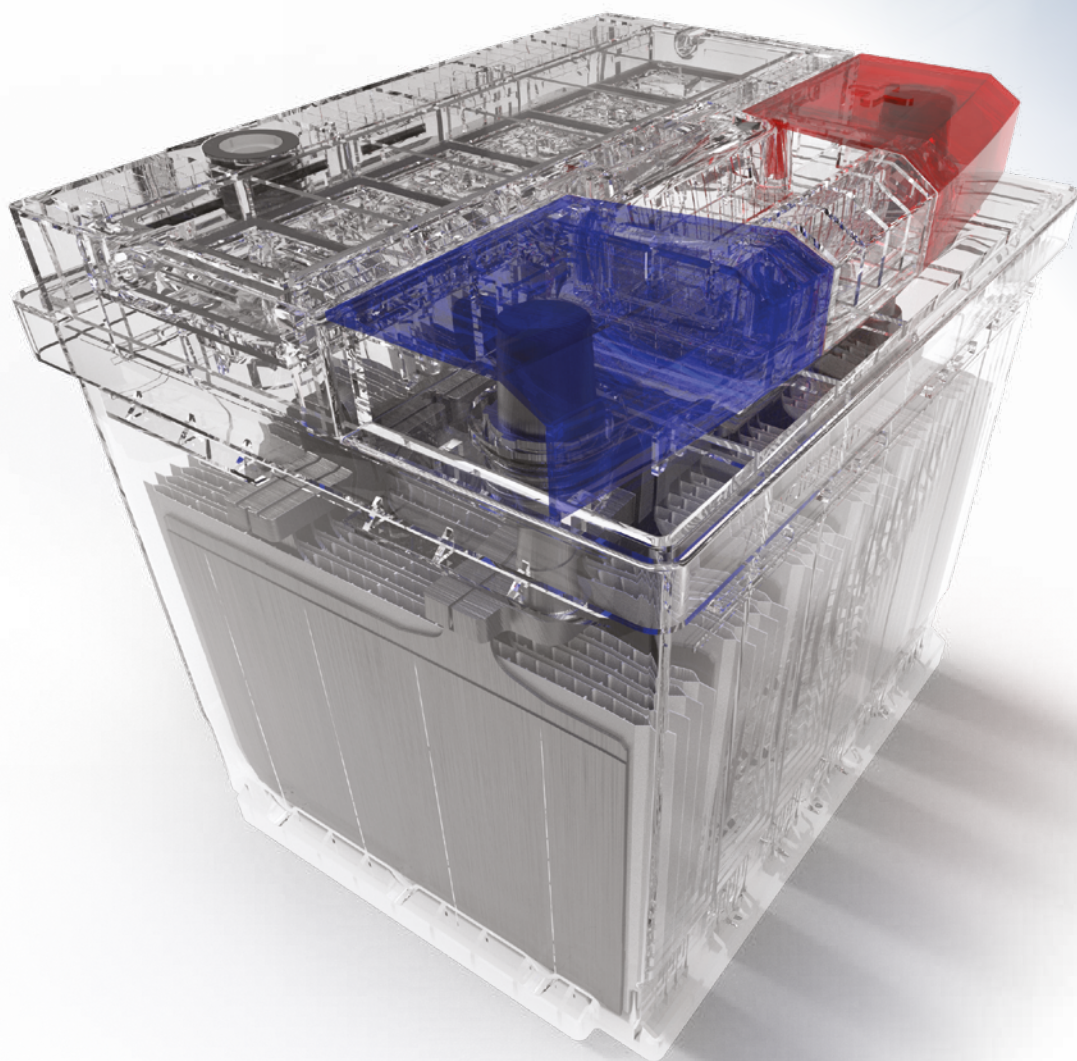


MONBAT[®]

BATTERIES



AUTOMOTIVE CATALOGUE



**HIGH HEAT
SERIES**



ABOUT MONBAT GROUP

THE BATTERY SEGMENT

- 1 **MONBAT AD** MONTANA, BULGARIA
- 2 **START AD** DOBRICH, BULGARIA
- 3 **TUNISIAN COMPANY OF BATTERIES NOUR** ZRIBA, ZAGHOUAN, TUNISIA
- 4 **EAS BATTERES GMBH** NORDHAUSEN, GERMANY

