

# MP 176065 ise

## Rechargeable Li-ion cell

3.65 V high energy Li-ion cell with high performance and **intrinsic safety**

Saft's MP 176065 ise cell is compatible with applications requiring intrinsic safety, long operating life under cycling conditions and offers excellent performance in temperature environments from  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .

### Benefits

- Excellent operating lifetime in cycling with a very stable internal resistance
- High level of safety, compatible with potentially explosive atmospheres
- Long shelf life with extremely low capacity loss in storage
- Easy connection and assembly into batteries
- Smaller environmental footprint than other technologies

### Key features

- High energy density (264 Wh/l, and 150 Wh/kg)
- Cycle life more than 1000 tested ( $\geq 2250$  expected) cycles at 100% DoD at C/2 discharge, C charge
- Aluminium casing
- Hermetically sealed
- Operates in any orientation
- Maintenance free
- No memory effect
- **Manufactured in the EU**

### Designed to meet all major quality, safety and environmental standards

- Safety: UL 1642 and IEC62133-2:2017
- Transport: UN 3480, UN 38.3
- ATEX<sup>[v]</sup> IEC 60079-11 (10.5.2, 10.5.3 (b)) compatible component
- Quality: ISO 9001, Saft World Class program.
- Environment: ISO 14001, RoHS and REACH compliant

### Typical applications

- Backup for industrial equipment
- Medical devices
- Tracking
- Oil & Gas applications
- Internet of Things, Wireless Sensor Networks
- Lighting & signalling



### Electrical characteristics

Typical capacity (at C/5 rate, $+25^{\circ}\text{C}$ , 2.5V cut-off) <sup>[i]</sup>	5.6 Ah	
Nominal voltage	3.65 V	
Nominal energy	20.4 Wh	
Recommended maximum discharge current <sup>[ii]</sup>	Continuous	11 A (~2C rate)
	Pulse	22A (~4C rate)

### Physical characteristics (sleeved cell)

Thickness <sup>[iii]</sup>	18.65 mm	
Width	60.5 mm	
Height (including terminals)	68.7 mm	
Typical weight	135 g	
Volume (including terminals)	0.077 l	
IEC cell designation	INP/19/61/69	
Saft internal designation	INT 176065 ise	
Saft part number	70346R	
Saft model / type reference	MP 176065 ise	GP31344

### Operating conditions

Typical cut-off voltage	2.5 V	
Charging method	Constant current/Constant voltage	
Charging voltage	$4.2 \pm 0.05$ V	
Maximum continuous charge current <sup>[iv]</sup>	5.6 A (~1C rate)	
Operating temperatures	Charge	$-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
	Discharge	$-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
Storage & transportation temperatures	Recommended	$+10^{\circ}\text{C}$ to $+30^{\circ}\text{C}$
	Allowable	$-40^{\circ}\text{C}$ to $+60^{\circ}\text{C}$

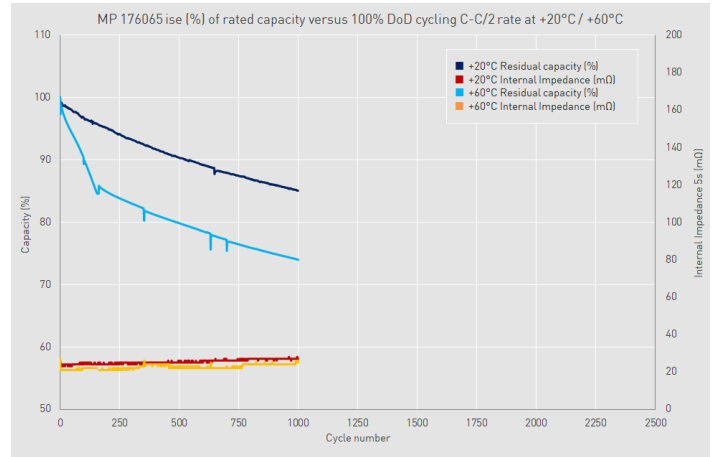
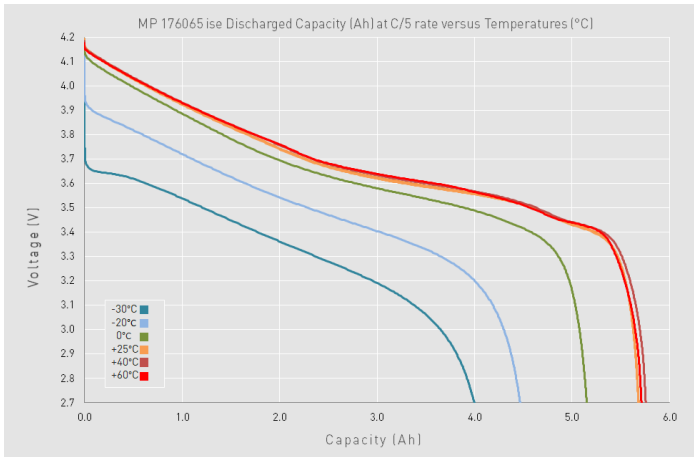
[i] Can vary depending on temperature and discharge rate

[ii] Can vary depending on temperatures. Consult Saft

[iii] At beginning of life, 100% State-of-Charge. May increase with temperature and the cells' calendar life.

