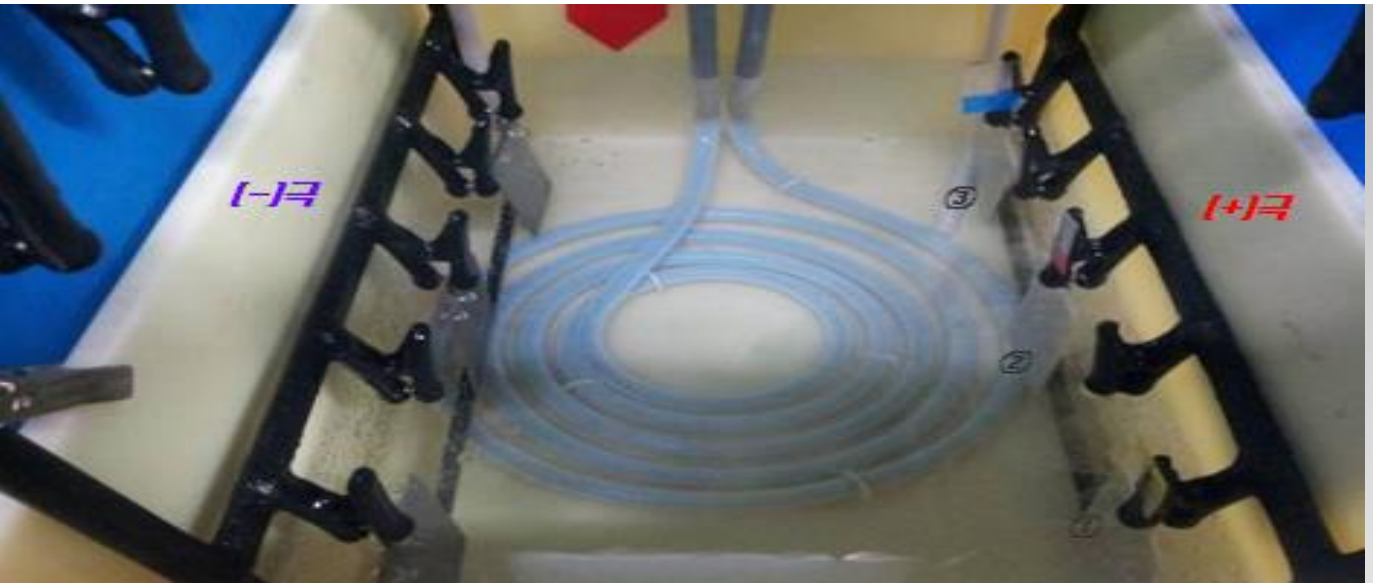


Prime Water Electrodes

DURABILITY

PRIME WATER ELECTRODES
Internal Durability Test Conducted

According to the analysis of the test results:
The tests were performed according to standard test methodology.
After each test was taken according to the different flow rates and comparing the analysis to a range of standards, even when not using the standard amounts, water cell life was ten years

- TEST conditions: H2SO4 0.5mol / l on the electrolyte solution 40 ℃, 2A / d ㎡ is current, 240hr electrolysis
- TEST Quantity: 3 varieties [Heat 1, Heat 2 times, Brazing products]
- TEST Date: 1/10 08:00
- TEST End Date: 20.01 08:00
- TEST progress results: 240hr after all

n=	1 Pt 1 =	0.22
n=	2 Pt 1 =	0.18
n=	3 Pt 1 =	0.20
n=	4 Pt 1 =	0.19
n=	5 Pt 1 =	0.14
n=	6 Pt 1 =	0.18
n=	7 Pt 1 =	0.21
n=	8 Pt 1 =	0.20
n=	9 Pt 1 =	0.21

Mean	0.190
Standard deviation	0.024
C.O.V. (%)	12.85
Range	0.08
Number of readings	9.0
Min. reading	0.14
Max. reading	0.14
Measuring time	0.22
Operator:	20