RECYCLED INDUSTRIAL MATERIALS

- 5 **MONBAT RECYCLING EAD** MONTANA, BULGARIA
- 6 **SG MONBAT RECYCLING SRL** ILFOV, ROMANIA
- 7 **MONBAT PLC DOO** INDIJA, SERBIA
- 8 **PIOMBIFERA ITALIANA S.P.A.** LA SPECIA, ITALY
- 9 **COMPANY OF NOUR RECYCLING** ZRIBA, ZAGHOUAN, TUNISIA
- 10 **STC S.R.L.** MESAGNE, ITALY

OTHER ACTIVITIES

- 11 **MONBAT TRADING OOD** SOFIA, BULGARIA
- 12 **YU MONBAT DOO** YAGODINA, SERBIA
- 13 **MONBAT ROMANIA SRL** BUCHAREST, ROMANIA
- 14 **MONBAT SPED EOOD** SOFIA, BULGARIA
- 15 **A.R.T.MONBAT AD** SOFIA, BULGARIA

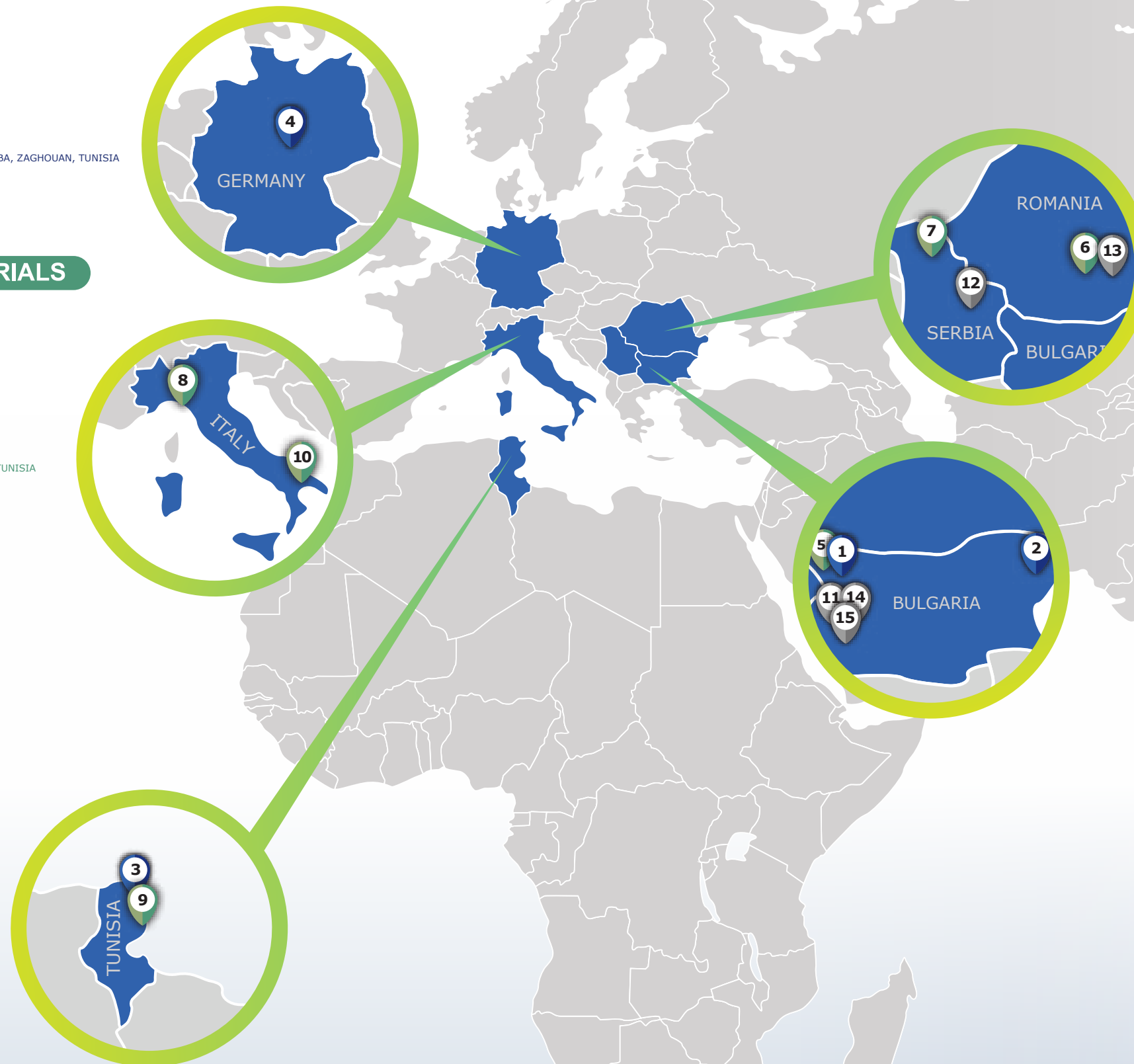
THE GROUP

MONBAT GROUP is a fast-growing company which offers lead-acid batteries, lithium-ion batteries and reserved power solutions for large assortment of applications. MONBAT Group operates three factories for lead-acid batteries located in Bulgaria and Tunisia, and forth production plant for lithium-ion batteries in Germany.

Another strong activity of MONBAT Group is recycling of industrial material. The division currently operates five recycling plants for used lead-acid batteries, located in Bulgaria, Romania, Serbia, Italy and Tunisia, along with the high tech engineering company STC Italy.

THE COMPANY

The products of our company have been present on the international market since 1959. The wide product range includes starter batteries, leisure & marine, solar, stationary VRLA and special batteries for military applications. Our production facilities are equipped with state-of-the art equipment and machines using the latest technologies, granting high quality products and reaching an annual production capacity of over 5M batteries.





LIGHT VEHICLE BATTERY RANGE



START-STOP VEHICLES

ADVANCED START-STOP

BASIC START-STOP

AGM SERIES

EFB **HIGH HEAT SERIES**

CONVENTIONAL VEHICLES

HEAVY URBAN DRIVING

MODERATE EQUIPMENT

PREMIUM **HIGH HEAT SERIES**

FORMULA **HIGH HEAT SERIES**

VEHICLE REQUIREMENTS

