



## Lithium Ion Battery Test Summary

### LITHIUM CELLS OR BATTERIES TEST SUMMARY IN ACCORDANCE WITH SUB-SECTION 38.3 OF UN MANUAL OF TESTS AND CRITERIA

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Lithium Ion cells and Metabo Lithium-Ionen-batteries Li-Power, LiHD, and CAS Li-Ion and have been successfully tested and comply with UN Model Regulation, Manual of Test and Criteria, Part III subsection 38.3

PERFORMED TESTS			RESULTS	
			Cells	Batteries
38.3.4.1	T1	Altitude Simulation	Pass	Pass
38.3.4.2	T2	Thermal Test	Pass	Pass
38.3.4.3	T3	Vibration	Pass	Pass
38.3.4.4	T4	Shock	Pass	Pass
38.3.4.5	T5	External Short Circuit	Pass	Pass
38.3.4.6	T6	Impact / Crush	Pass	Not applicable
38.3.4.7	T7	Overcharge	Not applicable	Pass
38.3.4.8	T8	Forced Discharge	Pass	Not applicable



The UN38.3 tests were performed at least by one of the following test houses and were tested to UN Manual Test and Criteria Revision 3 Amendment 1 or subsequent revisions or amendments.

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<p>DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch No. 3 Qiyun Road, Science City Guangzhou Hi-Tech Ind. Development Zone Guangzhou, China</p> <p>Telephone: +86 20 6661 2000 E-Mail: <a href="mailto:Among.Chen@dekra.com">Among.Chen@dekra.com</a> Web: <a href="http://www.dekra.com">www.dekra.com</a></p>	<p>INSTITUTE OF NON-FERROUS METALS Division in Poznan CENTRAL LABORATORY of BATTERIES a. CELLS ul. Forteczna 12 61-362 Poznań – POLAND</p> <p>Telephone: +48 32 238 02 00 E-Mail: <a href="mailto:imn@imn.gliwice.pl">imn@imn.gliwice.pl</a> Web: <a href="http://www.imn.gliwice.pl">www.imn.gliwice.pl</a></p>
<p>Sanyo Component Europe GmbH Technical CRM Section Stahlgruberring 4 81829 München, Germany</p> <p>Telephone: +49 89 460095-0 E-Mail: <a href="mailto:info.europe@sanyo-energy.com">info.europe@sanyo-energy.com</a> Web: <a href="http://www.sanyo-energy-europe.com">www.sanyo-energy-europe.com</a></p>	<p>Sony Energy Devices Corporation 1-1 Shimosugishita, Takakura Hiwada-machi, Koriyama-shi Fukushima, 963-0531, Japan</p> <p>Telephone: +81-50-3807-3059 E-Mail: Web:</p>



**Product Test Information - Cells**

<b>Model</b>	<b>Physical Description</b>	<b>Weight</b>	<b>Rating</b>	<b>Test report</b>	
number		[kg]	[Wh]	number	date
Samsung INR21700-40T	Li-ion cylindrical cell	0,067	14,4	SDI-UN-170306-01	2017-03-06
Samsung INR21700-30T	Li-ion cylindrical cell	0,070	10,8	SDI-UN-170331-01	2017-03-31
Samsung INR18650-20R	Li-ion cylindrical cell	0,045	7,2	SDI-UN-150630-03	2015-06-30
Samsung INR18650-25R	Li-ion cylindrical cell	0,045	9,0	SDI-UN-170331	2017-03-31
Murata US18650VTC4	Li-ion cylindrical cell	0,045	7,2	PT-1094	2013-08-27



## Product Test Information - Batteries

Model number	Physical Description	Weight	Rating	Test report	
		[kg]	[Wh]	number	date
LiHD 625349000	Li-Ion, 12 V - 4,0 Ah	0,324	43,2	28246989 001	2018-10-17
LiHD 625367000	Li-Ion, 18 V - 4,0 Ah	0,584	72,0	28246518 001	2018-09-17
LiHD 625368000	Li-Ion, 18 V - 5,5 Ah	0,983	99,0	28246519 001	2018-09-17
LiHD 625369000	Li-Ion, 18 V - 8,0 Ah	0,977	144,0	28246520 001	2018-09-17
Li-Power 625406000	Li-Ion, 12 V - 2,0 Ah	0,224	21,6	28246384 001 4349892.51	2018-10-17 2019-01-08
Li-Power 625417000 <sup>1)</sup>	Li-Ion, 14,4 V – 1,5 Ah	0,324	21,6	4349892.52	2019-01-04
Li-Power 625596000	Li-Ion, 18 V – 2,0 Ah	0,383	36,0	N° S 80/2017/1 1-4643/17-01-02-A 1-1032/15-01-02 SDI-UN-P140304-02	2017-12-20 2017-12-12 2016-03-15 2014-03-10
Li-Power 625591000	Li-Ion, 18 V – 4,0 Ah	0,648	72,0	28248081 001 S 82/2017/1 1-4643/17-01-04-A 1-8959/14-01-03 MT0094839	2018-11-09 2017-12-17 2017-12-12 2015-08-13 2013-08-23
Li-Power 625592000	Li-Ion, 18 V – 5,2 Ah	0,670	93,6	28247087 001 BU-2014-02195-0-UN F734A1864/MUS3482	2019-02-20 2014-10-14 2013-07-18
Li-Power 625529000	Li-Ion, 36 V – 5,2 Ah	1,289	187,2	28249699 001	2019-05-28

<sup>1)</sup> not available anymore

## Signature of responsible person of the Company

ppa. B.F.

ppa. Bernd Fleischmann (digitally signed)

Vice President Product Engineering & Quality)