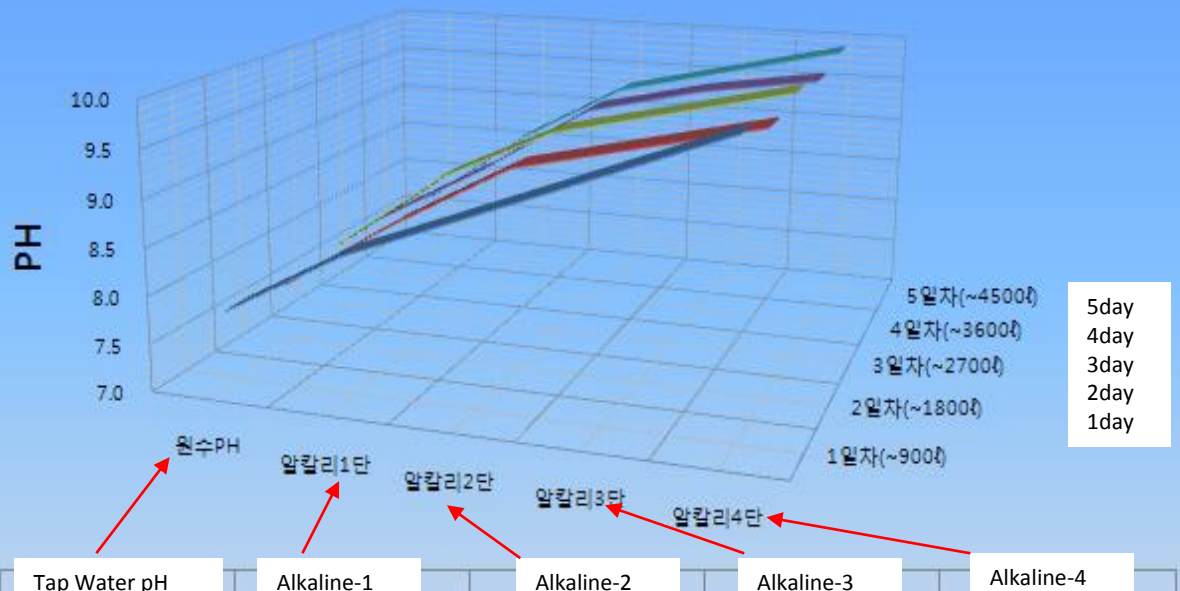
Prime Water Electrodes Durability and Performance testing

NO	Data	Descriptions	Comments
1	Product	Electrolytic Alkaline Water Generator (Prime 1301 – 13Plates)	
2	Test Period	40 days	Daily Journal kept
3	Total Discharge	36,000 liters (Four people using 10 L per day on average: about 10 years worth)	Standard - 365 day year
4	Basis of usage life	At least 10 years over	
5	Water pressure	2.5 Kg/㎠	Water pressure from unit
6	Water flow rate	2.5 l/min	Alkaline water:1.5l/min Acidic water:1.0l/min
7	This method	Every day five samples were taken to test pH and the average was taken down.	
8	This started cleaning method	The machine was used for 30 min. to produce alkaline water after which the machine went into cleaning cycle then tested.	
9	Testing machine	pH-meter Model:HM-20P Jejo Co.: TOA(Japan)	

According to the analysis of the test results:
The tests were performed according to standard test methodology. After each test was taken according to the different flow rates and comparing the analysis to a range of standards, even when not using the standard amounts, water cell life was at least ten years over

Prime Water Electrodes Durability and Performance testing

1~5 days test (0~4,500L)

