

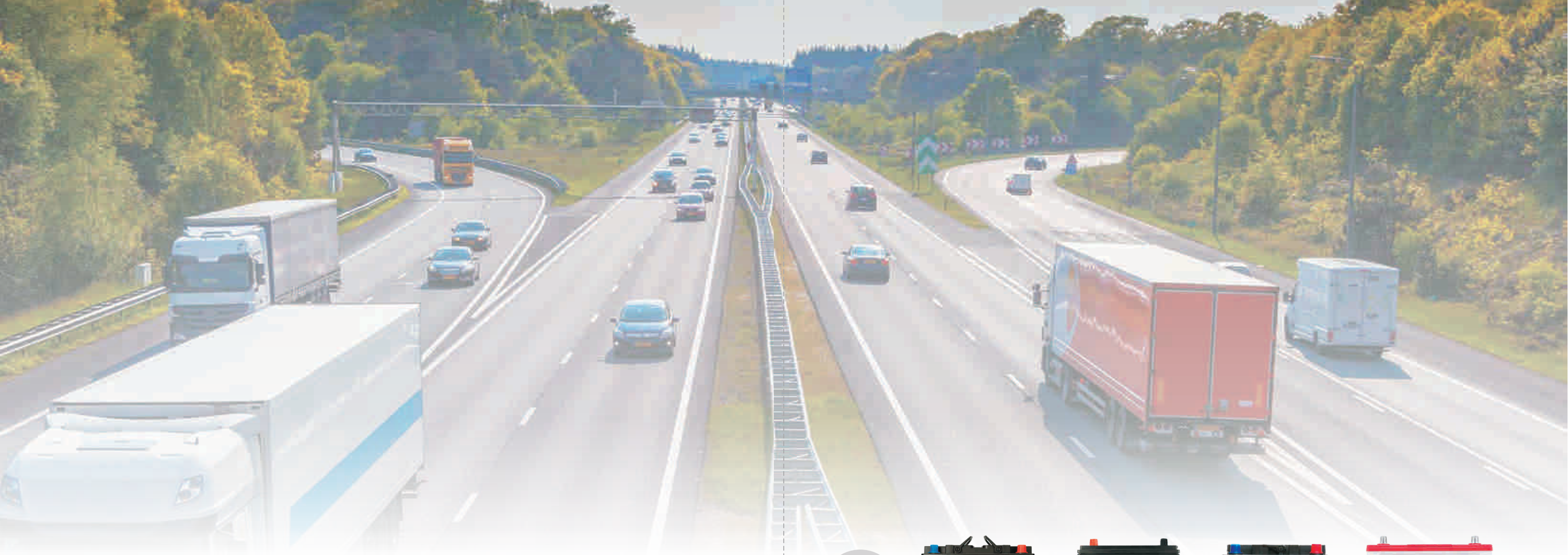


(SECTION 2)



GENERAL CATALOGUE

AUTOMOTIVE BATTERY RANGE



THE TAILOR-MADE POWER FOR EVERY VEHICLES.

The battery could be treated as the heart of every vehicle as it's the only power source that supply the current to the starter motor and ignition system when you start the engine, while modern vehicles make massive demands on the starter batteries, it is more important than ever to choose the right battery.

Designed to deliver reliable starting power and dependable performance, Western Electrical automotive batteries are the perfect solution for vehicles starting, lighting and fuel ignition.

Covering a wide range of powerful batteries and brands, we are proud to be able to provide the right power at the right place nowadays, whether it's for a modern auto engine system, daylily used car, heavy duty truck, or the heavy duty construction equipment. And thanks for the continuous technology innovation and application, all our batteries are sure constructed to deliver maximum performance and reliable starting power on every single day, and under all conditions to boost the “heart” of your vehicle.

With years of technology innovation and continuous improvement, these batteries are manufactured under strictly quality standard to provide you with tailor-made power for every application at all class power requirement level just when you need it.

Battery Series at a Glance:

- **AGM Supreme battery series** for recently launched, high-performance cars that featured with start-stop system for both superior quick starting and excellent deep cycle power.
- **EFB Advance series** for the entry level cars with Start-Stop system for the superior starting power and light deep cycle ability.
- **Endurance SMF battery series** offer a combination of good value and cost effective to fit the vehicles with standard power requirement and people with better things to do than battery maintenance.
- **Dry Charged Battery series** offer a balance of quality and cost for vehicles that require regular electric demands.



Series	AGM SPREME	EFB ADVANCE	SMF ENDURANCE	DRY BAT
Application	AGM Start Stop/ Miro Hybrid Cars	EFB Start Stop/ Miro Hybrid Cars	All Standard Power Requirement Vehicles	Standard Power Requirement Vehicles
Technology	Absorbent Glass Mat /Explant Grid/VRLA	Enhanced Flood/Explant Grid/Carbon Coating Plate	Calium Plus Explant Frame Grid/Carbon Coating Plate	Casting Grid/Pocket Separator with Glass Mat
Power Rate				
Maintenance	Maintenance Free	Maintenance Free	Maintenance Free	Low Maintenance
Indicator	No	Yes	Yes	Yes
Warranty	2 Years	2 Years	1 Years	1 Years
Main Benefits	<ul style="list-style-type: none">• Over 3 times cycle life.• Superior Deep cycle ability.• Supreme starting power.• None-spillable.• All climate.	<ul style="list-style-type: none">• 2 times cycle life.• Superior starting power.• Light Deep cycle ability.• Sealed safety protection.• All climate.	<ul style="list-style-type: none">• Complete series offered for 99% of the vehicles.• Excellent starting power.• Sealed safety protection• Cost effective.	<ul style="list-style-type: none">• Good starting power.• Low self-dsicharge rate.• Long storage life.• Cost effective.



POWER THAT BEHIND AND BEYOND.



AGM SUPREME



THE MAX POWER FOR MAX PERFORMANCE.

High-performance, highly equipped vehicles lay massive demands from their battery nowadays, and the continuous investments in R&D allowed Western Electrical to introduce the latest innovative AGM batteries to the aftermarket.

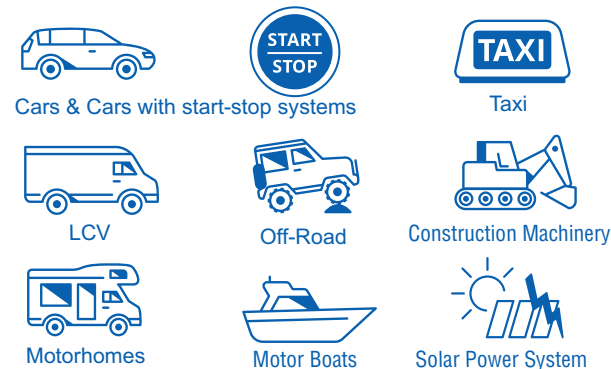
Featured with superb starting and deep cycle ability, the Western Electrical AGM Supreme automotive battery series is the perfect solution for vehicle featuring advanced Start-Stop technology that with regenerative braking and additional hybrid fuel-saving technologies. Only the specially developed automotive batteries with AGM technology can meet the challenges imposed by these systems. Compared to the traditional batteries, this latest battery series offer even greater performance and versatility, and are capable of reliably supplying power to an even greater range of devices.



