

100Ah Cell Electrical Performance Test Procedure

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Capacity

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A.

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	1C Discharge Capacity
7	Rest 30min ;	
8	0.5C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 30min ;	
10	0.5C DC to 2.8V ;	0.5C Discharge Capacity
11	Rest 30min ;	
12	1/3C CC to 4.3V and 4.3V CV to 0.05C ;	
13	Rest 30min ;	
14	1/3C DC to 2.8V ;	1/3C Discharge Capacity
15	Rest 30min ;	
16	End ;	

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. 90%、 50%、 20% SOC 400A discharge DCR

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	Initial Capacity C0
7	Rest 30min ;	
8	1.0C0 CC to 4.3V and 4.3V CV to 0.05C0 ;	
9	Rest 30min ;	
10	1.0C0 DC to 6min	
11	Rest 30min ;	
12	400A DC 10s ;	DC 10s DCR and Power
13	Rest 30min ;	
14	200A CC 20s;	
15	Rest 30min ;	
16	Cycle step10~15 , test 50%、 20% SOC DCR ;	
17	End ;	

Note : Do not test DCR by parallel testing channel ;

High Temperature Discharge_Part1

- ♦ **Test condition:** Thermostat, with recirculating wind.

1C=100A. 25°C、55°C、0°C、-20°C、-30°C Discharge capacity

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 5min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 5min ;	
6	25°C rest 120min ;	
7	1.0C DC to 2.8V ;	25°C Discharge capacity
8	Rest 5min ;	
9	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
10	Rest 5min ;	
11	55°C rest 120min ;	
12	1.0C DC to 2.8V;	55°C Discharge capacity
13	Rest 5min ;	
14	25°C rest 120min ;	
15	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
16	Rest 5min ;	
17	0°C rest 120min ;	

High Temperature Discharge_Part2

- ♦ **Test condition:** Thermostat, with recirculating wind.

1C=100A. 25°C、55°C、0°C、-20°C、-30°C Discharge capacity

Step	Procedure	Remark
18	1.0C DC to 2.5V ;	0°C Discharge capacity
19	Rest 5min ;	
20	25°C rest 120min ;	
21	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
22	Rest 5min ;	
23	-20°C rest 120min ;	
24	1.0C DC to 2.1V ;	-20°C Discharge capacity
25	Rest 5min ;	
26	25°C rest 120min ;	
27	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
28	Rest 5min ;	
29	-30°C rest 120min ;	
30	1.0C DC to 2.1V ;	-30°C Discharge capacity
31	Rest 5min ;	
32	End ;	

Rate Discharge_Part1

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. 1/3C、0.5C、1C、2C、3C Discharge Capacity

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	1C Discharge capacity
7	Rest 30min ;	
8	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 30min ;	
10	0.5C DC to 2.8V ;	0.5C Discharge capacity
11	Rest 30min ;	
12	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
13	Rest 30min ;	
14	1/3C DC to 2.8V ;	0.33C Discharge capacity
15	Rest 30min ;	
16	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
17	Rest 30min ;	

Rate Discharge_Part2

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. 1/3C、 0.5C、 1C、 2C、 3C Discharge Capacity

Step	Procedure	Remark
18	2.0C DC to 2.8V ;	2C Discharge capacity
19	Rest 30min ;	
20	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
21	Rest 30min ;	
22	3.0C DC to 2.8V ;	3C Discharge capacity
23	Rest 5min ;	
24	End ;	

Rate Charge

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. 1/3C、 0.5C、 1C、 1.2C Charge Capacity

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V ;	1C Charge Capacity
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	
7	Rest 30min ;	
8	0.5C CC to 4.3V ;	0.5C Charge Capacity
9	Rest 30min ;	
10	1.0C DC to 2.8V ;	
11	Rest 30min ;	
12	1/3C CC to 4.3V ;	1/3C Charge Capacity
13	Rest 30min ;	
14	1.0C DC to 2.8V ;	
15	Rest 30min ;	
16	1.2C CC to 4.3V ;	1.2C Charge Capacity
17	Rest 5min ;	
18	End ;	

