TEST REPORT

ktl 한국산업기술시험원 Korea Testing Laboratory

Report No. : 25-013480-02-2

Page of Pages : (1)/(2)

KOREA TESTING LABORATORY ktl 한국산업기술시험원

1. Client

Name : NMTech.co.,LTD

Address : B-dong 101ho, 93, Hoijuk 3-gil, Gwanghyewon-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

Date of Receipt : 2025. 02. 28.

2. Use of Report : Quality control

3. Test Sample

Description : M-EARTH

Manufacturer : Specimen is presented by the client

Model Name : * * *

Serial Number : * * *

Remark : Extraction test(Heavy metals)

4. Date of Test : 2025. 02. 28. ~ 2025. 03. 11.

5. Location of Test :

■ KTL Permanent Test Lab (Address : 723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, Republic of Korea)

□ On Site Testing

6. Test Standard/Method : Refer to the KS C IEC 62561-7:2014/BS EN 12457-2:2002

7. Test Results : Refer to the next page

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Affirmation	Tested by Name : LEE SEMI	(Signature)	Technical Manager Name : Jin Sook Lee	(Signature)

2025. 04. 01.

Korea Testing Laboratory

723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, Republic of Korea Tel.+82-31-500-0375 Fax. +82--

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Test Results

1. Test Results

(Unit : mg/kg)

Element	Test method	Result
Fe	Refer to BS EN 12457-2:2002	0.091
Cu		Not detected
Zn		Not detected
Ni		<0.001
Cd		Not detected
Co		Not detected
Pb		0.018

2. Test Instruments

Instrument	Maker	Model	ICP number
ICP-OES	PERKINELMER	OPTIMA 8300	ICP20170638

THE END.

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TEST REPORT

ktl 한국산업기술시험원 Korea Testing Laboratory

Report No. : 25-004896-02-1A

Page of Pages : (1)/(3)

1. Client

Name : NMTech.co.,LTD

Address : B-dong 101ho, 93, Hoijuk 3-gil, Gwanghyewon-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

Date of Receipt : 2025. 01. 21.

2. Use of Report : Performance Evaluation

3. Test Sample

Description : M-EARTH

Manufacturer : None

Model Name : None

Serial Number : None

Remark : None

4. Date of Test : 2024. 09. 30. ~ 2024. 09. 30.

5. Location of Test :

■ KTL Permanent Test Lab (Address : 723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, Republic of Korea)

□ On Site Testing

6. Test Standard/Method : Test method according to KS C IEC 62561-7:2024 / ASTM G57-20 (See Page 2)

7. Test Results : See Page 3

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Affirmation	Tested by		Technical Manager	
	Name : Park Tae-eon	(Signature)	Name : Chon Ji-hoon	(Signature)

2025. 02. 24.

Korea Testing Laboratory

723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, Republic of Korea Tel.+82-31-500-0217 Fax. +82-31-500-0389

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Test Results

1. General Information

◇ Description : M-EARTH
◇ Manufacturer : None
◇ Model Name : None
◇ Serial Number : None

2. List of Used Standards / Specifications

Description	Manufacturer and Model	Serial Number	The due date of next calibration	Calibration Laboratory
REFERENCE MULTIMETER	FLUKE / 8508A	971756502	2025. 03. 08	KTL
METER CALIBRATOR	FLUKE / 5730A	3514503	2025. 01. 18	KTL

3. Test Procedure

※ Electrical Resistivity Measurement of Grounding Resistance Lowering Agents

1) Preheat the standard equipment for an appropriate time under environmental conditions (temperature (20.0 ± 0.2) °C, humidity (50 ± 2) % R.H.), and leave the Sample Under Test (SUT) in the testing room for more than 1 hour to stabilize its temperature.

2) Connect the Reference Multimeter and Meter Calibrator to the 4-electrode soil box.

