

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-Ion-batteries Li-Power, LiHD, LiHDX and CAS Li-Ion 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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All batteries are compliant with Battery Regulation (EU) 2023/1542 and standard IEC 62133

Product Test Information - Cells

Model	Physical Description	Weight	Rating	Test report	
		[kg]	[Wh]	number	date
INR-21700 Samsung 50S	Li-ion cylindrical cell	0,072	18,0	SDI-UN-192426-03	2019-04-19
INR-21700 Samsung 40T3	Li-ion cylindrical cell	0,067	14,4	SDI-UN-170306-01	2017-03-06
INR-21700 Samsung 30T1	Li-ion cylindrical cell	0,070	10,8	SDI-UN-170331-01	2017-03-31
INR-18650 Samsung 20R4	Li-ion cylindrical cell	0,045	7,2	SDI-UN-150630-03	2015-06-30
INR-18650 Samsung 25R5	Li-ion cylindrical cell	0,045	9,0	SDI-UN-170331-02	2017-03-31
ICR-18650 Tenpower 1500	Li-ion cylindrical cell	0,042	5,55	NO.1118110180	2018-12-25
ICR-18650 Tenpower 2000	Li-ion cylindrical cell	0,041	7,4	NO.4789079122-5	2019-07-24
INR-18650 Tenpower 25PG	Li-ion cylindrical cell	0,045	9,0	NO.4788850679-3	2019-03-25
INR-21700 EVE 40PL	Li-ion cylindrical cell	0,065	14,4	NCT23026800XB1-1	2023-07-11

Product Test Information – Batteries 10,8V

Batteries are exchangeable and can be used in all 10,8 V products.

Model	Physical Description	Weight	Rating	SoC	Test report		
		[kg]	[Wh]	[%]	number	date	regulation
Li-Power 625438000 316045190 321000760	Li-Ion 10,8 V - 2,0 Ah 3S1P	0,195	21,6	> 20 < 30	HU21DH9L 001 NO.1121100253	2021-08-23 2021-12-03	UN 3480 UN 3481
Li-Power 625585000 321000270	Li-Ion 10,8V -4,0 Ah 3S2P	0,381	43,2	> 20 < 30	28246992 001	2018-09-21	UN 3480 UN 3481

Product Test Information – Batteries 12V (U_{max})

Batteries are exchangeable and can be used in all 12 V products.

Model	Physical	Weight	Rating	SoC	Test report		
number	Description	[kg]	[Wh]	[%]	number	date	regulation
LiHD 625349000 321001140 321001310	Li-Ion 12 V - 4,0 Ah 3S1P	0,324	43,2	> 20 < 30	HU22FDMO 001	2022-06-03	UN 3480 UN 3481
Li-Power 625406000 321001120 321001430	Li-Ion 12 V - 2,0 Ah 3S1P	0,224	21,6	> 20 < 30	HU227CPF 001 4374118.50	2022-06-03 2021-04-15	UN 3480 UN 3481

Product Test Information – Batteries 14,4 V

Batteries are exchangeable and can be used in all 14,4 V products

Model	Physical	Weight	Rating	SoC	Test report		
number	Description	[kg]	[Wh]	[%]	number	date	regulation
Li-Power 625417000 321001060	Li-Ion 14,4 V – 1,5 Ah 4S1P	0,324	21,6	> 20 < 30	4359720.50	2019-12-19	UN 3480 UN 3481
Li-Power 625595000 321000540	Li-Ion 14,4 V – 2,0 Ah 4S1P	0,340	28,8	> 20 < 30	28248753 001	2018-12-21	UN 3480 UN 3481

