

## LITHIUM BATTERIES TEST SUMMARY

IN ACCORDANCE WITH SUB-SECTION 38.3 OF UN MANUAL OF TESTS AND CRITERIA

1	Product Manufacturer	Robert Bosch Power Tools GmbH Max-Lang-Straße 40-46 70771 Leinfelden-Echterdingen Germany +49-711-400-40990 kontakt@bosch.de www.bosch-pt.com
2	Model	Bosch Battery Pack GBA 18V
3	Voltage rating	18V
4	Ah rating	1.3 Ah / 1.5Ah / 2.0Ah / 2.5Ah 2.6Ah / 3.0Ah / 4.0Ah 5.0Ah 6.0Ah / 6.3Ah / 7.0Ah 8.0Ah 12.0Ah
5	Wh rating	23.4Wh / 27.0 Wh / 36.0 Wh / 45.0 Wh 46.8 Wh / 54.0 Wh 72.0 Wh / 90.0 Wh 108.0Wh / 113.4Wh / 126.0Wh / 144.0Wh 216.0Wh

This model of Lithium ion batteries have been succesfully tested and comply with the UN Model Regulations, Manual of Test and Criteria, Part III, subsection 38.3

PERFORMED TESTS		RESULTS
38.3.4.1 T1	Altitude Simulation	Passed
38.3.4.2 T2	Thermal Test	Passed
38.3.4.3 T3	Vibration	Passed
38.3.4.4 T4	Shock	Passed
38.3.4.5 T5	External Short Circuit	Passed
38.3.4.7 T7	Overcharge	Passed

(Note that tests T6 and T8 are not applicable to batteries.)

Revision Date: 18.11.2019

Revision Number: 3.0

ppa. Thomas Alexander Baader  
 Senior Vice President (PT-BI/GP)  
 Professional Power Tools Industrialized Markets

i.V. Dr. Erhard Hoffmann  
 Vice President Engineering (PT-BI/NE)  
 Professional Power Tools Industrialized Markets

The UN 38.3 tests were performed 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.

<p>Robert Bosch Power Tools GmbH          PT/EST          Max-Lang Str. 40-46          70771 Leinfelden-Echterdingen          Germany          +49 (0)711-400-40990          kontakt@bosch.de          www.bosch-pt.com</p>	<p>Tüv Süd PSB Pte. Ltd          No.1 Science Park Drive          Singapore 118221          Singapore          +65 6427 4700          info.sg@tuvsud.com          www.tuev-sued.de/company/locations/asia</p>
<p>SGS Germany GmbH          Hofmannstr. 50          81379 München          Germany          +49 (0) 89 1250 406 4513          sgs.germany@sgs.com          www.sgsgroup.de</p>	<p>SLG Prüf und Zertifizierungs GmbH          Burgstädter Str. 20          09232 Hartmannsdorf          Germany          +49 (0 ) 3722 73230          service@slg.de.com          www.slg.de.com</p>
<p>SAMSUNG SDI CO LTD          467 BEONYEONG-RO SEOBUK-GU          CHEONAN-SI,          CHUNGHEONGNAM-DO 31086          KOREA          +82-41-560-3114          sdimaster@samsung.com          www.samsungsdi.com</p>	<p>VDE Prüf und Zertifizierungsinstitut GmbH          Goethering 43          63067 Offenbach / Main          Germany          +49 (0) 69 8306-0          vde-institut@vde.com          www.vde.com</p>
<p>Tüv Rheinland InterCert Kft.          Vaci ut 48/A-B          1132 Budapest          Hungary          +36 1461 1100          tuv@hu.tuv.com          www.tuv.hu</p>	<p>Dynamis Batterien GmbH          Brühlstr. 15          78465 Dettingen / Konstanz          Germany          +049 (0) 7533 936690          info@dynamis-batterien.de          www.dynamis-batterien.de</p>