3) Fill the soil box with a sufficient amount of SUT, and Pack the sample tightly into the box to minimize the air gap.

4) Apply DC 100 mA current across the current electrodes and record the measured voltage.

5) To account for the effects of homogeneity of SUT, repeat the process from steps 3) to 4) and measure again.

6) The measured value is the average of 5 repeated measurements, and uncertainty is not considered in this test.

$$\rho = \frac{V}{I} \times \frac{A}{L}$$

V : Voltage
I : Current
A : Cross-sectional area (perpendicular to the current direction)
L : Length (distance between voltage measurement points)
ρ : Electrical Resistivity (Volume Resistivity)

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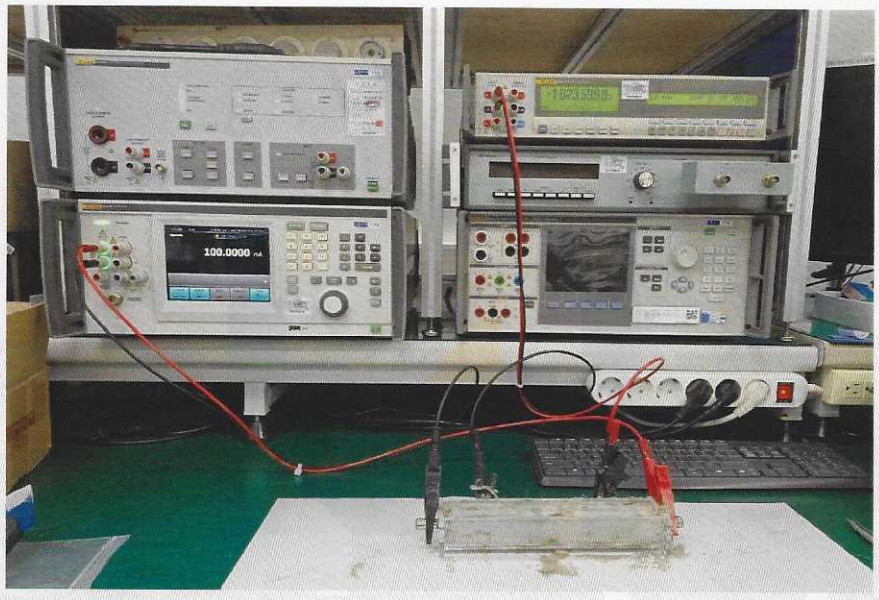
4. Test Results

※ Electrical Resistivity

Test Current (mA)	Measued Voltage (V)	Electrical Resistance (Ω)	A/L (cm)	Volume Resistivity (Ω·cm)
100	1.69	16.9	1 cm	16.9

* The ratio of cross-sectional area and length (A/L) in the above results follows the manufacturer's specifications.

5. Additional Information



< Figure 1. Resistivity Measurement of Grounding Resistance Lowering Agents >

* This certificate is a revision of the previously issued certificate (24-054890-01-1). (25.02.05)

* At the request of the client, the company name, address, and product name have been changed and reissued.

The details before revision are as follows:

- Company Name: Korea Recycled Material Co., Ltd.
- Address: 609, 15 Haeyang 3-ro, Sangnok-gu, Ansan-si, Gyeonggi-do (Sadong, Grand City Signature Tower)
- Product Name: Grounding Resistance Lowering Agents

The end.

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TEST REPORT

ktl 한국산업기술시험원 Korea Testing Laboratory

Report No. : 24-071681-01-2

Page of Pages : (1)/(8)

1. Client

Name : NMTech.co.,LTD

Address : B-dong 101ho, 93, Hoijuk 3-gil, Gwanghyewon-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

Date of Receipt : 2024. 10. 30.