FEATURES & BENEFITS

- Innovative AGM Technology (Absorbent Glass Mat) with high compression fleece separator.
- Latest OE technology for advanced Start-Stop vehicles.
- Three to four times more cycle life and can meet the demands of all Start-Stop vehicles and high-end luxury vehicles.
- High charging acceptance for absorbing large surges of electrical energy generated via brake energy recuperation.
- Excellent starting power, so you can rely on the engine starting- even at a low state of charge.
- Leak-proof and Spill-proof.
- Totally maintenance-free.

APPLICATION



Size Group	Model No.		AMP (Ah)20HR	CCA(A) (EN)	Dimension(mm)				Cell Layout	Terminal Type	Hold Down
	Short Code	CN NO.			L	W	H	TH			
L2	L2-H5-60	6-QTF-60(660)	60	660	242	175	190	190	0	A	B13
L3	L3-H6-70	6-QTF-70(720)	70	720	278	175	190	190	0	A	B13
L4	L4-H7-80	6-QTF-80(800)	80	800	315	175	190	190	0	A	B13
L5	L5-H8-92	6-QTF-92(850)	92	850	353	175	190	190	0	A	B13
L6	L6-H9-105	6-QTF-105(950)	105	950	394	175	190	190	0	A	B13

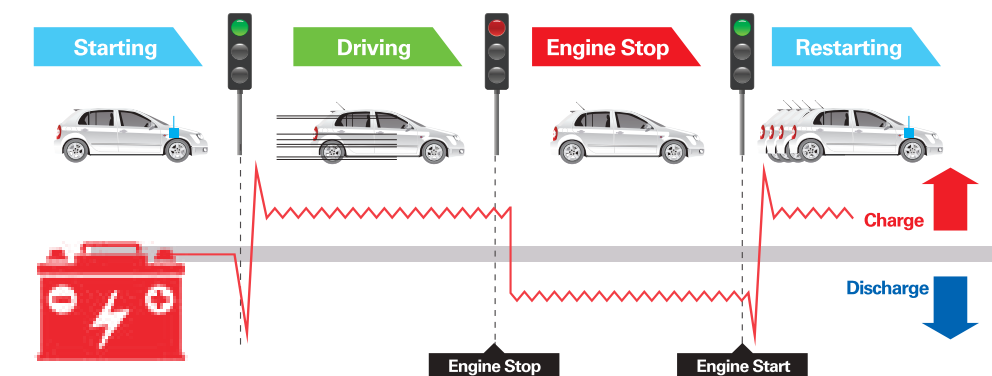
[^]The technical drawing of Cell Layout, Terminal Type and Base Hold Down, please see on Page 24



THE START STOP SYSTEM AND THE ROLE OF A START STOP BATTERY

The Start Stop System controls the engine to stop when the vehicle is not moving and restarts the engine when the vehicle begins its acceleration. This technology can help to avoid unnecessary energy loss caused by engine idling and has in fact been proven to cut fuel consumption by 5-15%. The Start Stop System also improves engine silence for the consumer's driving comfort.

Start Stop vehicles require an enhanced battery due to the frequent start and stop events at traffic lights. Therefore, a battery with enhanced durability and charge acceptance is required to withstand the severe driving environments for the Start Stop vehicles. The Western Electrical AGM Supreme Start Stop battery series has enhanced durability and battery life that is perfectly optimized for the Start Stop vehicles.



NEGATIVE PLATE: TALL PLATE GROUP

Framed negative plate with high compression

SEALED DOUBLE SECURITY LID

with degassing outlet and flame arrester



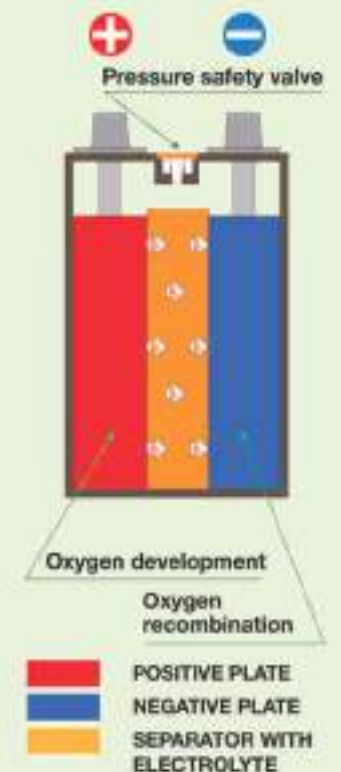
POSITIVE PLATE:

New framed grid design with high-tech alloy. The high-capillarity glass mat separator provides extra absorption for maximum electrolyte volume and to avoid stratification

Absorbent Glass Mat Separator:
Glass fleece separator holding the electrolyte

Thicker Polypropylene Case

AGM BATTERY DURING DISCHARGE



WARNING
Traditional lead-acid batteries are not suitable for Start-Stop micro hybrid vehicles. In case of replacement Western Electrical recommends the installation of EFB/AGM batteries in all above models, respecting the original battery technology.

ICONS ON LABELS AND CARTON BOX:





EFB ADVANCE



EXTRA POWER , PREMIUM PERFORMANCE.

Advanced EFB technology(Enhanced Flooded Battery) for high performance and longer life, the Western Electrical EFB Advance battery series is a real bonus for offering extra starting power and provides consistently power output for longer periods of time.

A range of batteries that designed to meet the specialized power requirement of modern made vehicles, these batteries incorporate industry leading design features and are manufactured in accordance with the latest production methods and quality controls to deliver an ultra reliability, unmatched energy recovery and exceptional dynamic charge acceptance, which all led this battery series with ability to well supports all vehicles, with and without Start-Stop systems, which have high cycling requirements.



FEATURES & BENEFITS

- Optimized EFB (Enhanced Flooded Battery) Technology with “polyester scrim”.
- Latest OE technology for high requirement and standard entry-level Start-Stop vehicles.
- Improved charge acceptance for recovering energy more quickly during driving phase.
- Twice the cycle life of standard lead-acid starter batteries
- Superior starting performance.
- Longer cycle life than standard lead-acid starter batteries (when measured in terms of energy output)
- Totally maintenance-free

APPLICATION



Size Group	Model No.		AMP (Ah)20HR	CCA(A) (EN)	Dimension(mm)				Cell Layout	Terminal Type	Hold Down
	Short Code	CN NO.			L	W	H	TH			
L1	EH4-L1-50	6-QTPE-50(540)	50	540	206	175	175	190	0	A	B13
D23	D23-60	6-QTPA-60(610)	60	610	230	172	202	222	0	A	B1
D26	D26-65	6-QTPA-65(645)	65	645	259	172	202	222	0	A	B1
L2	EH5-L2-60	6-QTPE-60(640)	60	640	241	175	190	190	0	A	B13
L3	EH6-L3-70	6-QTPE-70(700)	70	700	278	175	190	190	0	A	B13
LB4	T7-LB4-75	6-QTPE-75(720)	75	720	315	175	175	175	0	A	B13

^The technical drawing of Cell Layout, Terminal Type and Base Hold Down, please see on Page 24



EFB TECHNOLOGY

EVOLUTION OF TRADITIONAL LEAD-ACID BATTERIES

The EFB (Enhanced Flooded Battery) is an evolution of traditional lead-acid batteries. The main features that differentiate an EFB battery from a traditional lead acid battery are:

1. Electrolyte reservoir increased;
2. High exchange surface with the electrolyte;
3. Negative plates features:
 - a. grids with a special Lead-Calcium-Tin alloy;
 - b. negative active mass with an higher Carbon content;
 - c. mixture of different expanders studied to face Start & Stop cycles;
 - d. application of a specific organic fiber layer;
4. positive plates characterized by:
 - a. grids with a special Pb-Ca-Sn alloy (Lead-Calcium-Tin);
 - b. grid specifically designed to resist to corrosion and high temperatures (SAEJ2801);
 - c. layer to contain the expansion of the active mass during cycling;
5. protection of the electrodes against corrosion and potential danger.