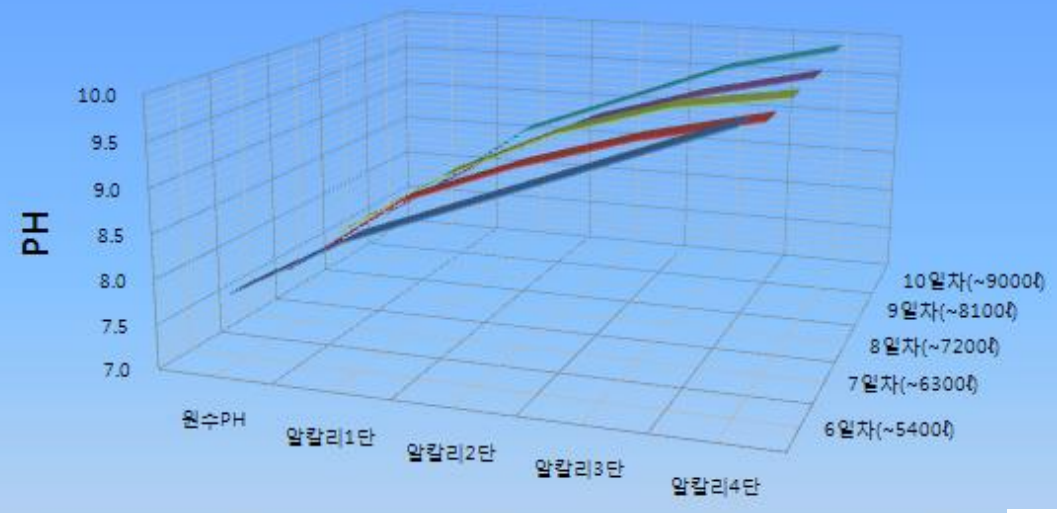


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
1day	7.8	8.5	9.0	9.5	10.0
2day	7.7	8.5	9.2	9.5	9.8
3day	7.8	8.7	9.3	9.6	9.9
4day	7.8	8.5	9.3	9.6	9.8
5day	7.7	8.6	9.3	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

6~10 days test (4,500~9,000L)

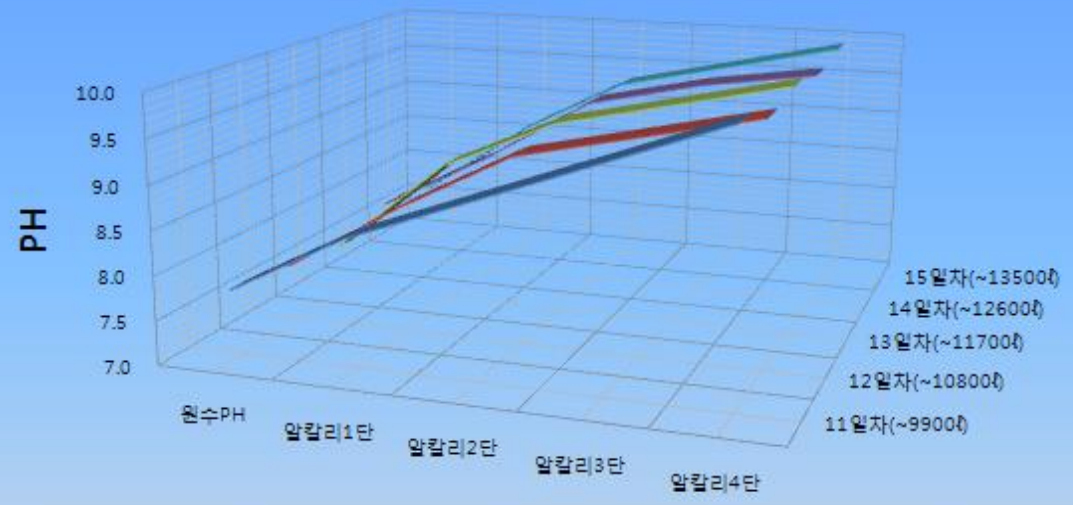


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
6일차(~5400ℓ)	7.8	8.5	9.0	9.5	10.0
7일차(~6300ℓ)	7.7	8.6	9.1	9.5	9.8
8일차(~7200ℓ)	7.8	8.6	9.2	9.6	9.8
9일차(~8100ℓ)	7.7	8.5	9.1	9.5	9.8
10일차(~9000ℓ)	7.7	8.6	9.1	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