2. Use of Report : Quality control

3. Test Sample

Description : M-EARTH

Manufacturer : Specimen is presented by the client

Model Name : ***

Serial Number : ***

Remark : ***

4. Date of Test : 2024. 10. 30. ~ 2025. 02. 11.

5. Location of Test :

■ KTL Permanent Test Lab (Address : 723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, KOREA)

□ On Site Testing

6. Test Standard/Method : Refer to the next page

7. Test Results : Refer to the next page

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Affirmation	Tested by		Technical Manager	
	Name : Jooyeon Ha	(Signature)	Name : Cha Jin-sun	(Signature)

2025. 02. 11.

Korea Testing Laboratory

723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, KOREA Tel.+82-2-860-1573 Fax. +82-2-860-1584

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Test Results

1. Test specimen information

1.1 Specimen information

Name	Model	Lot No.	Quantity
M-EARTH	-	-	1 ea

1.2 Test item : Corrosion

2. Test standard and method

2.1 Test standard

2.1.1 Test method suggested by the client
(KS C IEC 62561-7:2011, ASTM G59-97, ASTM G102-89 applied)

2.2 Test method

2.2.1 Measure the polarization resistance value for the test product provided by the client using a galvanic corrosion test device. At this time, the working electrode used is a steel electrode wrapped with the test product (M-EARTH) and cured for 7 days at 40 wt%. (See Figures 1 and 2)

2.2.2 An electrode was formed using a solution prepared in the ratio of 58.5 g of NaCl + 9 ml of H2O2 + 1 L of distilled water. At this time, the active electrode is platinum and the reference electrode is Ag/AgCl. The measurement potential range is -0.3 V to 0.3 V, and the measurement The electrostatic potential rate is 10 mV/min. (See Figures 3 4 and 5)

2.2.3 The polarization resistance (Rp) is calculated using the measured current density (icorr) and the slope of the Tafel curve (ba, bc)

$$i_{corr} = 10^6 \frac{b_a b_c}{2.303(b_a + b_c)R_p}$$

The units are Icorr [μA/cm^2], Rp [ohm-cm^2], ba [V], bc [V]. (See Figures 5)

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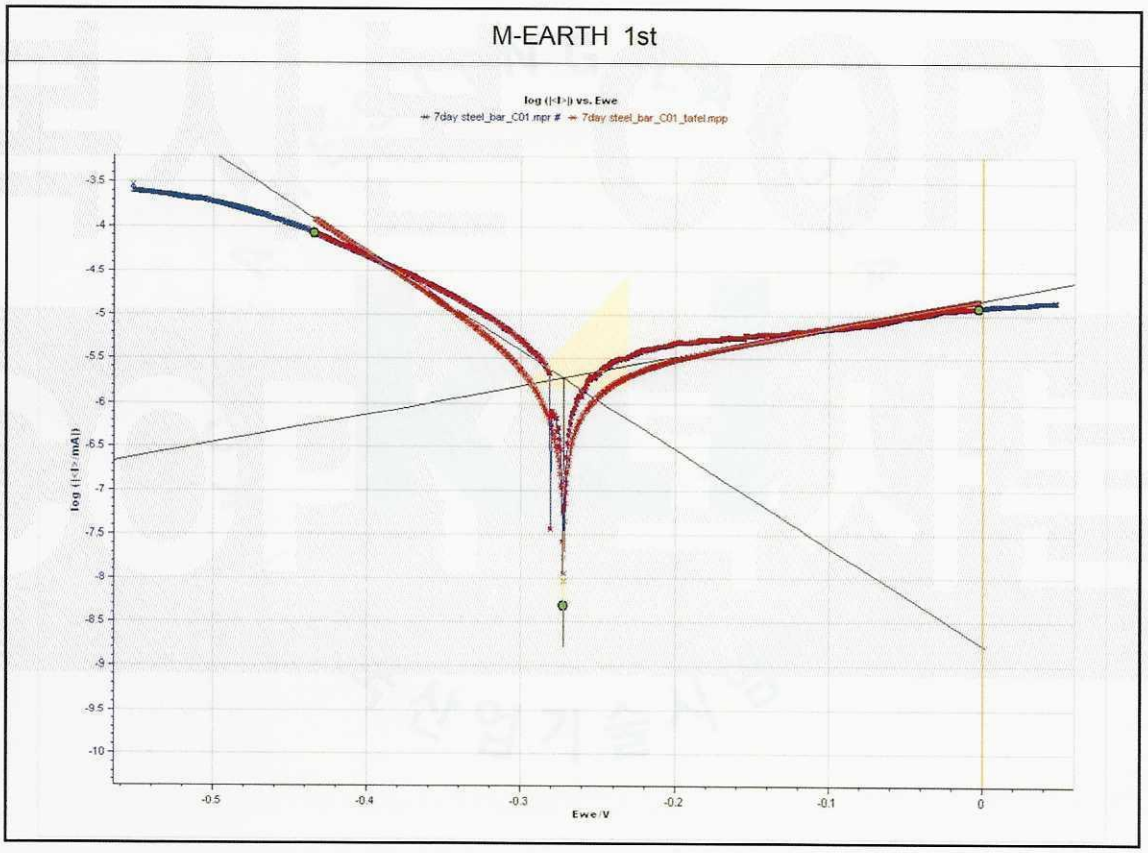
3. Test result