NEGATIVE PLATE:

- + grids with a special Lead-Calcium-Tin alloy;
- + negative active mass with an higher Carbon content;
- + mixture of different expanders studied to face Start-Stop cycles.

SPILL-PROOF SECURITY LID

with flame arrester



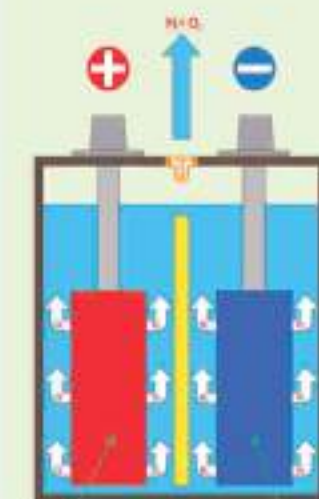
POSITIVE PLATE:

- + Grids with a special Pb-Ca-Sn alloy;
- + Grid specifically designed to resist to corrosion and high temperatures
- + Layer to contain the expansion of the active mass during cycling

ICONS ON LABELS AND CARTON BOX



ADVANCED FLOODED BATTERY DURING DISCHARGE



- POSITIVE PLATE
- NEGATIVE PLATE
- SEPARATOR
- ELECTROLYTE

WARNING

Traditional lead-acid batteries are not suitable for Start-Stop micro hybrid vehicles. In case of replacement Western Electrical recommends the installation of EFB/AGM batteries in all above models, respecting the original battery technology.



SMF ENDURANCE

Plus **CALCIUM-SILVER**



THE PRECISE PERFORMANCE -FOR EVERY RIGHT APPLICATION.

When talking about the starting battery power requirement for the vehicle, superior starting, consistent performance and absolute reliability is always required, and that's exactly what you can get with Western Electrical SMF(sealed maintenance free) automotive battery series, a tried and trusted choice in the aftermarket.

As a battery series of trustworthy and maintenance free choice that offers a combination of good value and cost effective, the SMF automotive battery series is a real power all rounder and the best-selling replacement parts battery in the aftermarket-no doubt due to the excellent quality while you don't have to cost the earth.

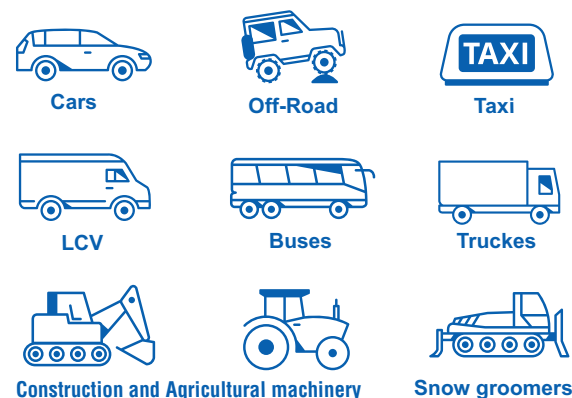
With years of technology innovation and continuous improvement, this battery series is able to offer an extensive models selection to suit the most of the vehicles on the market nowadays, no matter it's for regular cars, buses, heavy duty trucks or construction and agricultural machineries.



FEATURES & BENEFITS

- Wide models selection to suit the most of made cars and vehicles on the market.
- Advanced Calcium technology combined with improved design to guarantee performance.
- Modern design featuring recessed terminals for added safety and stable ability.
- Improved internal design for maximum performance and long life span.
- The latest in polyethylene envelope with glass fiber separators to protect against vibration
- Solid and reliable performance.
- Best-selling product on the after service market.
- Totally maintenance free, eco friendly.

APPLICATION



ICONS ON LABELS AND CARTON BOX



THE BATTERY WITH BETTER PERFORMANCE AND LONG LIFESPAN

Why do virtually people from all around the world choose Western Electrical batteries to fit their vehicles? Because Western Electrical brings together state-of-the-art technology, years of experience and stunning innovations to guarantee the perfect energy supply for every single vehicle at all class power requirement.

Whichever battery you choose from Western Electrical, you're sure to have made the right choice and can rest assured you'll benefit from maximum starting power, a continuous power supply and 100% reliability. After all, Western Electrical battery products combine all these advantages with cutting edge, pioneering technology.

CONSTRUCTION OF WESTERN ELECTRICAL SMF AUTOMOTIVE BATTERY



THE TECHNOLOGY THAT BEHIND, INSIDE AND BEYOND

1. PLATES:

- Expanded Full Frame Grid design prevents grid growth & short circuits; Low-resistance, better adhesion of active materials; quick transmission of electrical power
- High Density Pasted Cured Plate enhances the adhesion of active materials for better anti-vibration; Improves starting power and longer service life

2. SEPARATOR:

The enveloped separator with micro fiber glass lower the electric resistance for reliable starting power and prevents internal short between positive and negative plates.

3. HIGH CONDUCTIVE POLES AND TERMINAL:

Mechanical operation ensure no-leakage. Special technical processing, which make sure the poles are more durable than traditional one.

4. CENTRAL BUSBAR:

Adopting the most advanced COS machine to connect the plates, which is not easy to break and the busbar has high resistance to vibration, low resistance and good electric conductivity.

5. DUST-PROOF FLAME ARRESTER:

Prevent explosion caused by overflow sulphuric acid and charging spark.

6. BUILT-IN MAGIC EYE INDICATOR:

Easy to check charging state, green means good condition, black represents charging necessary, white means the battery need to be replaced.

7. DOUBLE LID & HEAT SEALED COVER:

Prevent leakage by dual structure of separation of gas and liquid, makes the battery totally maintenance free.

8. INTEGRATED HANDLE DESIGN:

Enhances safety by Integrated computer design, easy for installation and transportation.

9. POLYPROPYLENE BATTERY CASE:

Durable material combines light weight with high impact strength. Reinforced design to support battery elements to withstand road vibration.

If you are serious about your driving, We get the right battery for you...



