

## 1. General Information

### 1.1 Scope

This product specification defines the requirements of the rechargeable lithium ion battery to be supplied to Customer by LG Chem. All conditions and criteria written in this document are defined and resulted from fresh cell (ex-factory) state.

### 1.2 Application

- |   |                                      |   |  |
|---|--------------------------------------|---|--|
| <input type="checkbox"/> Portable IT          | <input type="checkbox"/> Power Tools | <input checked="" type="checkbox"/> Powerbank | <input checked="" type="checkbox"/> E-bike |
| <input checked="" type="checkbox"/> E-scooter | <input type="checkbox"/> EV/LEV      | <input type="checkbox"/> ESS/UPS              |  |

\* If you intend to apply this battery cell model to different applications that are not clarified above, please contact and discuss with LG chem. Then, LG chem will officially provide a revised version of this document if necessary. Otherwise, LGC shall not be liable for any claims resulted from the usage of different applications.

1.3 Product classification: Cylindrical rechargeable lithium ion battery

1.4 Model name: INR21700M50T

## 2. Nominal Specification

Item	Condition / Note	Specification
2.1 Energy	By Std. charge/discharge	Nom. 18.2 Wh Min. 17.6 Wh
2.2 Nominal Voltage	Average by Std. charge/discharge	3.63V
2.3 Shipping Cell Voltage*	At ex-factory state.	Below SOC 30%
2.4 Standard charge (Refer to 4.1.1)	Constant current (1C=4850mA)	0.3C (1,455mA)
	Constant voltage	4.20V
	End condition(Cut off)	50mA
	Charging time <sup>1)</sup>	4h
2.5 Max. Charge Voltage	In all measurements and operations of the cell, the maximum allowable closed circuit voltage shall not exceed the following value	4.20V
2.6 Max. Charge Current (complete full charge) <sup>2)</sup>	0 ~ 25℃ (Atmosphere)	0.3C (1,455mA)
	25 ~ 45℃ (Atmosphere)	0.7C (3,395mA)
2.7 Standard Discharge (Refer to 4.1.2)	Constant current	0.2C (970mA)
	End voltage(Cut off)	2.50V
2.8 Min. Discharge Voltage	In all measurements and operations of the cell, the minimum allowable closed circuit voltage shall not be below the	2.50V

	following value		
2.9 Max. Discharge Current <sup>2)</sup>	-20 ~ 10 °C	0.5C (2,425mA)	
	10 ~ 25 °C	3.0C(14,550mA)	
	25 ~ 55 °C	1.5C (7,275mA)	
2.10 Over Voltage Protection	Cell voltage shall not exceed the following value to prevent any safety events. And cell performance can't be guaranteed between 4.20V and 4.25V	4.25V	
2.11 Under Voltage Protection	Cell voltage shall not drop below the following value to prevent any safety events. And cell performance can't be guaranteed between 2.50V and 2.00V	2.00V	
2.12 Weight	With Tube and Washer	Max. 70.0g	
2.13 Operating Temperature <sup>3)</sup> (Atmosphere or Chamber Temperature)	Charge	0 ~ 45 °C	
	Discharge	-20 ~ 55 °C	
2.14 Storage Temperature <sup>4)</sup>	Max. cell surface temperature should be below 70 °C for discharging (Temperature cut-off function is needed on BMU under 70 °C of cell surface temperature.)		
	for shipping state *	1 month	-20 ~ 55 °C
		3 month	-20 ~ 45 °C
		1 year	-20 ~ 25 °C
	for fully charged state	1 month	-20 ~ 45 °C
		6 month	-20 ~ 25 °C
	Recovery capacity <sup>5)</sup> after the storage ≥ 80% of minimum energy(or capacity)		
<p>•Note:</p> <p>If the cells are not stored by the described conditions of temperature and period under humidity of 60% RH, they will not be covered under the warranty. The performance of the cells would have some degradation in cycle life if cells are stored long period in high temperature even within the described period. It is highly recommended to store and use the cells within 1 day after removing the pallet plastic wrap. Basically this cell specification is based on the cell that shipped out of factory, the storage conditions shall be considered for the performance and be shared if there is any issue during the storage in warehouse.</p>			

\* Shipping state : About 30% capacity of fully charged state