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

Model numbers	Physical Description	Battery weight (kg)	Wh rating	Test report number	Test report date	Applicable UN Numbers acc. to UN Model Regulations
GBA 18V 1.3 Ah	Detachable slide in lithium-ion accumulator	0,328 0,336 0,323	23.4	D1HQ0003 70711 1151-11-MM-11-PP001_1	18.01.2011 06.07.2011 21.10.2011	UN3480/ UN3481
GBA 18V 1.5 Ah	Detachable slide in lithium-ion accumulator	0,335 0,330 0,324 0,329 0,347 0,333	27.0	UN_T1-T5 und T7_MR_L_18V_L_G3_1Ah5_SDI15R_1st_Pre Pilot 90711 1087-12-MM-12-PP001 7191118958-EEC15 7191186692 - EEC18 7191179565 - EEC18	01.09.2010 06.07.2011 27.07.2012 12.08.2015 16.03.2018 23.07.2018	UN3480/ UN3481
GBA 18V 2.0 Ah	Detachable slide in lithium-ion accumulator	0,530 0,351 0,349 0,332 0,354 0,359 0,343 0,342 0,355	36.0	UN_014_19 1156-12-MM-MM-13-PP001 1157-12-MM-13-PP001 1102-13-MM-13-PP001 7191110841-EEC15-03_18V 2.0Ah (RX135) Test Report 7191129259-EEC16 7191138517-EEC16 7191195781 - EEC18 7191185676 - EEC18	01.09.2014 07.01.2013 08.01.2013 09.09.2013 15.04.2015 28.01.2016 22.06.2016 12.11.2018 13.07.2018	UN3480/ UN3481
GBA 18V 2.5 Ah	Detachable slide in lithium-ion accumulator	0,547	45.0	7191122247-EEC15	03.11.2015	UN3480/ UN3481
GBA 18V 2.6 Ah	Detachable slide in lithium-ion accumulator	0,580 0,590	46.8	22042011 110711	20.04.2011 07.07.2011	UN3480/ UN3481
GBA 18V 3.0 Ah	Detachable slide in lithium-ion accumulator	0,542 0,596 0,598 0,590 0,591 0,360	54.0	7191133214-EEC16 7191182265 - EEC18 1169-10-MM-11-PP002 UN_T1-T5 T7_MR_XL_18V_3Ah0_SDI15Q_G2_SCM 7191156955 - EEC17 7191141107-EEC16	29.03.2016 11.10.2018 19.01.2011 31.10.2010 06.04.2017 22.06.2016	UN3480/ UN3481
GBA 18V 4.0 Ah	Detachable slide in lithium-ion accumulator	0,797 0,797 0,609 0,600 0,612 0,623 0,611 0,618 0,600 0,600 0,620 0,527 0,537 0,602	72.0	7191140894 - EEC16 7191125542-EEC15 1170-12-MM-13-PP001 7191121396-EEC15 1104-13-MM-13-PP001 7191129263-EEC16 UN_014_17 7191109813-EEC15 7191145395 - EEC16 7191145984 - EEC16 7191146196 - EEC16 7191205584 - EEC19 UN_TR 28246834 001 7191198628 - EEC18	12.07.2016 30.09.2015 14.01.2013 28.09.2015 11.09.2013 28.01.2016 29.07.2014 15.04.2015 19.08.2016 05.10.2016 14.10.2016 28.01.2019 10.10.2018 19.10.2018	UN3480/ UN3481



GBA 18V 5.0 Ah	Detachable slide in lithium-ion accumulator	0,623 0,630 0,626 0,620  0,626	90.0	7191145588-EEC16 7191145985 - EEC16 UN_014_15 UN_T1-T5 T7_MR XL 18V 5Ah0 SCM Sanyo NSX 133 PgP CW43_2013 7191133829-EEC16	30.08.2016 06.10.2016 18.06.2014 21.11.2013  30.03.2016	UN3480/ UN3481
GBA 18V 6.0 Ah	Detachable slide in lithium-ion accumulator	0,830 0,628 0,634 0,638 0,629	108.0	7191145489 - EEC16 7191091638_EEC14 7191143768-EEC16 7191187518 - EEC18 7191200830 - EEC18	18.08.2016 12.08.2014 22.09.2016 04.09.2018 29.11.2019	UN3480/ UN3481
GBA 18V 6.3 Ah	Detachable slide in lithium-ion accumulator	0,803	113.4	7191136781-EEC16	13.05.2016	UN3480/ UN3481
GBA 18V 7.0 Ah	Detachable slide in lithium-ion accumulator	0,833	126.0	TR 28238951 001	09.06.2017	UN3480/ UN3481
GBA 18V 8.0 Ah	Detachable slide in lithium-ion accumulator	0,990 0,986	144.0	259732-TL7-2 28247959 002	14.03.2019 26.03.2019	UN3480/ UN3481
GBA 18V 12.0 Ah	Detachable slide in lithium-ion accumulator	1,380	216.0	259043-TL7-1	12.02.2019	UN3480/ UN3481



Model numbers	Physical Description	Battery weight (kg)	Wh rating	Test report number	Test report date	Applicable UN Numbers acc. to UN Model Regulations
BAT611	Detachable slide in lithium-ion accumulator	0,335 0,330 0,324 0,329 0,347 0,333	27.0	UN_T1-T5 und T7_MR_L_18V_L_G3_1Ah5_SDI15R_1st_PrePilot 90711 1087-12-MM-12-PP001 7191118958-EEC15 7191186692 - EEC18 7191179565 - EEC18	01.09.2010  06.07.2011 27.07.2012 12.08.2015 16.03.2018 23.07.2018	UN3480/ UN3481
BAT612	Detachable slide in lithium-ion accumulator	0,530 0,351 0,349 0,332 0,354  0,359 0,343 0,342 0,355	36.0	UN_014_19 1156-12-MM-MM-13-PP001 1157-12-MM-13-PP001 1102-13-MM-13-PP001 7191110841-EEC15-03_18V 2.0Ah (RX135) Test Report 7191129259-EEC16 7191138517-EEC16 7191195781 - EEC18 7191185676 - EEC18	01.09.2014 07.01.2013 08.01.2013 09.09.2013 15.04.2015  28.01.2016 22.06.2016 12.11.2018 13.07.2018	UN3480/ UN3481
GBA18V 40	Detachable slide in lithium-ion accumulator	0,527 0,537	72.0	7191205584 - EEC19 UN_TR 28246834 001	28.01.2019 10.10.2018	UN3480/ UN3481
GBA18V 63	Detachable slide in lithium-ion accumulator	0,803	113.4	7191136781-EEC16	13.05.2016	UN3480/ UN3481
GBA18V 80	Detachable slide in lithium-ion accumulator	0,990 0,986	144.0	259732-TL7-2 28247959 002	14.03.2019 26.03.2019	UN3480/ UN3481
GBA18V 120	Detachable slide in lithium-ion accumulator	1,380	216.0	259043-TL7-1	12.02.2019	UN3480/ UN3481