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. Double-Layer Fixture , 3000±300N Pressure , 0.5mm Filler

Step	Procedure	Remark
1	Rest 30min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	0.5C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	Initial Capacity C0
7	Rest 30min ;	
8	0.5C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 30min ;	
10	1.0C DC to 2.8V ;	Discharge Capacity Cn
11	Rest 30min ;	
12	Cycle step 8~11 for 2000 times , or $C_n \leq 80\%C_0$, finish testing ;	
13	End ;	

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A. Double-Layer Fixture , 3000±300N Pressure , 0.5mm Filler

Step	Procedure	Remark
1	Rest 5min ;	
2	100A DC to 2.8V ;	
3	Rest 30min ;	
4	120A CC to 4.05V ;	
5	100A CC to 4.10V ;	
6	50A CC to 4.15V ;	
7	33A CC to 4.3V ;	
8	4.3V CV to 5A ;	
9	Rest 30min ;	
10	100A DC to 2.8V ;	Discharge Capacity Cn
11	Rest 30min ;	
12	Cycle step 4~11 for 2000 times , or $C_n \leq 80\%C_0$, finish testing ;	
13	End ;	

- ♦ **Test condition:** 45°C Thermostat, with recirculating wind.

1C=100A. Double-Layer Fixture , 3000±300N Pressure , 0.5mm Filler

Step	Procedure	Remark
1	Rest 30min ;	
2	0.5C DC to 2.8V ;	
3	Rest 30min ;	
4	0.5C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	0.5C DC to 2.8V ;	Initial Capacity C0
7	Rest 30min ;	
8	0.5C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 30min ;	
10	0.5C DC to 2.8V ;	Discharge Capacity Cn
11	Rest 30min ;	
12	Cycle step 8~11 for 1500 times , or $C_n \leq 80\%C_0$, finish testing ;	
13	End ;	

- ♦ **Test condition:** Capacity testing at 25°C Thermostat, with recirculating wind ; Storage testing at 25°C/45°C/60°C Thermostat.

1C=100A. Double-Layer Fixture , 3000±300N Pressure , 0.5mm Filler

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	Initial Capacity C0
7	Rest 30min ;	
8	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 5min ;	
10	Store in 25°C/45°C/60°C thermostat , test the residual capacity and recovery capacity 15 days later ;	Storage

- ♦ **Test condition:** Capacity testing at 25°C Thermostat, with recirculating wind ; Storage testing at 25°C/45°C/60°C Thermostat.

1C=100A. Double-Layer Fixture , 3000±300N Pressure , 0.5mm Filler

Step	Procedure	Remark
	the residual capacity and recovery capacity test :	
1	25°C rest 120min ;	
2	1.0C DC to 2.8V ;	Residual capacity
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V ;	Recovery capacity Cn
7	Rest 30min ;	
8	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 5min ;	
10	Store in 25°C/45°C/60°C thermostat , test the residual capacity and recovery capacity every 28 days ;	
11	Cn≤80%C0 , finish testing ;	
12	End ;	

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A.

Step	Procedure	Remark
1	Rest 5min ;	
2	1.0C DC to 2.8V ;	
3	Rest 30min ;	
4	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
5	Rest 30min ;	
6	1.0C DC to 2.8V , 记录该步骤容量为初始容量C0 ;	Initial Capacity C0
7	Rest 30min ;	
8	1.0C CC to 4.3V and 4.3V CV to 0.05C ;	
9	Rest 5h ;	
10	Test OCV ;	100% SoC OCV
11	Rest 5min ;	
12	1C0 DC 6min ;	90% SOC
13	Rest 5h ;	
14	Test OCV ;	90% SOC OCV
15	Cycle step 11~14 , test 80%-10% SOC OCV ;	
16	Rest 5min ;	
17	0.2C0 DC 30min ;	0% SOC

- ♦ **Test condition:** 25°C Thermostat, with recirculating wind.

1C=100A.

Step	Procedure	Remark
18	Rest 5h ;	
19	Test OCV ;	0% SOC OCV
20	End ;	

Thanks

感 谢 观 赏

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衡即动力
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