11~15 days test (9,000~13,500L)

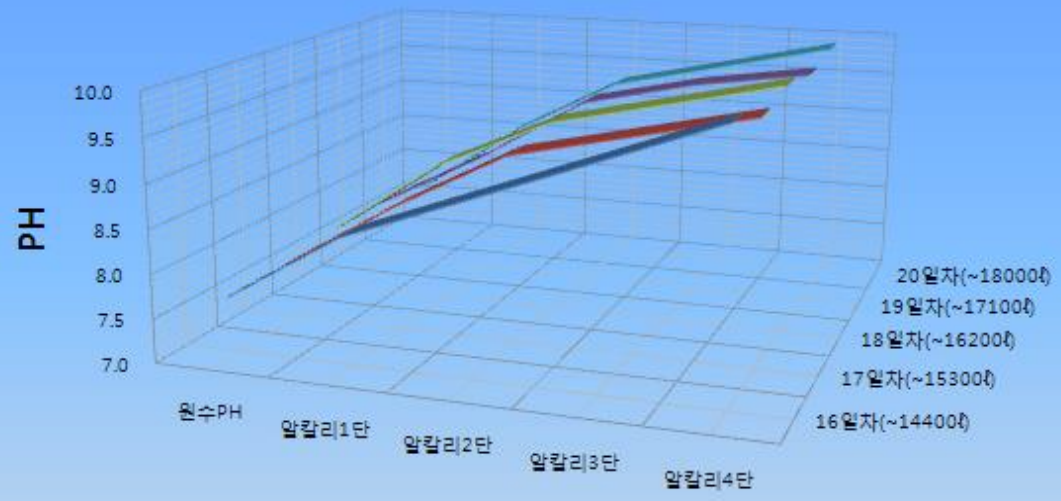


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
11일차(~9900ℓ)	7.8	8.5	9.0	9.5	10.0
12일차(~10800ℓ)	7.7	8.5	9.2	9.5	9.8
13일차(~11700ℓ)	7.6	8.7	9.3	9.6	9.9
14일차(~12600ℓ)	7.8	8.5	9.3	9.6	9.8
15일차(~13500ℓ)	7.7	8.6	9.3	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

16~20 days test (13,500~18,000L)