START-STOP SYSTEM REDUCED CO ₂ EURO 5/6	AGM Replace AGM MANUFACTURER RECOMMENDATION Change with same type	EFB Replace EFB MANUFACTURER RECOMMENDATION Change with same type		
START-STOP SYSTEM	✓	✓	✗	✗
REGENERATIVE BRAKING	■■■■■	✗	✗	✗
HEAVY URBAN DRIVING	■■■■■	■■■■■	■■■■■	■■■
ADVANCED EQUIPMENT	■■■■■	■■■■■	■■■■■	■■■

BATTERY REQUIREMENTS

CRANKING POWER - CCA	■■■■■	■■■■■	■■■■■	■■■
CYCLING CAPABILITY	■■■■■	■■■■■	■■■■■	■■■
CHARGE ACCEPTANCE	■■■■■	■■■■■	■■■■■	■■■
LIFE EXPECTANCY	■■■■■	■■■■■	■■■■■	■■■■■
BEST CHOICE	MILD HYBRID	LONG LIFE	EXTRA POWER	VAST RANGE

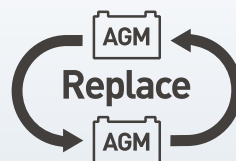
THE FUTURE

Nowadays 90% of the newly manufactured cars are equipped with a Start-Stop system to reduce fuel consumption and CO₂ emissions by turning off idling engines. Supporting Start-Stop systems is just one of the required battery functions as new cars are equipped with an increasing number of power hungry luxury features – navigation systems, multimedia displays, Wi-Fi and smartphone interfaces. AGM battery today became the benchmark for start-stop application.



BENEFITS

- Original equipment (OE) quality product and specification
- Designed & developed for vehicles with advanced Start-Stop systems with regenerative braking for energy recovery
- Ensuring fuel saving and reducing CO₂ emissions
- 5 times better cycle life compared to conventional batteries
- Highest cold cranking amperes (CCA) enables engine starts even in extreme climates while keeping all features functioning
- Highest Level of safety by AGM VRLA technology (Valve Regulated)
- Long shelf life
- Eco Friendly Product and 99% Recyclable



BATTERY CLASSIFICATION AS PER EN 50342 - 1,6:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level	Micro-cycle Performance
W5	C2	V3	E3	M3

LIGHT VEHICLE BATTERY RANGE

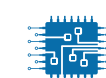
MONBAT
BATTERIES



LEVEL M3
EN50342-6



EXTREME
TEMPERATURES



ADVANCED
EQUIPMENT



HEAVY URBAN
DRIVING



SAFETY OF
OPERATION

RECOMMENDED FOR:

- Micro Hybrid & Mild Hybrid (MHEV) with Start-Stop systems
- Hybrid electric vehicles (HEV) & Plug-in hybrid electric vehicles (PHEV)
- Electric vehicles (EV), equipped with 12V auxiliary battery for power supply of electrical system and backup reasons.
- Ideal for large cars, SUVs, vans and all model vehicles with Start-Stop systems and power-hungry electrical items
- Wide car park coverage from limited number of SKUs
- Optimal solution for partial state of charge operation

SPECIFICATIONS

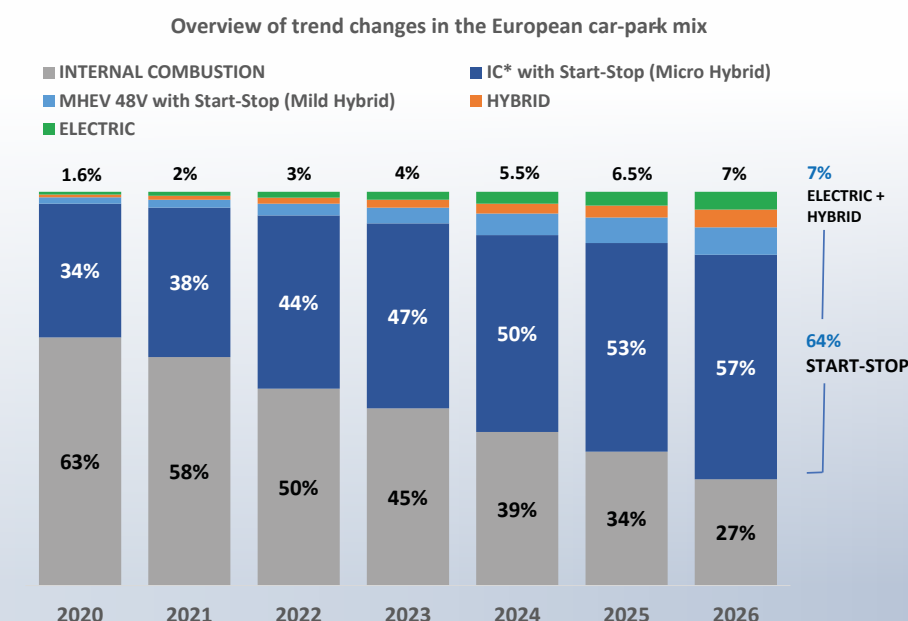
Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
AGM L2 56001	60	640	L2	242	175	190	0		1	B13
AGM L3 57001	70	760	L3	278	175	190	0		1	B13
AGM L4 58001	80	840	L4	310	175	190	0		1	B13
AGM L5 59501	95	860	L5	353	175	190	0		1	B13
AGM L6 60501	105	950	L6	393	175	190	0		1	B13

- In 2020 light vehicles with start-stop systems accounted for nearly 40% of the European car-park mix

- There is clear trend to a progressive increase in the number of cars that feature a start-stop system in the recent years

- By 2026 the percentage of driven cars with start-stop systems is expected to grow to a total of 64% (Mild and Micro Hybrids)

- The Expected growth in the aftermarket of OE replacement AGM and EFB batteries is therefore expected to reach approximately 57%



*Source: EU28+EFTA (European Free Trade Association), Monbat research estimation

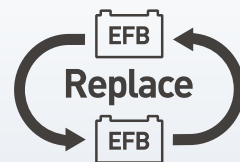
NEW TREND

EFB technology quickly became the primary choice of most vehicles manufacturers with entry level Start-Stop systems. Vehicles today are specially designed to meet and exceed the requirements of those systems. The new extended range of MONBAT EFB series features carbon technology additives to the NAM for greater dynamic charge acceptance bringing the latest OEM trend to the aftermarket.