SPECIFICATION CHAT 1

SMF Battery Series-JIS Standard - For Japanese Made Vehicles

NO.	SIZE GROUP	JIS CODE		CAPACITY (AH)20HR	CCA(A) (AT-18°C)	DIMENSION(MM)				CELL LAYOUT	TERMINAL TYPE	HOLD DOWN
		Old	New			L	W	H	TH			
1	B20	NS40	32B20R	32	300	195	127	200	220	1	B	B0
2		NS40L	32B20L	32	300	195	127	200	220	0	B	B0
3		NS40ZS	36B20RS	36	320	195	127	200	220	1	B	B0
4		NS40ZLS	36B20LS	36	320	195	127	200	220	0	B	B0
5		NS40Z	36B20R	36	320	195	127	200	220	1	A	B0
6		NS40ZL	36B20L	36	320	195	127	200	220	0	A	B0
7	B24	N40S	50B24RS	36	350	237	127	200	220	1	B	B0
8		N40LS	50B24LS	40	350	237	127	200	220	0	B	B0
9		N40	50B24R	40	350	237	127	200	220	1	A	B0
10		N40L	50B24L	40	350	237	127	200	220	0	A	B0
11		NS60S	46B24RS	45	420	237	127	200	220	1	B	B0
12		NS60LS	46B24LS	45	420	237	127	200	220	0	B	B0
13		NS60	46B24R	45	420	237	127	200	220	1	A	B0
14		NS60L	46B24L	45	420	237	127	200	220	0	A	B0
15	D23	—	55D23R	60	550	231	173	200	220	1	A	B1
16		—	55D23L	60	550	231	173	200	220	0	A	B1
17		—	75D23R	65	580	231	173	200	220	1	A	B1
18		—	75D23L	65	580	231	173	200	220	0	A	B1
19		—	80D23R	70	600	231	173	200	220	1	A	B1
20		—	80D23L	70	600	231	173	200	220	0	A	B1
21	D26	N50	48D26R	50	450	258	172	200	220	1	A	B1
22		N50L	48D26L	50	450	258	172	200	220	0	A	B1
23		N50Z	55D26R	60	500	258	172	200	220	1	A	B1
24		N50ZL	55D26L	60	500	258	172	200	220	0	A	B1
25		NS70	65D26R	65	550	258	172	200	220	1	A	B1
26		NS70L	65D26L	65	550	258	172	200	220	0	A	B1
27		NX110-5	80D26R	70	600	258	172	200	220	1	A	B1
28		NX110-5L	80D26L	70	600	258	172	200	220	0	A	B1
29	D31	N70	65D31R	70	600	304	172	200	220	1	A	B1
30		N70L	65D31L	70	600	304	172	200	220	0	A	B1
31		N70Z	75D31R	75	650	304	172	200	220	1	A	B1
32		N70ZL	75D31L	75	650	304	172	200	220	0	A	B1
33		NX120-7	95D31R	80	670	304	172	200	220	1	A	B1
34		NX120-7L	95D31L	80	670	304	172	200	220	0	A	B1
35		N90	105D31R	90	740	304	172	200	220	1	A	B1
36		N90L	105D31L	90	740	304	172	200	220	0	A	B1
37	E41	N100	95E41R	100	800	404	173	201	221	1	A	B0
38		N100L	95E41L	100	800	404	173	201	221	0	A	B0
39		NS120	115E41R	110	850	404	173	201	221	1	A	B0
40		NS120L	115E41L	110	850	404	173	201	221	0	A	B0
41	F51	N120	135F51	120	860	505	180	208	230	4	A	B0
42		N135		135	880	505	180	208	230	4	A	B0
43	G51	N150	154G51	150	1000	505	220	210	232	4	A	B0
44		N180		180	1100	505	220	210	232	4	A	B0
45	H52	N200	190H51	200	1200	508	265	215	238	4	A	B0
46		NX400-20	245H52	220	1350	508	265	215	238	4	A	B0



SPECIFICATION CHAT 2

SMF Battery Series - DIN Standard- For European Made Vehicles

NO.	SIZE GROUP	MODEL NO	CAPACITY (AH)20HR	CCA(A) (AT-18°C)	RC (min)	DIMENSION(MM)				CELL LAYOUT	TERMINAL TYPE	HOLD DOWN
						L	W	H	TH			
1	L1	54464	44	360	64	208	175	190	190	1	A	B13
2		54434	44	360	64	208	175	190	190	0	A	B13
3	LB2	54519	45	380	66	243	175	175	175	0	A	B13
4		54520	45	380	66	243	175	175	175	1	A	B13
5		55056	50	420	75	243	175	175	175	0	A	B13
6		55057	50	420	75	243	175	175	175	1	A	B13
7		55457	54	450	90	243	175	175	175	0	A	B13
8		55458	54	450	90	243	175	175	175	1	A	B13
9	L2	56077	60	500	98	243	175	175	175	0	A	B13
10		55559	55	480	93	243	175	190	190	0	A	B13
11		55565	55	480	93	243	175	190	190	1	A	B13
12		56045	60	500	96	243	175	190	190	0	A	B13
13		56046	60	500	96	243	175	190	190	1	A	B13
14		56219	62	520	105	243	175	190	190	0	A	B13
15	LB3	56220	62	520	105	243	175	190	190	1	A	B13
16		55415	54	450	90	279	175	175	175	0	A	B13
17		56318	63	525	115	279	175	175	175	0	A	B13
18		56828	68	560	120	279	175	175	175	0	A	B13
19	LB4	56821	68	560	120	279	175	175	175	1	A	B13
20		56638	66	540	112	279	175	190	190	0	A	B13
21		56633	66	540	112	279	175	190	190	1	A	B13
22		57219	72	600	125	279	175	190	190	1	A	B13
23	L3	57220	72	600	125	279	175	190	190	0	A	B13
24		57512	75	620	135	279	175	190	190	0	A	B13
25		57513	75	620	135	279	175	190	190	0	A	B13
26		58013	80	680	145	315	175	175	175	1	A	B13
27	LB5	58014	80	680	145	315	175	175	175	0	A	B13
28		58043	80	680	145	315	175	190	190	0	A	B13
29		58515	85	700	155	315	175	190	190	0	A	B13
30		58515	85	700	155	353	175	175	175	0	A	B13
31	L5	58840	88	720	160	353	175	175	175	0	A	B13
32		58827	88	720	160	353	175	190	190	0	A	B13
33		58821	88	720	160	353	175	190	190	1	A	B13
34		59540	95	760	170	353	175	190	190	0	A	B13
35		59541	95	760	170	353	175	190	190	1	A	B13
36		60038	100	820	180	353	175	190	190	0	A	B13
37		60044	100	820	180	353	175	190	190	1	A	B13

SPECIAL SIZE

6TN - For Tanks and Military Application

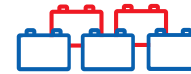
NO.	SIZE GROUP	MODEL NO	CAPACITY (AH)20HR	CCA(A) (SAE)	RC (min)	DIMENSION(MM)				CELL LAYOUT	TERMINAL TYPE	HOLD DOWN
						L	W	H	TH			
1	6TN	6TN	100	800	195	280	267	208	230	2	A	B13
2		US-6TN	100	800	198	280	267	208	230	6	A	B13