Product Test Information – Batteries 18V

Batteries are exchangeable and can be used in all 18 V products

Model	Physical	Weight	Rating	SoC	Test report		
number	Description	[kg]	[Wh]	[%]	number	date	regulation
LiHD 625367000 321001000 321001190	Li-Ion 18 V - 4,0 Ah 5S1P	0,584	72,0	> 20 < 30	28242835 003	2020-12-18	UN 3480 UN 3481
LiHD 625368000 321001040 321001180	Li-Ion 18 V - 5,5 Ah 5S2P	0,983	99,0	> 20 < 30	28242837 003	2020-12-18	UN 3480 UN 3481
LiHD 625369000 321000980 321001170	Li-Ion 18 V - 8,0 Ah 5S2P	0,977	144,0	> 20 < 30	28246520 001	2018-09-17	UN 3480 UN 3481
LiHD 625549000 321001600 321001610	Li-Ion 18 V - 10,0 Ah 5S2P	0,996	180,0	> 20 < 30	28253888 002 T211-0815/20	2020-09-23 2020-11-04	UN 3480 UN 3481
LiHD (DS) 624989000 321001640 321001190	Li-Ion 18 V - 4,0 Ah 5S1P	0,660	72,0	> 20 < 30	28242835 003	2020-12-18	UN 3480 UN 3481
LiHD (DS) 624990000 321001650 321001180	Li-Ion 18 V - 5,5 Ah 5S2P	1,065	99,0	> 20 < 30	28242837 003	2020-12-18	UN 3480 UN 3481
LiHD (DS) 624991000 321001660 321001610	Li-Ion 18 V - 10,0 Ah 5S2P	1,156	180,0	> 20 < 30	28253888 002	2020-10-01 2020-11-04	UN 3480 UN 3481
LiHDX 624974000 321001910 637561000 321001940	Li-Ion 18 V – 4,0Ah 5S1P	0,580	72	> 20 < 30	HU24LTWB 001	2024-02-13	UN 3480 UN 3481
LiHDX 624975000 321001890 637562000 321001950	Li-Ion 18 V – 8,0Ah 5S2P	0,950	144	> 20 < 30	HU24R70X 001	2024-12-16	UN 3480 UN 3481

Li-Power 625418000 321001050	Li-Ion 18 V – 1,5 Ah 5S1P	0,392	27,0	> 20 < 30	4359675.50	2019-12-19	UN 3480 UN 3481
Li-Power 625592000 321000350 321001220	Li-Ion 18 V – 5,2 Ah 5S2P	0,670	93,6	> 20 < 30	28247087 001	2019-02-20	UN 3480 UN 3481
Li-Power 625026000 321001450 321001670	Li-Ion 18 V – 2,0 Ah 5S1P	0,383	36,0	> 20 < 30	HU213J99 004	2021-05-21	UN 3480 UN 3481
Li-Power 625027000 321001470 321001680	Li-Ion 18 V – 4,0 Ah 5S2P	0,685	72,0	> 20 < 30	HU2177MB 001 HU219AF5 001 HU210YG9 001 HU21A74Q 001	2021-05-25 2021-05-21 2021-08-06 2021-09-09	UN 3480 UN 3481
Li-Power 625028000 321001490 321001690	Li-Ion 18 V – 5,2 Ah 5S2P	0,695	93,6	> 20 < 30	HU216BYZ 001 HU21LMZX 001	2021-07-22 2021-08-06	UN 3480 UN 3481

Product Test Information – Batteries 36 V

Batteries are exchangeable and can be use in all 36 V products

Model	Physical	Weight	Rating	SoC	Test report		
number	Description	[kg]	[Wh]	[%]	number	date	regulation
Li-Power 625529000 321000130	Li-Ion 36 V – 5,2 Ah 10S2P	1,403	187,2	> 20 < 30	28249699 001	2019-05-28	UN 3480 UN 3481
LiHD 637047000 321001410	Li-Ion 36V – 8,0 Ah 10S2P	1,963	288,0	> 20 < 30	HU21LT91 001	2021-05-11	UN 3480 UN 3481

Signature of responsible person of the Company



ppa. Bernd Fleischmann (digitally signed)
Chief Technical Officer Koki Holdings Co., Ltd.