4 - Left	2.42E+08	2.57E+08	2.14E+08	4.34E+08	2.07E+08
4 - Right	2.58E+08	2.50E+08	2.96E+08	2.48E+08	2.00E+08
5 - Left	2.14E+08	2.67E+08	2.18E+08	2.34E+08	2.47E+08
5 - Right	2.56E+08	2.35E+08	2.34E+08	2.23E+08	2.88E+08
6 - Left	2.51E+08	2.32E+08	2.31E+08	2.73E+08	2.76E+08
6 - Right	2.63E+08	2.12E+08	2.22E+08	2.67E+08	2.89E+08

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ESD QUALIFICATION REPORT

Moderate Humidity Environment	
Min	1.08E+08
Max	2.14E+08
Mean	1.68E+08
Specs Limit	1.00E+10
Status	Pass

Low Humidity Environment	
Min	2.00E+08
Max	4.34E+08
Mean	2.51E+08
Specs Limit	1.00E+10
Status	Pass

Conclusion

I hereby certify that the ESD Control Item under test
PASS the requirement as per ESD S20.20-2021.

Certified By



.....
Justin Ong
iNarte Certified Engineer
ESD-00637-NE

Appendix: Datasheet

NITRILE GLOVE CR100



Reliable protection for clean environments

ULTRACLEAN CR100 Nitrile is a clean nitrile glove with low levels of ionic content and particles - for reliable product protection. Designed for use in Class 100/ ISO 5 Cleanroom Environments.

- Compatible with Class 100 (ISO 5)
- Low levels of ionic content and particles for excellent product protection

Industries

- Biotechnology Manufacturing Medical Device
- Manufacturing Electronics Manufacturing

Recommended For

- Cleanroom cleaning and preparing
- Blending, compounding solids and liquids
- Spill or leakage cleanup
- Transferring liquids and solids
- Loading centrifuges and chromatography columns
- Assembly of parts
- Weighing and dispensing of solid and liquid raw materials

Great Utopian Sdn Bhd
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Great Utopian (S) Pte Ltd
220 Tagore Lane
Liberty Warehouse #01-02
Singapore 787600

Appendix: Datasheet

NITRILE GLOVE CR100



TECHNICAL DATA SHEET

Product Information

	Nitrile Glove
Material	Nitrile
Color	Translucent White
Shape	Ambidextrous
Packaging	100 gloves per inner polybag; 1 inner bag per master polybag;
Storage	10 master polybags per (1000 gloves) per liner bag. Keep out of direct sunlight; store in a cool and dry place. Keep away from sources of ozone origination.
Country of Origin	Malaysia
Available Sizes	S,M,L
Internal Gloves Surface	Powder-Free
Cleanroom Class	Class 100/ ISO 5
Shelf Life	3 years
Tested For Use With Chemotherapy Drugs	No
Protein Level	N/S: contains no natural rubber latex
Anti-static	Yes

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Appendix: Datasheet

**NITRILE GLOVE
CR100**



PHYSICAL PROPERTIES

Sizes/Specification	Small	Medium	Large	Testing Method
Length(mm/ in)(+/- 10mm)	300/ 12	300/ 12	300/ 12	Ruler
Palm Width(mm/ in)(+/- 3mm)	85	98	108	Ruler

Freedom From Holes	2.5 AQL	EN 455-1/ ASTM D3577
Typical Particle Count ≥ 0.5µm (counts/ cm ²)	< 900 particles/ cm ²	IEST-RP-CC005.4
Minimum Single Wall Palm Thickness (mm/ mil)(+/-0.02mm)	0.08/ 3.1 mil	EN 420/ ASTM D3767
Minimum Single Wall Finger Thickness (mm/ mil)(+/-0.02mm)	0.14/ 5.5 mil	EN 420/ ASTM D3767
Minimum Single Wall Cuff Thickness (mm/ mil)(+/-0.02mm)	0.06/2.3 mil	EN 420/ ASTM D3767

	Standard	Before Ageing	After Ageing
Force at Break (N)	EN 455-2	min. 6N	min. 6N
Tensile Strength (Mpa)	ASTM D6319	Min. 14	Min. 14
Elongation (%)	ASTM D6319	500	400

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Appendix: Datasheet

**NITRILE GLOVE
CR100**



DISPOSABLE NITRILE CLEANROOM GLOVES TECHNICAL DATA SHEET

Parameter	Class 100
Chloride, Cl^-	< 0.6ug/cm ²
Nitrate, NO_3^-	< 0.5ug/cm ²
Sulphate, SO_4^{2-}	< 0.2ug/cm
Fluoride, F^-	< 0.05ug/cm ²
Bromide, Br	< 0.05ug/cm ²
Nitrite, NO_2^-	< 0.05ug/cm ²
Calcium, Ca^2	< 0.8ug/cm ²
Sodium, Na	< 0.3ug/cm ²
TNVR (solvent)	Absent

OTHER PARAMETERS

Parameter	Class 100
Silicone, Amide, DOP by FTir	Absent
Surface Resistivity	max 1.0x10E10
Tribo Charge	Max 25volts
Static Decay	<0.5 Second

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Singapore 787600

Appendix: Calibration Certificate



SETIANAS SDN. BHD. (370528-T)

No. 17, Jalan Harmonium 35/3, Taman Desa Tebrau
81100 Johor Bahru, Johor Darul Takzim.