SPECIFICATION CHAT 3

SMF Battery Series-**BCI Standard**- for American made vehicles

NO.	SIZE GROUP	MODEL NO	CAPACITY	CCA(A)	RC	DIMENSION(MM)				CELL LAYOUT	TERMINAL TYPE	HOLD DOWN
			(AH)20HR	SAE	(min)	L	W	H	TH			
1	24	24-450	50	450	80	258	172	200	220	10	A	B1
2		24-500	60	500	90	258	172	200	220	10	A	B1
3		24-550	65	550	100	258	172	200	220	10	A	B1
4		24-600	70	600	114	258	172	200	220	10	A	B1
5	24R	24R-450	50	450	80	258	172	200	220	11	A	B1
6		24R-500	60	500	90	258	172	200	220	11	A	B1
7		24R-550	65	550	100	258	172	200	220	11	A	B1
8		24R-600	70	600	114	258	172	200	220	11	A	B1
9	25	25-550	60	550	100	231	173	200	220	10	A	B1
10		25-580	65	580	110	231	173	200	220	10	A	B1
11		25-600	70	600	114	231	173	200	220	10	A	B1
12	35	35-550	60	550	100	231	173	200	220	11	A	B1
13		35-580	65	580	110	231	173	200	220	11	A	B1
14		35-600	70	600	114	231	173	200	220	11	A	B1
15	27	27-600	70	600	114	304	172	200	220	10	A	B1
16		27-650	75	650	130	304	172	200	220	10	A	B1
17		27-670	80	670	140	304	172	200	220	10	A	B1
18		27-740	90	740	150	304	172	200	220	10	A	B1
19	27R	27R-600	70	600	114	304	172	200	220	11	A	B1
20		27R-650	75	650	130	304	172	200	220	11	A	B1
21		27R-670	80	670	140	304	172	200	220	11	A	B1
22		27R-740	90	740	150	304	172	200	220	11	A	B1
23	31	31-660	78	660	135	330	172	218	242	18	TOP	B0
24		31-700	84	700	140	330	172	218	242	18	TOP	B0
25		31-750	90	750	155	330	172	218	242	18	TOP	B0
26		31-800	96	800	170	330	172	218	242	18	TOP	B0
27		31-850	100	850	180	330	172	218	242	18	TOP	B0
28		31-1000	105	1000	250	330	172	218	242	18	TOP	B0
29	31S	31S-660	78	660	135	330	172	218	242	18	STUD	B0
30		31S-700	84	700	140	330	172	218	242	18	STUD	B0
31		31S-750	90	750	155	330	172	218	242	18	STUD	B0
32		31S-800	96	800	170	330	172	218	242	18	STUD	B0
33		31S-850	100	850	180	330	172	218	242	18	STUD	B0
34		31S-1000	105	1000	250	330	172	218	242	18	STUD	B0
35	47	47-500	55	500	93	243	175	190	190	24	A	B13
36		47-550	60	550	96	243	175	190	190	24	A	B13
37		47-600	62	600	105	243	175	190	190	24	A	B13
38	48	48-560	66	560	112	279	175	190	190	24	A	B13
39		48-620	72	620	125	279	175	190	190	24	A	B13
40		48-650	74	650	135	279	175	190	190	24	A	B13
41		48-660	75	660	138	279	175	190	190	24	A	B13
42	49	49-750	88	750	160	353	175	190	190	24	A	B13
43		49-760	95	750	170	353	175	190	190	24	A	B13
44		49-850	100	850	180	353	175	190	190	24	A	B13



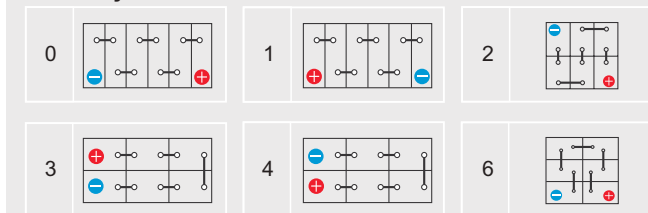
SPECIFICATION CHAT 4

SMF Battery Series-**BCI Standard**- for American made vehicles

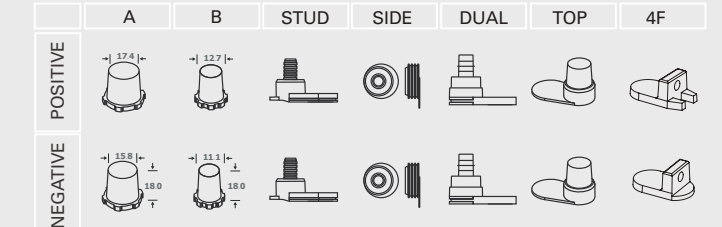
NO.	SIZE GROUP	MODEL NO	CAPACITY	CCA(A)	RC	DIMENSION(MM)				CELL LAYOUT	TERMINAL TYPE	HOLD DOWN
			(AH)20HR	SAE	(min)	L	W	H	TH			
45	65	65-650	75	650	135	295	190	170	190	10	A	B8
46		65-750	85	750	158	295	190	170	190	10	A	B8
47		65-850	95	850	185	295	190	170	190	10	A	B8
48	65R	65R-650	75	650	135	295	190	170	190	11	A	B8
49		65R-750	85	750	158	295	190	170	190	11	A	B8
50		65R-850	95	850	185	295	190	170	190	11	A	B8
51	75	75-460	45	460	80	230	179	180	180	17	SIDE	B1
52		75-550	55	550	95	230	179	180	180	17	SIDE	B1
53		75-550	60	550	95	230	179	180	180	17	SIDE	B1
54	78	78-550	55	550	95	260	179	180	180	17	SIDE	B1
55		78-675	66	675	110	260	179	180	180	17	SIDE	B1
56		78-720	72	720	125	260	179	180	180	17	SIDE	B1
57	90	90-530	55	530	90	243	175	175	175	24	A	B13
58	91	91-580	60	580	100	279	175	190	190	24	A	B13
59	93	93-800	85	800	145	353	175	175	175	24	A	B13
60	4D	4D-1000	150	1000	300	505	220	210	232	3	A	B0
61	8D	8D-1200	200	1200	400	505	265	215	238	3	A	B0
62		8D-1400	220	1400	460	505	265	215	238	3	A	B0

TECHNICAL DRAWING

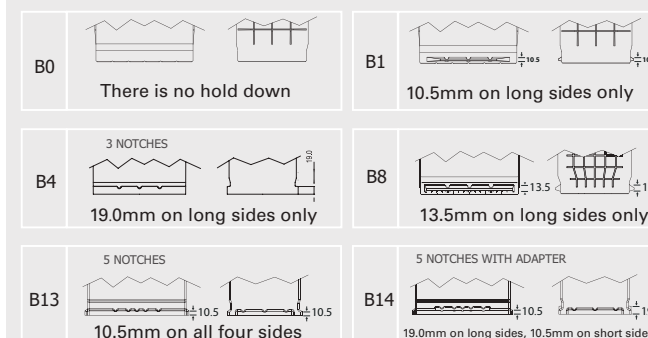
Cell Lay out



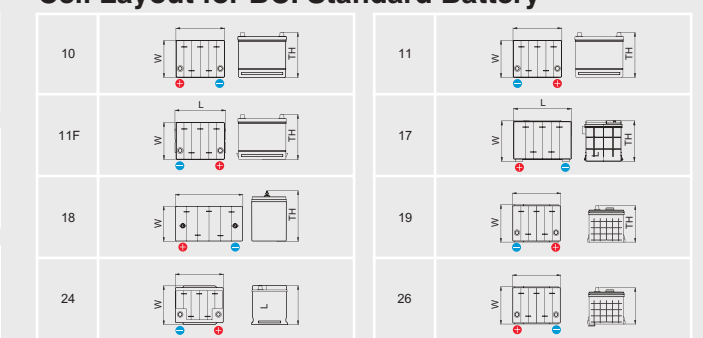
Terminal Type



Base Hold Down



Cell Layout for BCI Standard Battery



Notice:

1. Due to various battery models, if the battery model you interested not show in the specification chart, you are welcome to contact us.
2. The specification is subject to change without notification for the reason of improvement.