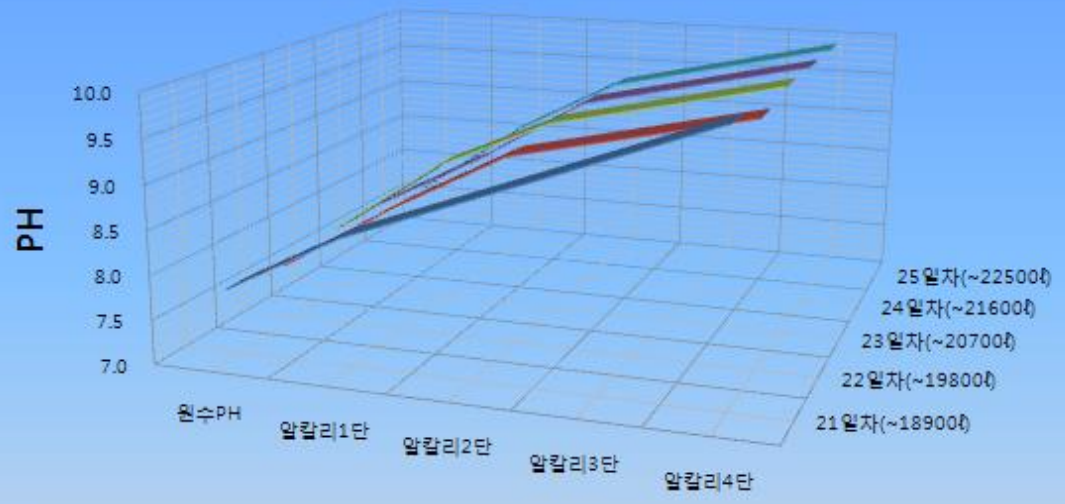


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
16일차(~14400ℓ)	7.7	8.5	9.0	9.5	10.0
17일차(~15300ℓ)	7.7	8.5	9.2	9.5	9.8
18일차(~16200ℓ)	7.8	8.7	9.3	9.6	9.9
19일차(~17100ℓ)	7.8	8.5	9.3	9.6	9.8
20일차(~18000ℓ)	7.7	8.6	9.3	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

21~25 days test (18,000~22,500L)

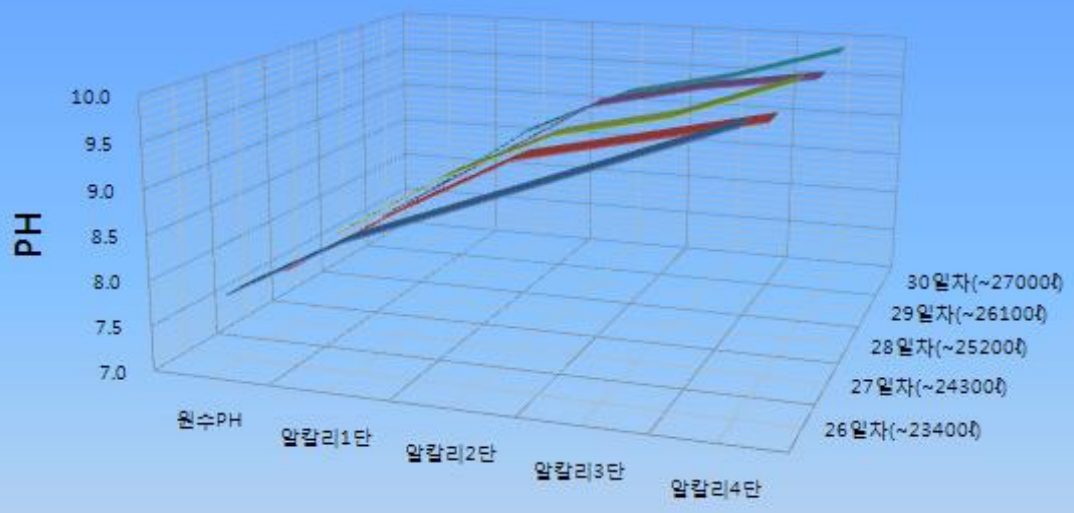


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
21일차(~18900ℓ)	7.8	8.5	9.0	9.5	10.0
22일차(~19800ℓ)	7.7	8.5	9.2	9.5	9.8
23일차(~20700ℓ)	7.8	8.7	9.3	9.6	9.9
24일차(~21600ℓ)	7.8	8.5	9.3	9.6	9.9
25일차(~22500ℓ)	7.7	8.6	9.3	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

26~30 days test (22,500~27,000L)

