



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

Product Manufacturer: PREBENA Wilfried Bornemann GmbH & Co. KG
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Lithium Ion cells and Prebena Lithium-Ion-batteries LiHD 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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Product Test Information - Cells

Model	Physical Description	Weight	Rating	Test report	
number		[kg]	[Wh]	number	date
Samsung INR-18650-20R	Li-ion cylindrical cell	0,045	7,2	SDI-UN-150630-03	2015-06-30
Samsung INR21700-30T	Li-ion cylindrical cell	0,070	10,8	SDI-UN-170331-01	2017-03-31
Samsung INR21700-40T	Li-ion cylindrical cell	0,067	14,4	SDI-UN-170306-01	2017-03-06

Product Test Information - Batteries

Model	Physical Description	Weight	Rating	SoC	Test report		
number		[kg]	[Wh]	[%]	number	date	regulation
Prebena AKKU18-5,5-LIHD CAS 637341000 Base 321001180	Li-Ion, 18 V – 5,5 Ah 5S2P, LiHD	0,983	99,0	> 20 < 30	28246519 001	2018-09-17	UN 3480 UN 3481
Prebena AKKU18-4,0-LIHD CAS 637340000 Base 321001190	Li-Ion, 18 V – 4,0 Ah 5S1P, LiHD	0,584	72,0	> 20 < 30	28246518 001	2018-09-17	UN 3480 UN 3481
Prebena AKKU18-2,0-LIP CAS 637393000 Base 321001450	Li-Ion, 18 V – 2,0 Ah 5S1P, LiPower	0,383	36,0	> 20 < 30	HU213J99 004	2021-05-21	UN 3480 UN 3481

Signature of responsible person of the Company