
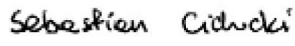





TEST REPORT	
UN38.3	
TRANSPORT OF DANGEROUS GOODS - Lithium metal and lithium ion batteries	
Report Number	20190531-4788878151
Date of issue	2019-05-31
Total number of pages	20
Manufacturer's identification:	
Name	PHOENIX CONTACT GmbH & Co. KG
Address	Flachsmarktstrasse 8, Blomberg, 32825, Germany
Phone number	+ 49 5235 3-00
Email	info@phoenixcontact.com
Website	www.phoenixcontact.com
Test specification:	
Standard	ST/SG/AC.10/11/Rev.6/Amend.1
Test procedure	Type Approved
Non-standard test method	N/A
Test item description:	
	Rechargeable Li-ion battery pack
Trade Mark	
Manufacturer	PHOENIX CONTACT GmbH & Co. KG
Model/Type reference	STEP-BAT/LI-ION/18.5DC/46WH
Ratings	18.5 V, 2.5 Ah, 46 Wh
Testing procedure and testing location:	
Testing Laboratory:	UL International Polska sp. z o.o.
Address	Aleja Krakowska 81, 05-090 Sekocin Nowy, Poland
Phone number	+48223363339
Email	ctech.easterneurope@ul.com
Website	https://www.ul.com
Tested by (name + title + signature)	Sebastian Cichocki (Project handler) 
Approved by (name + title + signature) ...:	Michał Barszczak (Reviewer) 

Summary of testing:**Tests conducted and results:**

T.1 Altitude simulation Pass; Fail;

T.2 Thermal test Pass; Fail;

T.3 Vibration Pass; Fail;

T.4 Shock Pass; Fail;

T.5 External short circuit Pass; Fail;

T.7 Overcharge Pass; Fail;

Additional test were conducted on the cell type INR18650-25R by SAMSUNG SDI CO LTD:

T.6 Impact Pass; Fail;

T.8 Forced discharge Pass; Fail;

Test item particulars:	Rechargeable Li-ion battery pack
Chemistry	<input type="checkbox"/> lithium metal / <input checked="" type="checkbox"/> lithium ion
Mass	0.29 kg
Lithium content (for lithium metal)	N/A
Wh capacity (for lithium ion)	46
Battery connection configuration (X-S/Y-P)	5-S/1-P
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing:	
Date of receipt of test item	2019-03-08, 2019-03-22, 2019-05-07
Date (s) of performance of tests	2019-04-05 to 2019-05-16
General remarks:	
The test results presented in this report relate only to the object tested.	
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
"(See Enclosure #)" refers to additional information appended to the report.	
"(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
General product information:	
Rechargeable Li-ion battery pack based on five cylindrical cells connected in one series.	
The cells and a protection PCB are sealed with plastic enclosure. The battery connection to the end product is made with the connector included in the battery housing.	
The cell type INR18650-25R by SAMSUNG SDI CO LTD is UN 38.3 approved, certified to IEC 62133 2nd edition, (CBTC No. DK-34607-UL) and UL Recognized (UL 1642, file number MH21015).	