DRY CHARGE BATTERIES SERIES



PROVEN TECHNOLOGY, FRESH POWER!

Western Electrical Classic Dry Charge Automotive Battery Series uses a proven technology combined with the latest battery designs that have provided higher performance than previously achieved.

This battery series offers an optimal combination of price and performance and is the obvious choice for customers who demand an excellent product for a super price. In this respect, this battery series is the ideal solution - reliable power for the pure engine start, limited maintenance by means of proven lead-calcium with low antimony technology.

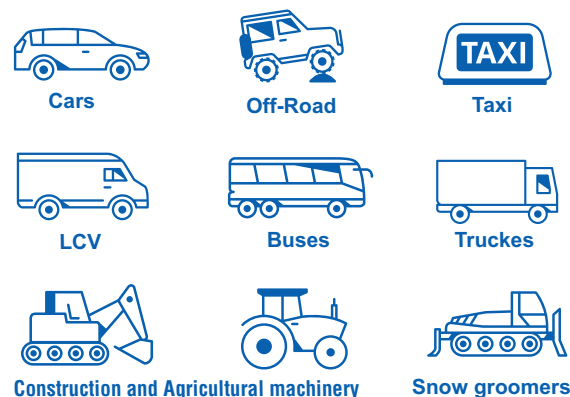
And due to these batteries are shipped under dry charged and unfilled state without acid inside, that's led the maximum power freshness could be ensure and low self discharge rate also long storage time could be happen, and the highest transport safety standards.

DRY^{BAT}

FEATURES & BENEFITS

- Proven technology delivers reliable power.
- Lead-Calcium low antimony alloy for better anti-crossion and reduce the water consuming, effectively reduce the regular maintenance rate.
- The latest in polyethylene envelope with glass fiber separator to protect against vibration.
- Polypropylene case and cover resists damage from gasoline and oil, withstands extreme weather conditions..
- Optimized internal construction for high cranking power.
- Extremely low self discharge rate.
- Shipped and unfilled with acid gives the product a long shelf life up to 18 month.
- Cost effective

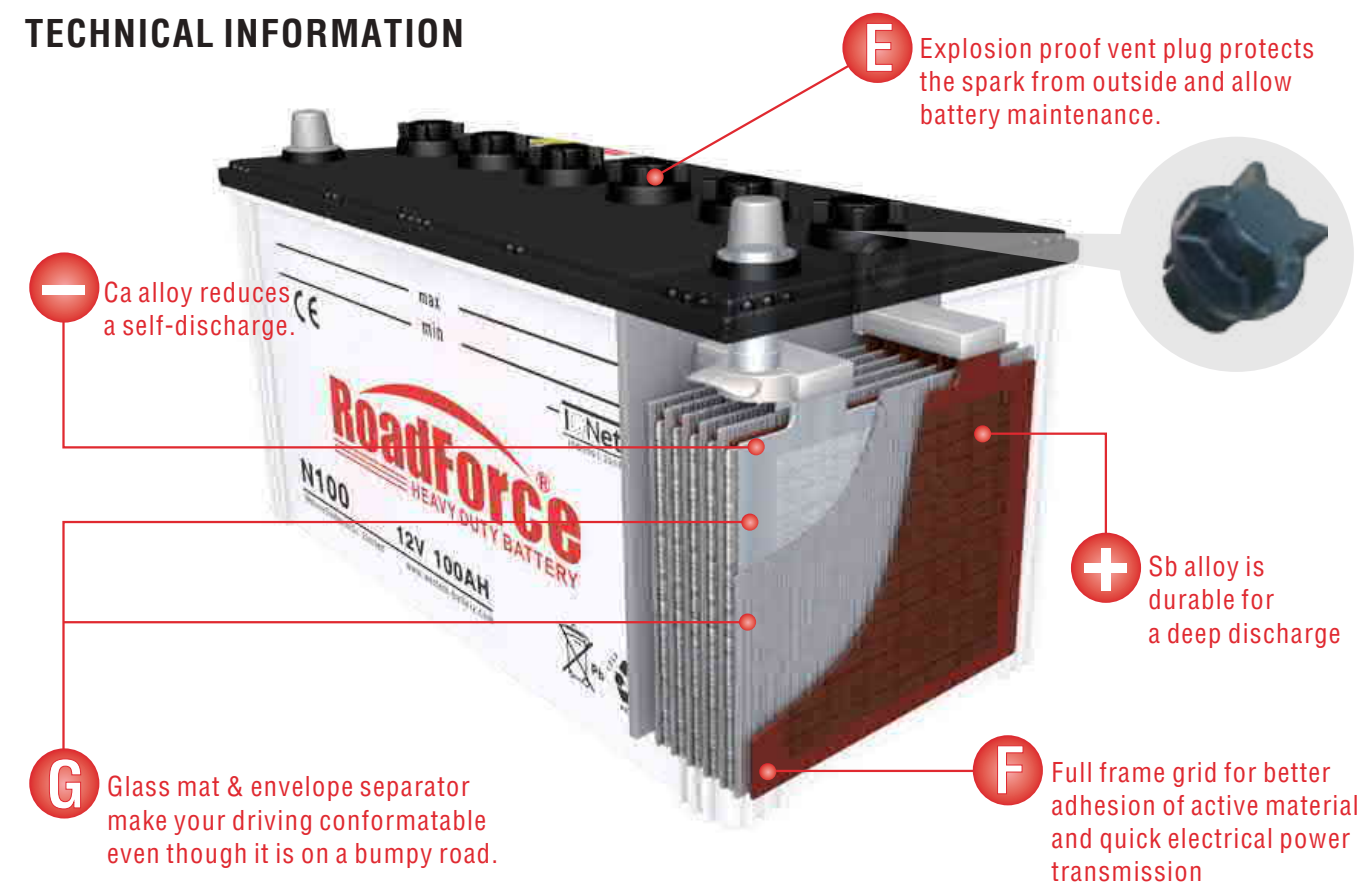
APPLICATION



ICONS ON LABELS AND CARTON BOX



TECHNICAL INFORMATION



THE MANUFACTURING CONCEPTS OF WESTERN ELECTRICAL DRY BATTERIES

Long Service Life

Extreme energy throughput, low corrosion with High density paste.

Powerful Cranking

Excellent starting power with dual separator of PE-Glassmat.

Robust Design

High mechanical and cyclic durability due to construction techniques.

