

CERTIFICATE OF ACCREDITATION

Hankook & Company

Accreditation No. : KT1090

Corporation Registration No. : 110111-0034233

Address of (Branch site)40 Wanjusandan 2-ro, Bongdong-eup, Wanju-gun,
Laboratory : Jeollabuk-do, Republic of Korea
(Satellite facilities-1)185, Daejeon-ro 1331beon-gil, Daedeok-gu,
Daejeon, Republic of Korea

Date of Initial Accreditation : February 16, 2023

Validity of Accreditation : February 16, 2023 ~ February 15, 2027

Scope of Accreditation : Attached Annex

Date of issue : April 08, 2024

This testing laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to Joint ISO-ILAC-IAF Communiqué).



CHIN CHONGWOOK

Head

Korea Laboratory Accreditation Scheme

Korea Laboratory Accreditation Scheme

No. KT1090

03. Electrical Testing

03.004 Electrical materials and components

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
BS EN 50342-1:2015+A1:2018	Electrical materials and components	Lead-acid starter batteries Part 1: General requirements and methods of test *Exception : 6.10 Vibration resistance test	Max. DC 18 V, 1 000 A	BS	N
BS EN 50342-1:2015+A1:2018	Electrical materials and components	Lead-acid starter batteries Part 1: General requirements and methods of test 6.10 Vibration resistance test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ²	SF-1	N
BS EN 50342-1:2015+A2:2021	Electrical materials and components	Lead-acid starter batteries Part 1: General requirements and methods of test *Exception : 6.10 Vibration resistance test	Max. DC 18 V, 1 000 A	BS	N
BS EN 50342-1:2015+A2:2021	Electrical materials and components	Lead-acid starter batteries Part 1: General requirements and methods of test 6.10 Vibration resistance test *Exception : 6.10.6 LEVEL V4	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ²	SF-1	N
BS EN 50342-2:2019	Electrical materials and components	Lead-acid starter batteries Part 2: Dimensions of batteries and marking of terminals	Max. DC 18 V, 1 000 A	BS	N
BS EN 50342-4:2009	Electrical materials and components	Lead-acid starter batteries Part 4: Dimensions of batteries for heavy vehicles	Max. DC 18 V, 1 000 A	BS	N
BS EN 50342-4:2020	Electrical materials and components	Lead-acid starter batteries Part 4: Dimensions of batteries for heavy vehicles	Max. DC 18 V, 1 000 A	BS	N
BS EN 50342-6:2015+A1:2018	Electrical materials and components	Lead-acid starter batteries Part 6: Batteries for Micro - Cycle Applications	Max. DC 18 V, 1 000 A	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
GSO 34 : 2007	Electrical materials and components	LEAD-ACID STARTER BATTERIES USED FOR MOTOR VEHICLES AND INTERNAL COMBUSTION ENGINES	Max. DC 18 V, 1 000 A	BS	N
GSO 35 : 2007	Electrical materials and components	Methods of test for lead-acid starter batteries used for motor vehicles and internal combustion engines *Exception: 18- VIBRATION RESISTANCE TEST, 21- TEST FOR STRENGTH OF TERMINAL	Max. DC 18 V, 1 000 A	BS	N
GSO 35 : 2007	Electrical materials and components	Methods of test for lead-acid starter batteries used for motor vehicles and internal combustion engines 18- VIBRATION RESISTANCE TEST, 21- TEST FOR STRENGTH OF TERMINAL	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ² Torque : (0 ~ 2 900) N · cm	SF-1	N
IEC 60095-1 : 2018-11	Electrical materials and components	Lead-acid starter batteries - Part 1: General requirements and methods of test *Exception : 9.8 Vibration resistance test	Max. DC 18 V, 1 000 A	BS	N
IEC 60095-1 : 2018-11	Electrical materials and components	Lead-acid starter batteries - Part1 : General requirements and methods of test 9.8 Vibration resistance test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ²	SF-1	N