[iv] For optimised charging below  $0^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ , consult Saft

[v] Compatible with a temperature classification T4 for an ambient temperature of  $60^{\circ}\text{C}$ . The temperature classification shall be verified during the assessment of the intrinsically safe apparatus in which the cell will be used.



### Battery assembly

- Individual lithium-ion cells need to be mechanically and electrically integrated into battery systems to operate properly.
- The battery system includes electronic devices for performance, thermal and safety management specific to each application.
- Please contact Saft for your specific application requirements.

### Cell surface temperature and spark ignition

- The cell can be compatible with the temperature classification T4 at an ambient temperature of +60°C.
- The temperature classification shall be verified during the assessment of the intrinsic safety apparatus in which the cell will be used.
- The spark ignition risk shall be verified during the assessment of the intrinsic safety apparatus in which the cell will be used.

### Storage

- The storage area should be clean, cool (preferably not exceeding +30°C), dry and ventilated. For long term storage, keep the cell within a 30 ± 15% state of charge

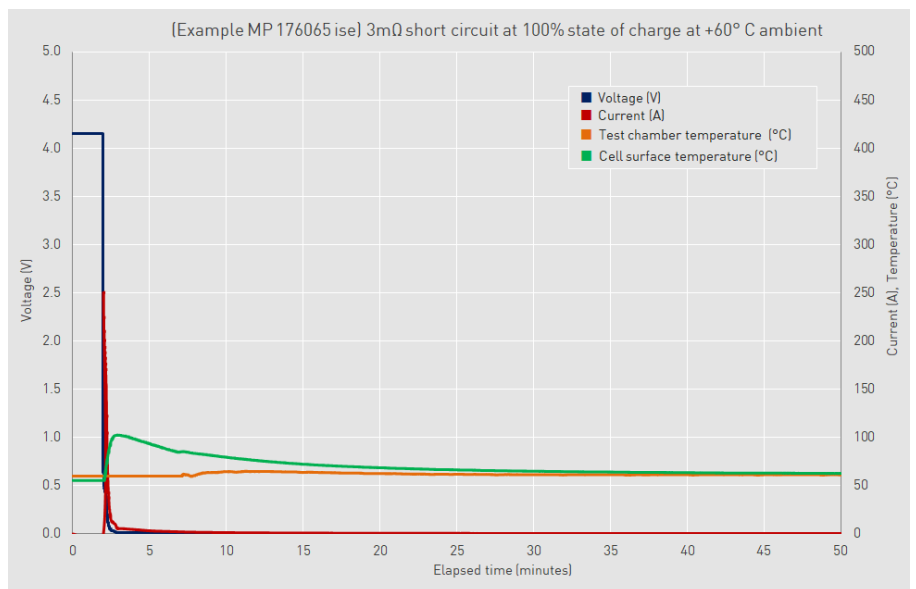
### Warning

- Do not crush, short-circuit, incinerate, dismantle, immerse in any liquid or heat above +60°C
- Observe charging conditions at all times

Pretest conditions	Value
Test chamber temperature	60 °C
Cell state of charge	100 %
Short circuit resistance	2.76 mΩ

Test data recorded	Value (max)
Maximum current	247.4 A
Cell maximum temperature	112.4 °C

Test results	Result
Temperature >100 °C and ≤135 °C	Temperature class T4
Externally visible electrolyte ≥24 h	No visible electrolyte
Discharge current interruption	No partial discharge
IECEx ExTR Reference No.	FR/INE/ExTR18.0024/00



## Saft

26, Quai Charles Pasqua,  
92300 Levallois Perret -France  
Tel.: +33 (0)1 49 93 19 18  
Fax: +33 (0)1 49 93 19 69  
www.saftbatteries.com

## Saft America, Inc.

313 Crescent Street  
Valdese, NC 28690—USA  
Tel.: +1 (828) 874 41 11  
Fax: +1 (828) 879 39 81  
www.saftbatteries.com

Doc N°: 31173-2-1018  
Edition: September 2018  
Information in this document is subject to change without notice and becomes contractual only after written confirmation by Saft.  
Published by the Communication Department  
Photo credit: Saft  
Produced by CE Marketing Department