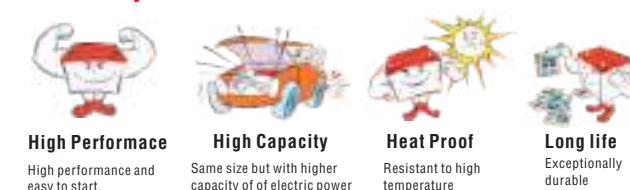
Heavy Duty Proof

Battery was designed for high tolerance of charging & discharging especially for commercial vehicles

Long Shelf Storage Life

The batteries are shipped under dry charged state without acid filled, extremely low self-discharge rate, which make the battery shelf storage life could up to 18 month.

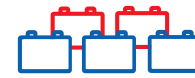
Idea for you:





SPECIFICATION CHAT 1 JIS Standard- for Japanese Vehicles-Dry Charge Battery Series

NO.	SIZE GROUP	JIS CODE		CAPACITY (AH)20HR	CCA(A) (EN)	DIMENSION(MM)				TERMINAL		HOLD DOWN
		Old	New			L	W	H	TH	LAYOUT	TYPE	
1	B20	36B20R	NS40Z	36	305	195	128	200	220	1	A	B0
2		36B20L	NS40ZL	36	305	195	128	200	220	0	A	B0
3	B24	32B24R	N40	40	320	236	127	199	219	1	A	B0
4		32B24L	N40L	40	320	236	127	199	219	0	A	B0
5		46B24RS	NS60S	45	395	236	127	199	219	1	A	B0
6		46B24LS	NS60LS	45	395	236	127	199	219	0	A	B0
7	D23	55D23RS	—	55	440	230	173	200	220	1	A	B0
8		55D23LS	—	55	440	230	173	200	220	0	A	B0
9		55D23R	—	60	520	230	173	200	220	1	A	B0
10		55D23L	—	60	520	230	173	200	220	0	A	B0
11		75D23R	—	65	550	230	173	200	220	1	A	B0
12		75D23L	—	65	550	230	173	200	220	0	A	B0
13		48D26R	N50	50	400	257	172	201	221	1	A	B0
14		48D26L	N50L	50	400	257	172	201	221	0	A	B0
15	D26	55D26R	N60	60	520	257	172	201	221	1	A	B0
16		55D26L	N60L	60	520	257	172	201	221	0	A	B0
17		65D26R	NS70	65	560	257	172	201	221	1	A	B0
18		65D26L	NS70L	65	560	257	172	201	221	0	A	B0
19		80D26R	NX110-5	70	585	257	172	201	221	1	A	B0
20		80D26L	NX110-5L	70	585	257	172	201	221	0	A	B0
21	D31	65D31R	N70	70	585	305	173	205	225	1	A	B0
22		65D31L	N70L	70	585	305	173	205	225	0	A	B0
23		75D31R	N70Z	75	620	305	173	205	225	1	A	B0
24		75D31L	N70ZL	75	620	305	173	205	225	0	A	B0
25		95D31R	NX120-7	80	645	305	173	205	225	1	A	B0
26		95D31L	NX120-7L	80	645	305	173	205	225	0	A	B0
27		105D31R	—	90	705	305	173	205	225	1	A	B0
28		105D31L	—	90	705	305	173	205	225	0	A	B0
29		110D31R	—	95	730	305	173	205	225	1	A	B0
30		110D31L	—	95	730	305	173	205	225	0	A	B0
31	CMF	—	N90	90	710	362	174	214	234	1	A	B0
32		—	N90L	90	710	362	174	214	234	0	A	B0
33		—	N96	96	740	362	174	214	234	1	A	B0
34		—	N96L	96	740	362	174	214	234	0	A	B0
35	E41	95E41R	N100	100	780	414	172	211	231	1	A	B0
36		95E41L	N100L	100	780	414	172	211	231	0	A	B0
37	F51	135F51	N120	120	860	505	180	208	230	4	A	B0
38		—	N135	135	880	505	180	208	230	4	A	B0
39	G51	154G51	N150	150	1000	505	220	210	232	4	A	B0
40		—	N180	180	1100	505	220	210	232	4	A	B0
41	H52	190H51	N200	200	1200	508	265	215	238	4	A	B0
42		245H52	NX400-20	220	1350	508	265	215	238	4	A	B0



SPECIFICATION CHAT 2 DIN Standard-For European Vehicles-Dry Charge Battery Series

NO.	SIZE GROUP	MODEL NO	CAPACITY (AH)20HR	CCA(A) (EN)	RC (min)	DIMENSION(MM)				TERMINAL		HOLD DOWN
						L	W	H	TH	LAYOUT	TYPE	
1	LB1	53646	36	305	45	208	175	175	175	0	A	B13
2		53647	36	305	45	208	175	175	175	1	A	B13
3		54045	40	320	50	208	175	175	175	0	A	B13
4		54046	40	320	50	208	175	175	175	1	A	B13
5	L1	53624	36	305	45	208	175	190	190	0	A	B13
6		53621	36	305	45	208	175	190	190	1	A	B13
7		54464	44	350	60	208	175	190	190	1	A	B13
8		54434	44	350	60	208	175	190	190	0	A	B13
9	LB2	54523	45	360	65	242	175	175	175	0	A	B13
10		54524	45	360	65	242	175	175	175	1	A	B13
11		55056	50	400	80	242	175	175	175	0	A	B13
12		55057	50	400	80	242	175	175	175	1	A	B13
13	L2	55530	55	450	90	242	175	190	190	0	A	B13
14		55548	55	450	90	242	175	190	190	1	A	B13
15		56068	60	490	95	242	175	190	190	0	A	B13
16		56069	60	490	95	242	175	190	190	1	A	B13
17		56219	62	500	100	242	175	190	190	0	A	B13
18		56220	62	500	100	242	175	190	190	1	A	B13
19	LB3	56318	63	510	105	275	175	175	175	0	A	B13
20		56319	63	510	105	275	175	175	175	1	A	B13
21		56828	68	550	115	275	175	175	175	0	A	B13
22		56521	68	550	115	275	175	175	175	1	A	B13
23	L3	56618	66	540	110	275	175	190	190	0	A	B13
24		56633	66	540	110	275	175	190	190	1	A	B13
25		57219	72	590	120	275	175	190	190	0	A	B13
26		57220	72	590	120	275	175	190	190	1	A	B13
27		57535	75	620	130	275	175	190	190	0	A	B13
28		27536	75	620	130	275	175	190	190	1	A	B13
29	LB4	58013	80	640	140	315	175	175	175	0	A	B13
30		58014	80	640	140	315	175	175	175	1	A	B13
31		58540	85	670	150	315	175	175	175	0	A	B13
32		58541	85	670	150	315	175	175	175	1	A	B13
33	L5	58815	88	700	160	345	175	190	190	0	A	B13
34		58821	88	700	160	345	175	190	190	1	A	B13
35		60038	100	800	175	345	175	190	190	0	A	B13
36		60044	100	800	175	345	175	190	190	1	A	B13

NOTICE:

- 1.The technical drawing of Cell Layout, Terminal Type and Base Hold Down, please see on Page 24;
- 2.The specification is subject to change without notification for the reason of improvement;
- 3.Due to various battery models, if the model you interested not show on this chart, you are welcome to contact us.