IEC 60095-2:2009- 10	Electrical materials and components	Lead-acid starter batteries - Part 2: Dimensions of batteries and dimensions and marking of terminals	Max. DC 18 V, 1 000 A	BS	N
JIS D 5301 : 2006	Electrical materials and components	Lead-acid starter batteries *Exception: 9.5.6 Vibration resistance test 9.5.7 Terminal strength test 9.5.8 Fastening robustness test	Max. DC 18 V, 1 000 A	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
JIS D 5301 : 2006	Electrical materials and components	Lead-acid starter batteries 9.5.6 Vibration resistance test 9.5.7 Terminal strength test 9.5.8 Fastening robustness test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ² Torque : (0 ~ 2 900) N · cm	SF-1	N
JIS D 5301 : 2019	Electrical materials and components	Lead-acid starter batteries *Exception: 10.6 Vibration resistance test 10.7 Terminal strength test 10.8 Fastening robustness test	Max. DC 18 V, 1 000 A	BS	N
JIS D 5301 : 2019	Electrical materials and components	Lead-acid starter batteries 10.6 Vibration resistance test 10.7 Terminal strength test 10.8 Fastening robustness test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ² Torque : (0 ~ 2 900) N · cm	SF-1	N
KS C 8504: 2015	Electrical materials and components	Lead-acid batteries for automobiles 10.1 Vibration resistance test 10.2 Terminal strength test 10.3 Fastening robustness test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ² Torque : (0 ~ 2 900) N · cm	SF-1	N
KS C 8504: 2015	Electrical materials and components	Lead-acid batteries for automobiles *Exception: 10.1 Vibration resistance test 10.2 Terminal strength test 10.3 Fastening robustness test	Max. DC 18 V, 1 000 A	BS	N
KS C 8518:2018	Electrical materials and components	Stationary sealed lead - acid batteries(valve regulated types) *Exception: 8.1 Test method of Lead-acid batteries 8.2.5 Battery explosion test 8.2.6 Splash performance test	Max. DC 18 V, 1 000 A	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C 8518:2023	Electrical materials and components	Stationary sealed lead - acid batteries(valve regulated types) *Exception: 8.1 Test method of Lead-acid batteries 8.2.5 Battery explosion test 8.2.6 Splash performance test	Max. DC 18 V, 1 000 A	BS	N
SAE J 2185 JAN2018	Electrical materials and components	Life Test for Heavy-Duty Storage Batteries (Lead Acid Type only)	Max. DC 18 V, 1 000 A	BS	N
SAE J 240 : DEC2012	Electrical materials and components	Life Test for Automotive Storage Batteries	Max. DC 18 V, 1 000 A	BS	N
SAE J 2801 Aug2013	Electrical materials and components	Comprehensive Life Test for 12 V Automotive Storage Batteries	Max. DC 18 V, 1 000 A	BS	N
SAE J 537 APR2016	Electrical materials and components	(R) Storage Batteries	Max. DC 18 V, 1 000 A	BS	N
SAE J 537 SEP2023	Electrical materials and components	(R) Storage Batteries	Max. DC 18 V, 1 000 A	BS	N
SASO IEC 60095- 1:2019	Electrical materials and components	Lead-acid starter batteries - Part1:General requirements and methods of test *Exception : 9.8 Vibration resistance test	Max. DC 18 V, 1 000 A	BS	N
SASO IEC 60095- 1:2019	Electrical materials and components	Lead-acid starter batteries - Part1:General requirements and methods of test 9.8 Vibration resistance test	Frequency : (20 ~ 5 000) Hz Acceleration : (10 ~ 50) m/s ²	SF-1	N
SASO IEC 60095- 2:2019	Electrical materials and components	Lead-acid starter batteries - Part 2: Dimensions of batteries and dimensions and marking of terminals	Max. DC 18 V, 1 000 A	BS	N

End.