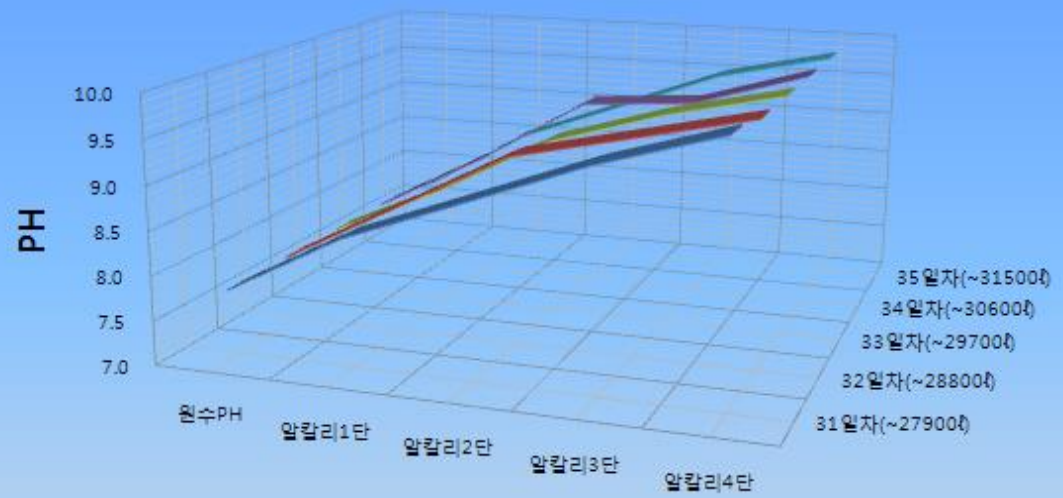


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
26일차(~23400ℓ)	7.8	8.5	9.0	9.5	10.0
27일차(~24300ℓ)	7.7	8.5	9.2	9.5	9.8
28일차(~25200ℓ)	7.8	8.6	9.2	9.5	9.98
29일차(~26100ℓ)	7.7	8.5	9.3	9.6	9.8
30일차(~27000ℓ)	7.7	8.6	9.2	9.5	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

31~35 days test (27,900~31,500L)

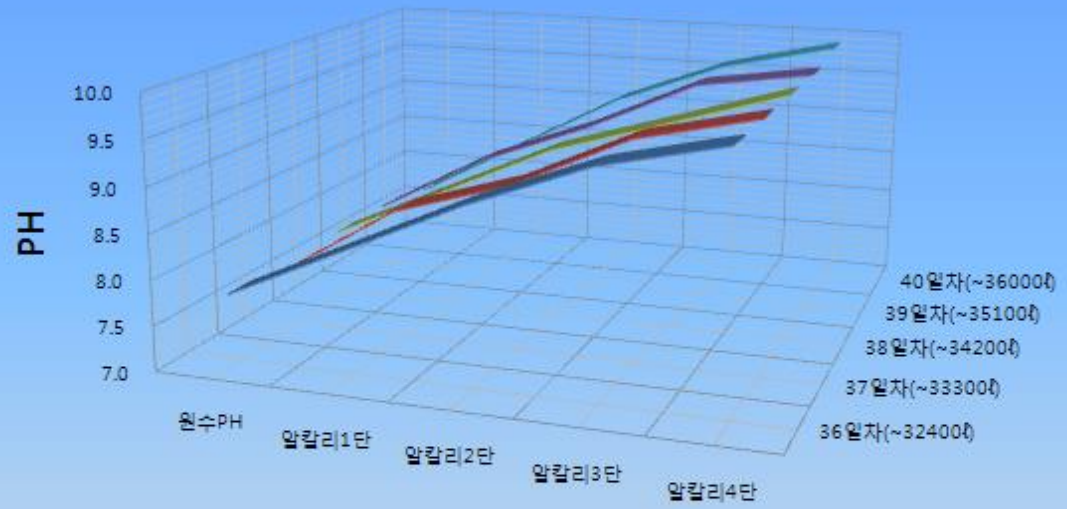


	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
31일차(~27900ℓ)	7.8	8.5	9.0	9.5	9.9
32일차(~28800ℓ)	7.8	8.5	9.2	9.5	9.8
33일차(~29700ℓ)	7.8	8.4	9.1	9.5	9.8
34일차(~30600ℓ)	7.8	8.5	9.3	9.4	9.8
35일차(~31500ℓ)	7.7	8.5	9.0	9.5	9.8