3.1 Corrosion Test

Name	Test results			
	Corrosion current density icorr (μA/cm^2)	Tafel curve slope ba (V)	Tafel curve slope bc (V)	Polarization resistance Rp (ohm-m^2)
M-EARTH	0.002	0.3045	0.0894	1500.4271

M-EARTH 1st



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4. Test conditions

4.1 Temperature : (25 ± 10) ℃

4.2 Humidity : (45 ± 10) % R. H.

5. Test Instrument

Instrument	Manufacture	Model	
Galvanostat	Neo Science	SP 150	-

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6. Appendix

6.1 Corrosion Test

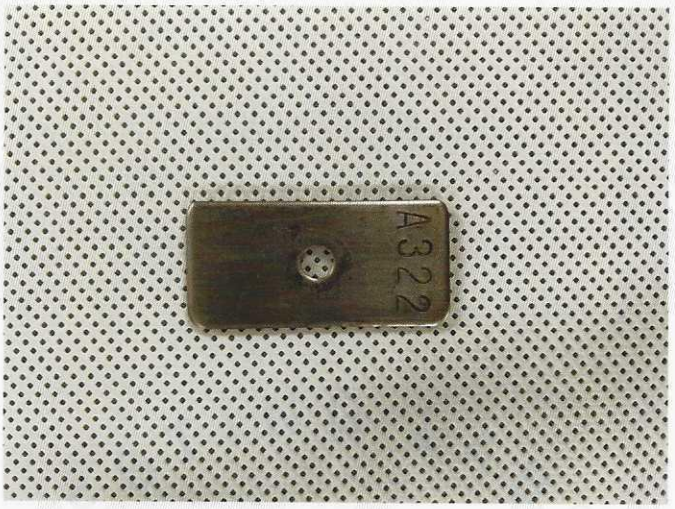

Figure 1. Steel electrode

Figure 2. Working electrode made of M-EARTH

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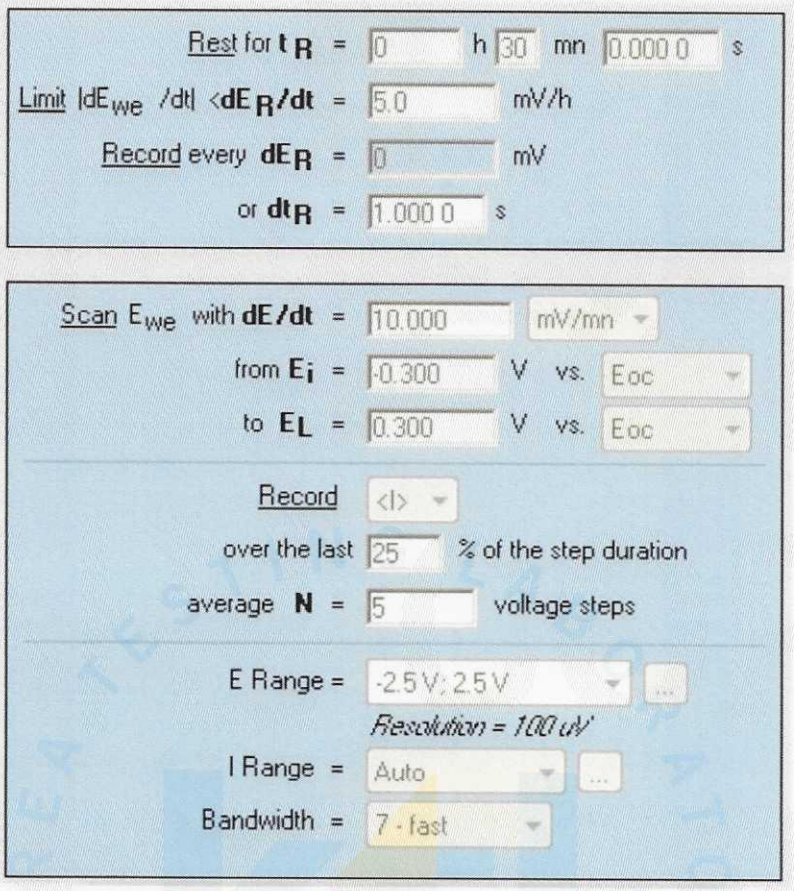

Figure 3. Corrosion test conditions

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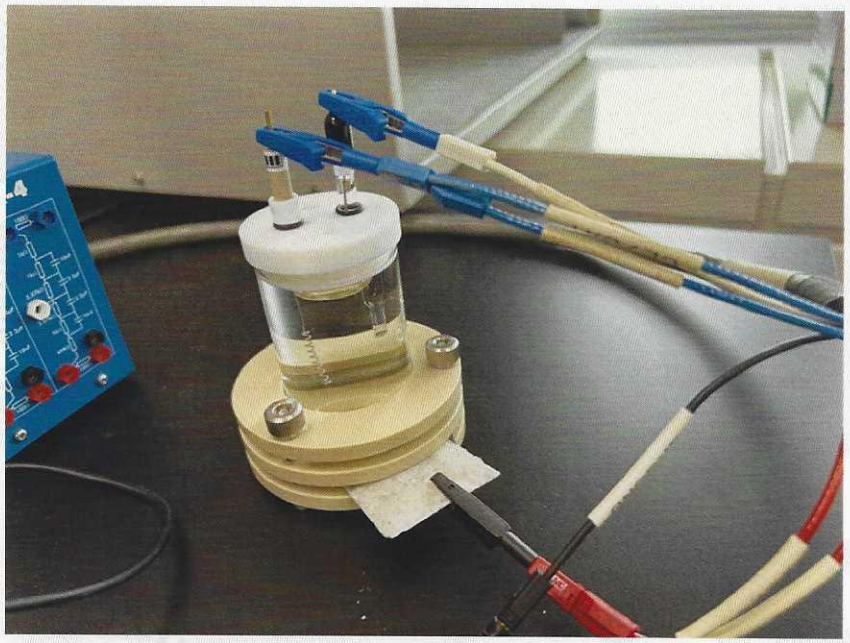