BENEFITS

- Original equipment (OE) quality product and specification
- Designed & developed for vehicles with entry level Start-Stop systems
- 4 times better cycle life compared to conventional batteries
- Exceptional dynamic charge acceptance thanks to carbon technology additive in NAM
- High level reliability for heavy urban driving on short distances and frequent stops
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

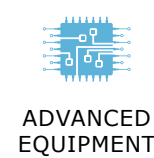
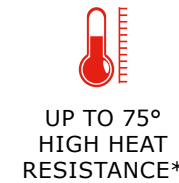


BATTERY CLASSIFICATION AS PER EN 50342 - 1,6:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level	Micro-cycle Performance
W4	C2	V2	E2	M2

LIGHT VEHICLE BATTERY RANGE

MONBAT®
BATTERIES



*acc. to SAE & IEC standards

RECOMMENDED FOR:

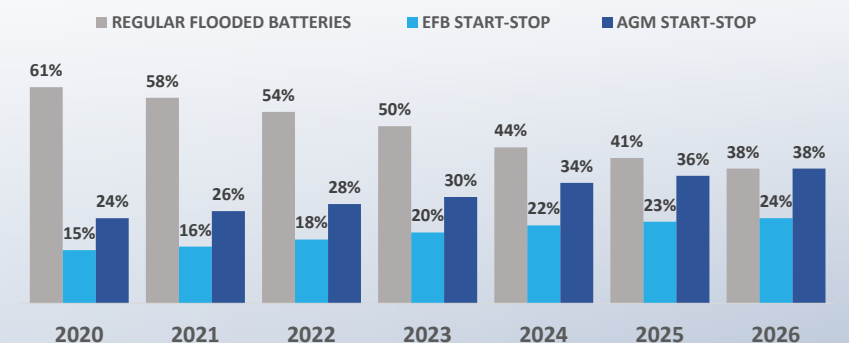
- Micro Hybrid & Mild Hybrid (MHEV) with Start-Stop systems
- Wide car park coverage for EU and Asian models. Range features 10 types DIN and JIS sizes
- Ideal compatibility with standard power train vehicles that make lots of regular short journeys
- Optimal solution for partial state of charge operation

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
EFB 56002 DIN	60	600	L2	242	175	190	0		1	B13
EFB 90D23L JIS	65	560	D23	230	170	220	0		1	B1
EFB 90D23R JIS	65	560	D23	230	170	220	1		1	B1
EFB 57002 DIN	70	700	L3	278	175	190	0		1	B13
EFB 100D26L JIS	72	680	D26	260	170	220	0		1	B1
EFB 58002 DIN	80	780	L4	310	175	190	0		1	B13
EFB 115D31L JIS	85	740	D31	304	173	220	0		1	B1
EFB 59002 DIN	90	860	L5	353	175	190	0		1	B13

- In 2022 the Regular flooded batteries were almost as much as the start/stop batteries
- There is clear trend to a progressive increase in the number of cars that feature a start-stop system in the recent years
- By 2026 the percentage of driven cars with start-stop systems is expected to surpass the RFB and almost triple their volume.
- Alongside this the AGM start/stop batteries will open 15% gap to EFB start/stop due to further rise in electrical equipment

CURRENT TREND FOR USAGE OF AGM, EFB AND REGULAR FLOODED BATTERIES



NEXT GENERATION

MONBAT Premium series is the newest High Performance battery for the next generation of light vehicles with conventional ignition systems. The wide range of coverage features carbon technology additive in NAM for greater dynamic charge acceptance and brings latest OE trend to the aftermarket.



BENEFITS

- Original equipment (OE) quality product and specification
- 3 times better cycle life stability compared to conventional batteries
- The premium battery for vehicles with non-start-stop technology
- Ideal for extreme weather conditions thanks to the latest Full Frame Punch technology and pasting scrim
- +30% enhanced starting power for top level performance
- High level of reliability
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

BATTERY CLASSIFICATION AS PER EN 50342 - 1:2015

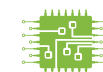
Water Consumption	Charge Retention	Vibration Resistance	Endurance Level
W4	C2	V2	E2

LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



UP TO 75°
HIGH HEAT
RESISTANCE*



ADVANCED
EQUIPMENT



HEAVY URBAN
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY



*acc. to SAE & IEC standards

RECOMMENDED FOR:

- Designed & Developed for highly equipped vehicles with the highest power demands
- Ideal compatibility with standard power train vehicles that make lots of regular short journeys in urban area
- Full coverage for all EU and Asian models of vehicles
- Comprehensive Range features 20 types of DIN and JIS sizes covering 90% of the car park