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

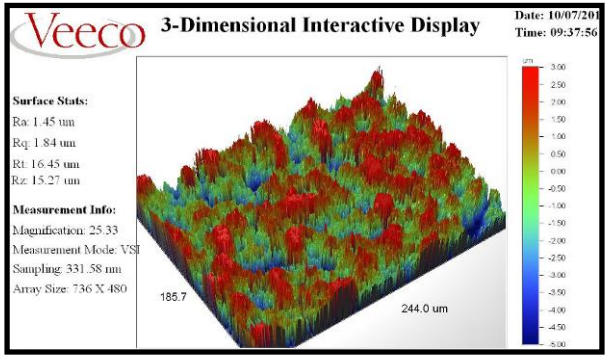
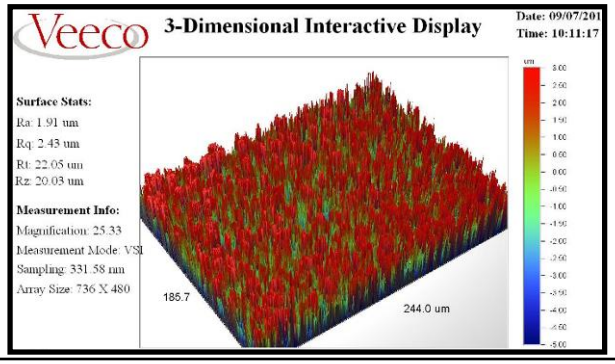
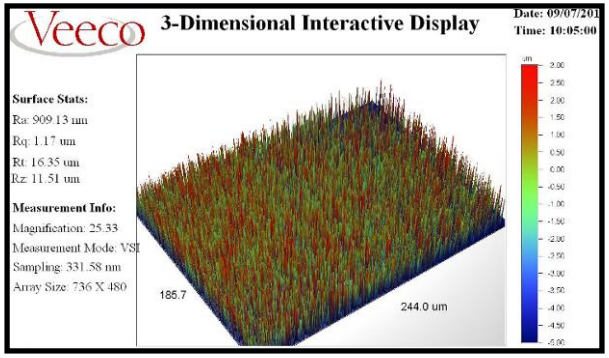
36~40 days test (31,500~36,000L)