Figure 4. Corrosion test

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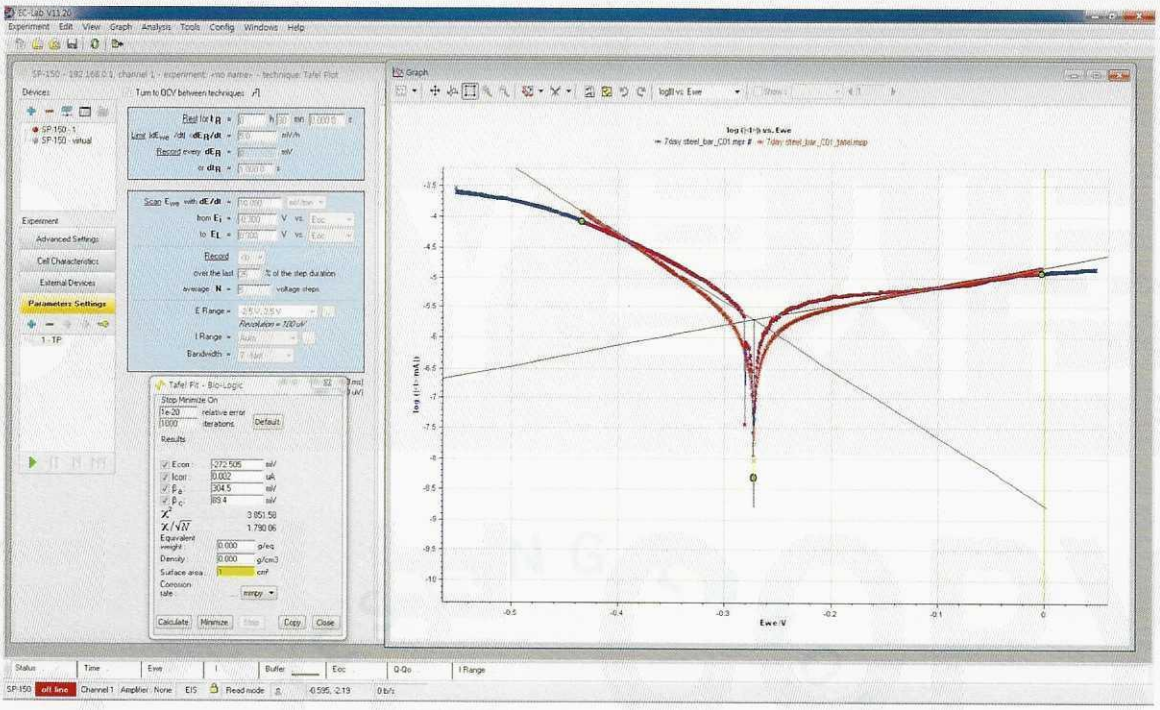

Figure 5. Corrosion test results

the End.

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TEST REPORT

ktl 한국산업기술시험원 Korea Testing Laboratory

Report No. : 24-047851-02-1

Page of Pages : (1)/(2)

KOREA TESTING LABORATORY ktl 한국산업기술시험원

1. Client

Name : NMTech.co.,LTD

Address : B-dong 101ho, 93, Hoijuk 3-gil, Gwanghyewon-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

Date of Receipt : 2024. 07. 18.

2. Use of Report : Quality control

3. Test Sample

Description : M-EARTH

Manufacturer : Specimen is presented by the client

Model Name : * * *

Serial Number : * * *

Remark : * * *

4. Date of Test : 2024. 07. 18. ~ 2024. 07. 19.

5. Location of Test :

■ KTL Permanent Test Lab (Address : 723, Haean-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, Republic of Korea)

□ On Site Testing

6. Test Standard/Method : Refer to the KS C IEC 62561-7:2014/KS E ISO 4689-3:2022

7. Test Results : Refer to the next page

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Affirmation	Tested by Name : LEE SEMI	(Signature)	Technical Manager Name : Jin Sook Lee	(Signature)

2025. 02. 13.

Korea Testing Laboratory

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Test Results

1. Test Results

(Unit : %)

Element	Test method	Result
S	Refer to KS E ISO 4689-3:2022	0.816

2. Test Instruments

Instrument	Maker	Model
C/S Analyzer	ELTRA	CS 2000

THE END.

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