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout	Terminals	Hold Down	
MF 55B19L	45	330	B19	197	128	220	0		3	B1
MF 55B19R	45	330	B19	197	128	220	1		3	B1
MF 75B24L	50	400	B24	237	128	220	0		3	B0
MF 75B24R	50	400	B24	237	128	220	1		3	B0
MF 55612	56	560	L1	207	175	190	0		1	B13
MF 56378	63	600	L2	242	175	190	0		1	B13
MF 56619	66	660	L2	242	175	190	0		1	B13
MF 75D26L	65	600	D23	230	170	220	0		1	B1
MF 75D23R	65	600	D23	230	170	220	1		1	B1
MF 57583	75	720	L3	278	175	190	0		1	B13
MF 58043	80	760	L3	278	175	190	0		1	B13
MF 95D26L	75	700	D26	260	170	220	0		1	B1
MF 95D26R	75	700	D26	260	170	220	1		1	B1
MF 59046	90	820	L4	310	175	190	0		1	B13
MF 135D31L	100	820	D31	304	173	220	0		1	B1
MF 135D31R	100	820	D31	304	173	220	1		1	B1
MF 60044	100	920	L5	353	175	190	0		1	B13

TEMPERATURE RANGE

Temperature	Condition	Battery Life Expectancy
-10°/ -25°C	Extreme Cold	> 42 months
+5°/ -10°C	Cold	> 52 months
+20°/ +5°C	Mild	> 42 months
+35°/ +20°C	Heat	> 36 months
+50°/ +35°C	High Heat	> 26 months
+75°/ +50°C	Extreme Heat	> 18 months*

*Only High Heat Batteries - DIN and JIS

BEST SELLER

MONBAT Formula series is a vast range of automotive batteries complying with all auto car park and OE specifications. It is designed for average equipment vehicles which require extra starting power with consistently high performance for longer period of time.

They are specially developed for extremely high ambient temperatures. Suitable for regions with a pronounced tropical climate such as North Africa and Middle East.



BENEFITS

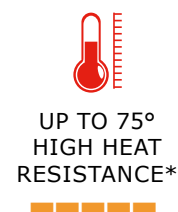
- Original equipment (OE) quality product and specification
- Advanced Ex-Metal Calcium technology for exceptional starting power
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Designed & Developed for the complete international auto park of European and Asian models of cars
- Comprehensive range of DIN and JIS available in a HIGH HEAT Technology for Tropical Markets
- Built-in charge level indicator – MAGIC EYE
- Eco Friendly Product and 99% Recyclable

BATTERY CLASSIFICATION AS PER EN 50342 - 1:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level
W4	C2	V1	E1

LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



*acc. to SAE & IEC standards

RECOMMENDED FOR:

- Designed & developed for vehicles with average to high power demands
- Ideal compatibility with moderate power train vehicles for everyday driving
- Comprehensive Range with 39/34 models with 99% auto park coverage

SPECIFICATIONS - DIN

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
MF 54459	44	360	L1	207	175	190	0		1	B13
MF 55027	50	420	L1	207	175	190	0		1	B13
MF 55559	55	480	L2	242	175	190	0		1	B13
MF 55565	55	480	L2	242	175	190	1		1	B13
MF 56219	62	540	L2	242	175	190	0		1	B13
MF 56203	62	540	L2	242	175	190	1		1	B13
MF 56638	66	580	L3	278	175	190	0		1	B13
MF 57220	72	640	L3	278	175	190	0		1	B13
MF 57412	75	680	L4	278	175	190	0		1	B13
MF 58043	80	720	L4	315	174	190	0		1	B13
MF 58827	88	750	L5	353	175	190	0		1	B13
MF 60038	100	840	L5	354	174	190	0		1	B13

TEMPERATURE RANGE

Temperature	Condition	Battery Life Expectancy
-10°/-25°C	Extreme Cold	> 42 months
+5°/-10°C	Cold	> 52 months
+20°/+5°C	Mild	> 42 months
+35°/+20°C	Heat	> 36 months
+50°/+35°C	High Heat	> 26 months
+75°/+50°C	Extreme Heat	> 18 months*

*Only High Heat Batteries - DIN and JIS

PACKAGING AVAILABLE UPON REQUEST:

- Carton box
- Single battery foiling

BEST SELLER ASIA

MONBAT Formula series is a vast range of automotive batteries complying with all auto car park and OE specifications. It is designed for average equipment vehicles which require extra starting power with consistently high performance for longer periods of time.