No smoking
no naked flames
no sparks



Shielded
eyes



Keep away
from children



Battery
acid



Explosive
gas



Note operating
instructions

PRECAUTION

If treated with care and taking the proper precautions, lead acid batteries can be handled safely with minimum risk. However, lead acid batteries contain sulfuric acid which is both poisonous and corrosive. This makes them potentially hazardous and can cause serious injury when standard handling procedures and safety measures are not respected.

SAFETY

- Always wear acid resistant clothing, protective goggles, PVC gloves and rubber boots.
- Avoid smoking, sparks and fumes near operating or charging lead acid batteries.
- Keep metal objects away from terminals.
- Batteries are heavy. Lift carefully and do not place on unstable surfaces.
- Keep away from children.

EMERGENCY ACTION

- Splashes in eyes : wash out the eye with plenty of water for at least 15 minutes.
- Splashes on skin : Remove contaminated clothing carefully and wash the affected skin areas with plenty of water.
- Swallowed : Drink copious amounts of milk of magnesia, water or milk. Do not induce vomiting.

STORAGE

- Keep batteries upright
- Don't be exposed direct to the sun.
- Keep batteries clean and always store in a cool, dry place.
- Never stack over 4 layers.
- Never drop, never overthrow.
- In all cases, (First In, First Out) storage procedure should be applied.

INSTALLATION

- Check that vehicle's engine is turned off.
- Remove the negative terminal connection of old battery
- Remove the positive terminal connection and then, remove the hold-down bracket or clamp.
- Replace old battery to new battery and fix the new one in the tray.
- Prior to replace new one, inspect the tray for corrosion. Clean battery holder, and battery terminals using a wire brush if necessary.
- Connect the positive terminal.
- Connect the negative terminal. The negative terminal should always be replaced last.

DISPOSAL

- Batteries must NEVER be disposed of in household waste.
- Recyclable material
- Do not throw away



NEVER DROP
NEVER OVERTHROW



NEVER STACK
OVER 4 LAYERS



KEEP UPRIGHT



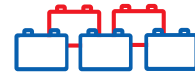
NEVER TIP
OVER 45°



RECYCLE



Pb



BATTERY TESTING PROCEDURES

A. VISUAL CHECK

- Check the Container, Cover and terminals
When physical damage is present, replace the battery.
- Check the Indicator (If battery have the Indicator)
Always look right down when viewing the Indicator and lightly tap the Indicator on the battery to dislodge any air bubbles.



GOOD
CONDITION



CHARGING
NECESSARY



REPLACE
BATTERY

B. VOLTAGE CHECK

- If OCV is below 12.4V, recharge the battery immediately.

C. DISCHARGE TEST (LOAD TEST)

- Connect the battery tester to battery terminals.
- Measure the temperature of the battery around
- Set the battery tester ampere values for ½ of the CCA rating
- Apply the load for 15 seconds and read the voltage when this time is over.
- Compare measured values with the values in the table. If values are outside in Table 2, recharge and test again. If the battery fails the load test twice, then replace the battery.

Some times, electronic testers such as MIDTRONICS, SNAP-ON and etc. are used instead of load tester.

Electronic testers are only suitable for batteries that have been in use for a certain time.

They cannot rate the performance of new or unused batteries.

For this reason, ATLASBX recommends the test defined in global standards to confirm rated specifications.

BATTERY CHARGE

If the battery is below 12.4V or fails to pass the load test, battery must be recharged as soon as possible to prevent lead sulfation. During charge, if the battery sprays electrolyte through the vent holes or gets hot (over 52°C), the charge must be stopped for a time to allow the battery to cool.

CONSTANT CURRENT CHARGE

General guidelines for constant-current-charge are given in Table 3.

The table summarizes approximate amperes and hours in need of charge according to 20Hr-rate capacity and OCV.

CONSTANT VOLTAGE CHARGE

Another method is to charge a battery at a specified voltage (14.4~16V). At the beginning of charge, a high rate current flows into the battery and as battery is charged the current is getting reduced. Generally this method needs more time than the constant-current-charge, but overcharge risk is less.

END OF CHARGE

If a battery has been properly charged, voltage output across battery terminals on charge can be maintained at constant level for 2 hours.

TABLE3. CONSTANT CURRENT CHARGE CONDITION

OCV	31-40AH	41-50AH	51-60AH	61-70AH	71-80AH	81-90AH	91-100AH
12.4-12.49	4X3	5X3	6X3	7X3	8X3	9X3	10X3
12.3-12.39	4X5	5X5	6X5	7X5	8X5	9X5	10X5
12.2-12.29	4X7	5X7	6X7	7X7	8X7	9X7	10X7
12.1-12.19	4X8	5X8	6X8	7X8	8X8	9X8	10X8
12.0-12.09	4X10	5X10	6X10	7X10	8X10	9X10	10X10
BELOW 11.99	4X13	5X13	6X13	7X13	8X13	9X13	10X13

TABLE1. STATE OF CHARGE

Approximate State of Charge	OCV
100%	12.75
75%	12.40
50%	12.20
25%	12.00
Discharged	11.90

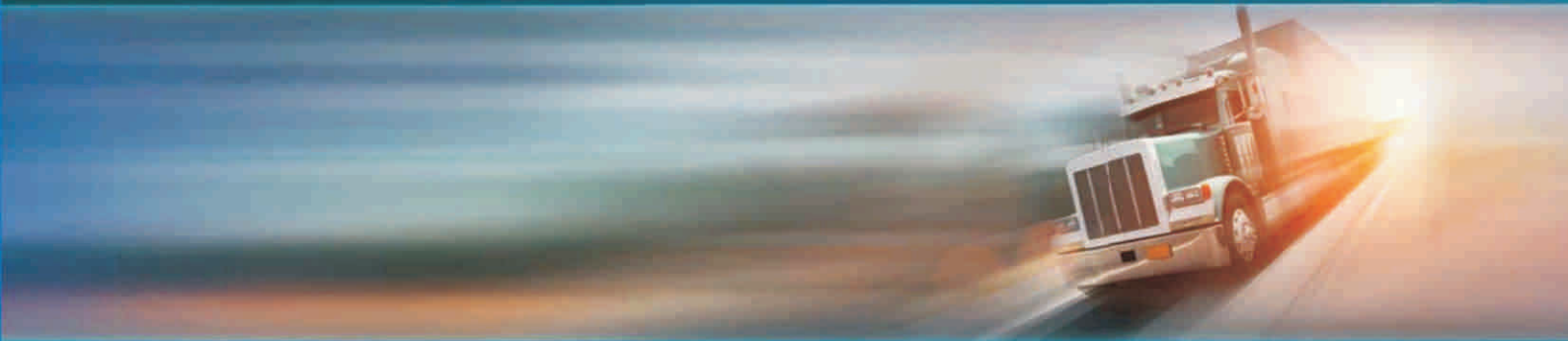
FOR REFERENCE ONLY

TABLE2. LOAD TEST

Minimum Voltage	Temperature
9.6V	21°C & above
9.4V	10°C
9.1V	-1°C
8.9V	-7°C
8.5V	-18°C



Power for all
■ ■ ■ **your needs**
— — —



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WESTERN
Electrical Corporation