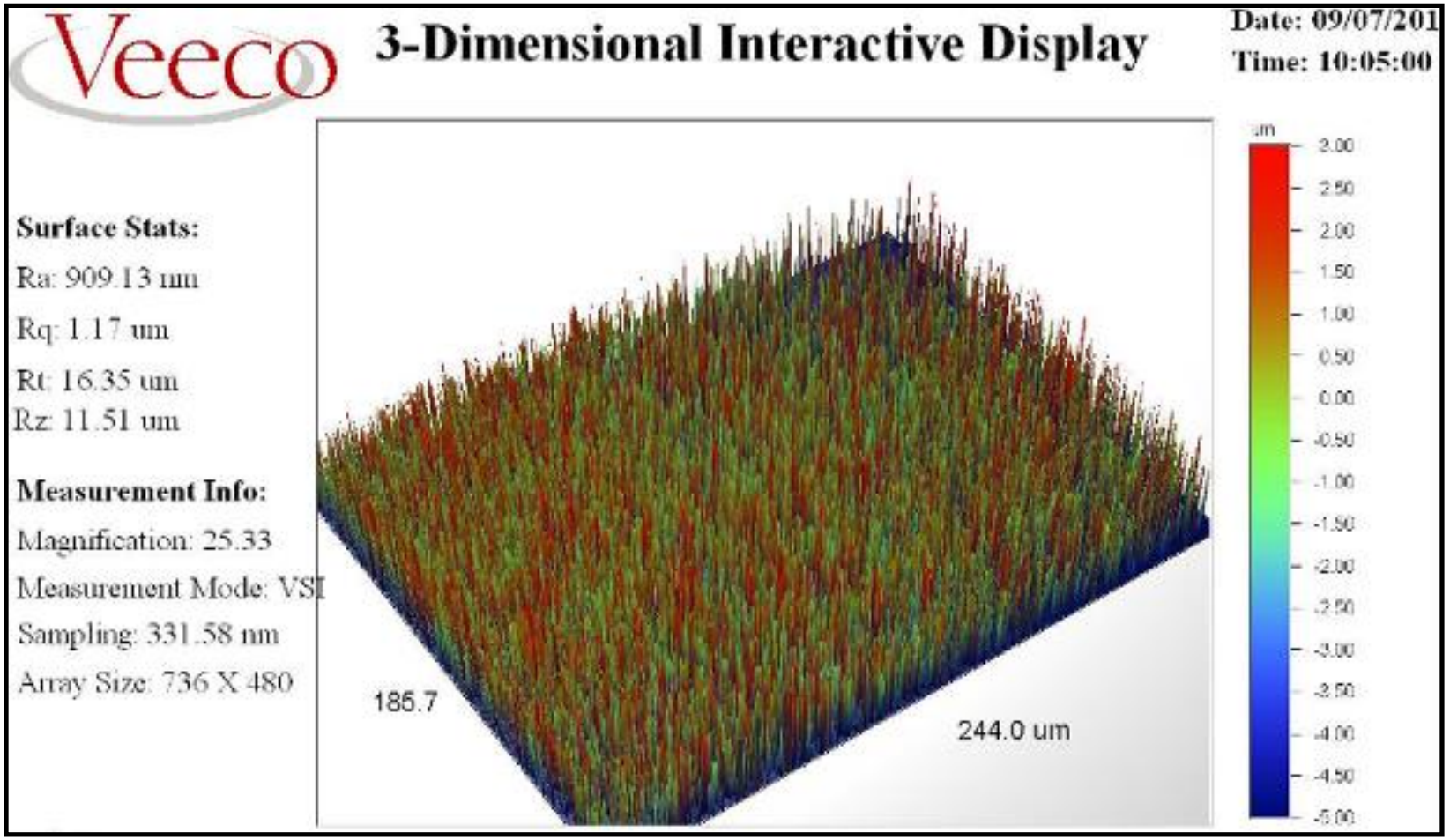
	Tap Water pH	Alkaline-1	Alkaline-2	Alkaline-3	Alkaline-4
36일차(~32400ℓ)	7.8	8.4	9.0	9.5	9.8
37일차(~33300ℓ)	7.7	8.5	8.9	9.5	9.8
38일차(~34200ℓ)	7.8	8.4	9.0	9.4	9.8
39일차(~35100ℓ)	7.8	8.5	9.0	9.6	9.8
40일차(~36000ℓ)	7.7	8.4	9.1	9.6	9.9

- PH측정값은 5회를 실측정하여 나온 평균값으로 기재함.

Prime Water Electrodes Durability and Performance testing

Company	3D Surface roughness measure	Result
CHINA PLATES		**Surface roughness : rough**
KOREA "A" COMPANY PLATES		**Surface roughness : rough**
PRIME WATER PLATES		**Surface roughness :Good surface**

Prime Water Electrodes Surface



▪ Platinum Plating Process

Press
Titanium shape processing in the press

Electrode machining
Electrode cutting and rolling process

Washing
Removal of oil and grease from media and cut pieces

Spot Weding
Welding of the metal terminal to the electrode.

Sanding
Sand blasting process to improve plating adhesion

Racking
Titanium electrodes loaded onto plating jig

Skimmer
Removal of any surface grease or oil

Etching
Removal of oxidation from titanium surface

Activator
Surface of titanium activated to improve plating adhesion

Platinum Plating
Titanium plated with platinum

Drying
Water is removed from the surface of the platinum

Heat Treatment
Heat treated in furnace to strengthen adhesion of platinum
To titanium.

Shipping Inspection
Reliability and appearance Inspection /
Certificate of Inspection issued

Packing/Shipping