Tel: 07-351 6781, 352 0622 Fax: 07-352 7576

E-mail: enquiry@setianas.com Website: www.sendimahir.com



CERTIFICATE OF CALIBRATION

Certificate No. : ST22293268

Date of Issue : 24 Nov 2022

Issued By : Setianas Sdn Bhd

Page 1 of 2 Pages

ST22293268-691

Customer : GREAT UTOPIAN SDN BHD
NO 3148, JALAN PEKELILING TANJUNG 27/1, KAWASAN PERINDUSTRIAN INDAH PURA
81000 JOHOR BAHRU, JOHOR DARUL TAKZIM MALAYSIA.

Instrument : Temperature & Humidity Meter

Calibration Date : 22 Nov 2022

Manufacturer : UNI-T

Recalibration Date : 22 Nov 2023

Model/Type : UT332+

Specified By Customer

Serial No : C221405710

Remark : The user should be aware that any numbers of factors may cause this instrument to drift out of calibration before the specified calibration interval has expired.

Capacity : --

Resolution : 0.1 °C / 0.1 %rh

Calibration Environment Condition:

Condition Upon Receiving : Good Physical Condition

Temperature : 22.5 to 23.0 °C

Condition Upon Returning : The instrument has been calibrated. The results are as follows.

Relative Humidity : 52 to 54 %rh

Calibration Method : Internal Calibration Procedure(s) CM-30 / BS. 1339-3

Calibration Venue : This Instrument has been calibrated at Setianas Sdn Bhd

Measurement Uncertainty : The reported expanded measurement uncertainty is stated as the standard measurement uncertainty multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95% and have a coverage factor of k=2 unless stated otherwise.

Reference Standard(s) Used :

Reference Standard Name	Serial No	Certificate No	Due Date	Accreditation No	Traceability
TEMP. CALIBRATOR	T05 (10898474)	SM221025657	21 Sep 2023	SAMM 082	NMIM(MY)
PRT SENSOR	T22 (SN101)	ST22285686	07 Jul 2023	SAMM 182	NMIM(MY)
THERMOHYGROMETER	T34 (05606082)	SM221025653	09 Sep 2023	SAMM 082	NMIM(MY)

Calibrated By:

Rohaizat

Approved Signatory:

Bryan Yek K.Y

This certificate is issued in accordance with the laboratory accreditation requirements of Skim Akreditasi Makmal Malaysia (SAMM) of Standards Malaysia which is a signatory to the ILAC MRA. The measurement results included in this document are traceable to Malaysia national measurement standards maintained by the National Metrology Institute of Malaysia (NMIM). NMIM is a signatory to the CIPM MRA. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the NMIM and other recognised national metrology institutes. The results of calibration performed by Setianas Sdn Bhd apply to the particular equipment at the time of its test. They do not indicate or imply that Setianas Sdn Bhd approves, recommends or endorses the manufacturers or suppliers or users of such equipment that Setianas Sdn Bhd in any way guarantees the equipment's performance after calibration. Test/calibrations marked 'Not SAMM Accredited' in this report/certificate are not included in the SAMM Accreditation Schedule of our laboratory. Opinions and interpretations expressed herein are outside the scope of SAMM accreditation. Copyright of this certificate is owned by the issuing laboratory and may not be reproduced other than in full except with the prior written approval of the Head of the issuing laboratory.

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E-mail: enquiry@setianas.com Website: www.sendimahir.com



CERTIFICATE OF CALIBRATION

Certificate No. : ST22293268

Page : 2 of 2 pages

Technical Information

Cal. Range : 20 ~ 35 °C
Resolution : 0.1 °C
Readability : 0.1 °C

Cal. Range : 30 ~ 90 %rh
Resolution : 0.1 %rh
Readability : 0.1 %rh
Customer Tolerance : N/A

Calibration Results :-

Unit : °C

Temperature Reading	(Without Adjustment or Cal.) Correction	(After Adjustment or Cal.) Correction
20	0.1	No Adjust
25	0.1	No Adjust
30	0.1	No Adjust
35	0.1	No Adjust

Unit : %rh

Temperature reading during calibration	Humidity Reading	(Without Adjustment) Correction	(After Adjustment) Correction
35 °C	30	-1.1	No Adjust
30 °C	50	-1.0	No Adjust
25 °C	70	-1.4	No Adjust
20 °C	90	-1.2	No Adjust

Remark : Actual Reading = User Instrument Reading + Correction

Measurement Uncertainty : ± 0.4 °C
± 4 %rh

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CERTIFICATE OF CALIBRATION

Certificate No. : ST22293269 Date of Issue : 24 Nov 2022
Issued By : Setianas Sdn Bhd Page 1 of 2 Pages
ST22293269-363

Customer : GREAT UTOPIAN SDN BHD
NO 3148, JALAN PEKELILING TANJUNG 27/1, KAWASAN PERINDUSTRIAN INDAH PURA
81000 JOHOR BAHRU, JOHOR DARUL TAKZIM MALAYSIA.

