## **Gamry** instructions



**1.** Click on <u>Gamry Framework software</u> link on computer desktop.



2. Turn on potentiostat power.

3. In the Gamry Instruments Framework software, click on Experiment.

## Select DC105 - DC Corrosion

## Potentiostatic testing



4. Set up test parameters for your potentiostatic scan.

For <u>each test</u> you will input:

<u>Output file</u>: file name for your test, so you can find the data when the test is done.

sample area in centimeters<sup>2</sup>

sample density: steel 7.85 g/cm<sup>3</sup>

brass 8.90 g/cm<sup>3</sup>

Equivalent weight: steel 27.92

brass 32.05

The other parameters will be the same as example below.

(b) Gamry Instruments Framework						
File Edit Experiment Analysis Optic	ons Window Help					
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Potentiostatic						
Default Save Res	otore OK Cancel					
Pstat	© IFC1000-08134					
Test Identifier	Potentiostatic Scan					
Output File	brass in saltwater					
Notes	MSE 227 Lab - exp 9					
Initial E (V)	0.05 C vs Eref ( vs Eoc					
Initial Time (s)	100					
Final E (V)	0.05 C vs Eref @ vs Eoc					
Final Time (s)	800					
Sample Period (s)	1					
Limit I (mA/cm^2)	25					
Sample Area (cm^2)	0					
Density (g/cm^3)	0					
Equiv. Wt						
Conditioning	□ <b>Off</b> Time(s) 15 E(V) 0					
Init. Delay	☐ Off Time(s) 300 Stab.(mV/s) 0.1					
IR Comp	□ off					

Enter data.

Click <u>OK</u>.

Test will start.

Potentiostat will begin collecting data.

When test is finished (roughly 15 minutes).

or

Click skip [F2].

Click on <u>Analysis</u> in Gamry Instruments Framework software or go to the Gamry Echem Analyst Software.





## [chart] shows the test results



🧭 Gamry Echem Analyst - [bra	ss in sw-grp1.GData]	
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Initial <u>E</u> (V)	0.05 C vs. Ejef @ vs. Ego	
Initial <u>T</u> ime (s)	100	
Final <u>E</u> (∀)	0.05 C vs. Ejef @ vs. Eoc	
Final <u>T</u> ime (s)	800	
Test Identifier	Potentiostatic Scan	
Date	7/22/2015	
Time	15:03:08	
Sample Period (s)	2	
Limit I (mA/cm^2)	25	
Sample <u>A</u> rea (cm^2)	1.44	
Density (g/cm^3)	Ó	
Equiv. <u>W</u> t	1	
Conditioning	□ <u>0</u> ff 15 Time(s) E(V)	
Init. Delay	☐ <u>Off</u> 300 Time(s) 0.1 Stab.(mV/s)	
IR Comp	<u> </u>	
Open Circuit (V)	-0.0539349	

[experimental set up] shows the parameters used for testing.

To get your data, click on the icon below **[chart]** and select <u>as text (data only)</u>. Go to Excel, open a new sheet and paste data.

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Ø Gamry Echem Analyst - [brass in sw-grp1.GData]	
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Chart Experimental Setup Experimental Notes Open Circuit Voltage Har	dware Settings
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CURVE (trans in sw-grp1.dts)	

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3	Time, seconds		current,	Amps		
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5	1	2.00E+00	2.5	54E-04		
6	:	3.00E+00	2.5	59E-04		
7	4	1.00E+00	2.6	56E-04		
8	5	5.00E+00	2.7	76E-04		_
9		5.00E+00	2.8	36E-04		_
10		7.00E+00	2.9	96E-04		_
11	8	3.00E+00	3.0	08E-04		_
12	9	9.00E+00	3.2	20E-04		_
13	1	L.00E+01	3.3	32E-04		_
14	1	L.10E+01	3.4	14E-04		_
15	1	L.20E+01	3.5	56E-04		+
16		L.30E+01	3.0	59E-04		+
1/		L.40E+01	3.8	S2E-04		+
18		L.50E+01	3.5	95E-04		+
20	-	1.0000001	4.0	J8E-04		+
20		005101	4.4	210-04		+
21		905+01	4.	17E-04		+
23		2.00F+01	4.6	50F-04		+
24		2.10E+01	4.7	73E-04		+
25		2.20E+01	4.8	36E-04		+
26		2.30E+01	4.9	99E-04		Ť
27		2.40E+01	5.1	12E-04		
28		2.50E+01	5.2	25E-04		T
29	1	2.60E+01	5.3	38E-04		
30	1	2.70E+01	5.5	51E-04		
31	2	2.80E+01	5.6	54E-04		
32		2.90E+01	5.7	77E-04		
33	:	3.00E+01	5.8	89E-04		
34	:	3.10E+01	6.0	02E-04		
35	:	3.20E+01	6.1	15E-04		
36	:	3.30E+01	6.2	27E-04		_
37	3	3.40E+01	6.3	39E-04		_
38		3.50E+01	6.5	52E-04		
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