Instrument : Resistivity Meter **Calibration Date** : 24 Nov 2022
Manufacturer : ACESTAR **Recalibration Date** : 24 Nov 2023
Model/Type : AS-2000 **Specified By Customer**
Serial No : SR365218 **Remark** : The user should be aware that any numbers of factors may cause this instrument to drift out of calibration before the specified calibration interval has expired.

Capacity : Refer to Following Page
Resolution : Refer to Following Page **Calibration Environment Condition:**
Condition Upon Receiving : Good Physical Condition **Temperature** : 24.3 to 24.5 °C
Relative Humidity : 49 to 51 %rh

Condition Upon Returning : The instrument has been calibrated. The results are as follows.

Calibration Method : Internal Calibration Procedure(s) CM-38

Calibration Venue : This Instrument has been calibrated at Setianas Sdn Bhd

Measurement Uncertainty : The reported expanded measurement uncertainty is stated as the standard measurement uncertainty multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95% and have a coverage factor of $k=2$ unless stated otherwise.

Reference Standard(s) Used :

Reference Standard Name	Serial No	Certificate No	Due Date	Accreditation No	Traceability
DECADE RESISTANCE BOX	E03 (63VX1040)	SM21953184	10 Oct 2023	SAMM 082	NMIM(MY)
DECADE RESISTOR BOX	E05 (B1-0431378)	SM221027164	19 Sep 2024	SAMM 082	NMIM(MY)
DECADE RESISTANCE BOX	E06 (B2-0724108)	NMIM-2083-E-22	18 May 2025	SAMM 261	NMIM(MY)

Calibrated By:

Nor Atikah

Approved Signatory:

Bryan Yek K.Y

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CERTIFICATE OF CALIBRATION

Certificate No. : ST22293269

Page : 2 of 2 pages

Technical Information

Cal. Range : $10^3 \sim 10^{12} \Omega / \text{Square}$

Customer Tolerance : N/A

Calibration Results :-

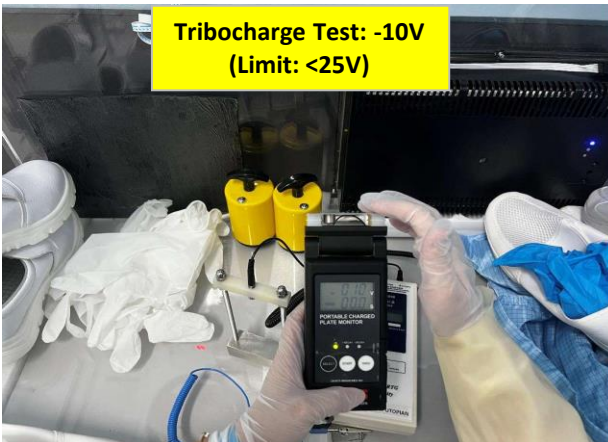
Unit : Ω / Square

Function Test Point	Applied Value	Measured Value	Uncertainty(\pm)
Resistance			
10 V			
1×10^3	1.00 e03	1.19 e03	20ppm Ω
1×10^4	1.00 e04	1.02 e04	20ppm Ω
1×10^5	1.00 e05	1.00 e05	20ppm Ω
1×10^6	1.00 e06	0.97 e06	20ppm Ω
1×10^7	1.00 e07	0.97 e07	20ppm Ω
1×10^8	1.00 e08	1.02 e08	100ppm Ω
100 V			
1×10^6	1.00 e06	0.94 e06	20ppm Ω
1×10^7	1.00 e07	0.93 e07	20ppm Ω
1×10^8	1.00 e08	0.93 e08	200ppm Ω
1×10^9	1.00 e09	0.97 e09	200ppm Ω
1×10^{10}	1.00 e10	1.00 e10	200ppm Ω
1×10^{11}	1.00 e11	1.08 e11	200ppm Ω
1×10^{12}	1.00 e12	1.19 e12	20000ppm Ω

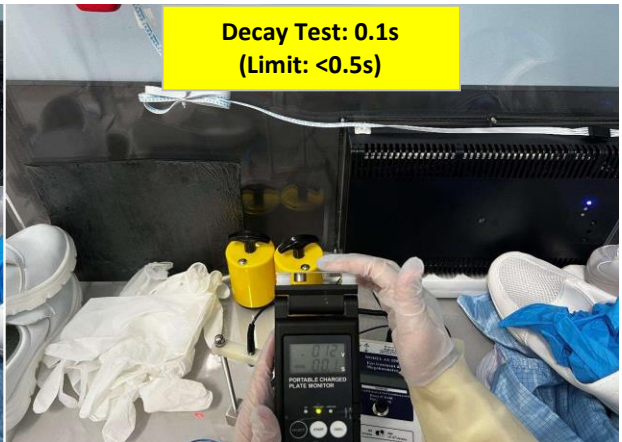
Appendix: Testing Evidence Photo



Appendix: Testing Evidence Photo



**Tribocharge Test: -10V
(Limit: <25V)**



**Decay Test: 0.1s
(Limit: <0.5s)**