BENEFITS

- Original equipment (OE) quality product and specification
- Advanced Ex-Metal Calcium technology for exceptional starting power
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Designed & Developed for the complete international auto park of European and Asian models of cars
- Comprehensive range of DIN and JIS available in a HIGH HEAT Technology for Tropical Markets
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

BATTERY CLASSIFICATION AS PER EN 50342 - 1:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level
W4	C2	V1	E1

LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



*acc. to SAE & IEC standards

RECOMMENDED FOR:

- Designed & developed for vehicles with average to high power demands
- Ideal compatibility with moderate power train vehicles for everyday driving
- Comprehensive Range with 58 models with 99% auto park coverage

SPECIFICATIONS - JIS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
MF 40B19L	35	250	B19	197	127	220	0		3	B0
MF 40B19R	35	250	B19	197	127	220	1		3	B0
MF 40B19FL	35	250	B19	197	127	220	0		3	B1
MF 50B24L	45	330	B24	237	127	220	0		3	B0
MF 50B24R	45	330	B24	237	127	220	1		3	B0
MF 50B24LS	45	330	B24	237	127	220	0		1	B0
MF 50B24RS	45	330	B24	237	127	220	1		1	B0
MF 55D23L	60	480	D23	230	170	220	0		1	B1
MF 55D23R	60	480	D23	230	170	220	1		1	B1
MF 75D23L	65	500	D23	230	172	220	0		1	B1
MF 75D23R	65	500	D23	230	172	220	1		1	B1
MF 48D26L	50	400	D26	260	172	220	0		1	B1
MF 48D26R	50	400	D26	260	172	220	1		1	B1
MF 55D26L	60	480	D26	260	172	220	0		1	B1
MF 55D26R	60	480	D26	260	172	220	1		1	B1
MF 80D26L	70	500	D26	260	172	220	0		1	B1
MF 80D26R	70	500	D26	260	172	220	1		1	B1
MF 75D31L	75	560	D31	304	172	220	0		1	B1
MF 75D31R	75	560	D31	304	172	220	1		1	B1
MF 95D31L	80	600	D31	304	172	220	0		1	B1
MF 95D31R	80	600	D31	304	172	220	1		1	B1
MF 105D31L	90	650	D31	304	172	220	0		1	B1
MF 105D31R	90	650	D31	304	172	220	1		1	B1
MF 115D31L	95	780	D31	304	172	220	0		1	B1
MF 115D31R	95	780	D31	304	172	220	1		1	B1
N 100L	100	700	E41/N100	413	175	220	0		1	B0
N 100	100	700	E41/N100	413	175	220	1		1	B0

PACKAGING AVAILABLE UPON REQUEST:

- Carton box
- Single battery foiling



HEAVY-DUTY BATTERY RANGE



AGM SERIES

EFB+C
HIGH HEAT SERIES

SHD
HIGH HEAT SERIES

VEHICLE REQUIREMENTS

LIFE EXPECTANCY	■ ■ ■ ■ ■ ■
EQUIPMENT LEVEL	■ ■ ■ ■ ■ ■
VIBRATION RESISTENCE	■ ■ ■ ■ ■ ■
CYCLING CAPABILITY	■ ■ ■ ■ ■ ■
CRANKING POWER - CCA	■ ■ ■ ■ ■ ■
VALUE FOR CUSTOMER	■ ■ ■ ■ ■ ■

■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■
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RECOMMENDATION BY

APPLICATION	TYPE OF VEHICLE		AGM SERIES
REAR END INSTALLATION		Long-haul modern trucks, Modern interstate buses	✓
HOTEL FUNCTION		Long-haul modern trucks, Modern interstate buses	✓
VIBRATION RESISTENCE		Long-haul modern trucks, Modern interstate buses	✓
ROUGH TERRAIN		Long-haul modern trucks, Modern interstate buses, Tractors and agricultural vehicle	✓
CYCLING CAPABILITY		Long-haul modern trucks, Modern interstate buses Express delivery trucks Utilities vehicles	✓
EQUIPMENT LEVEL		Long-haul modern trucks, Modern interstate buses Express delivery trucks Utilities vehicles	✓
EXTREME CLIMATE		Standard trucks with engines working at high temperatures	
SPECIAL (AGRICULTURAL AND CONSTRUCTION) VEHICLES		Tractors and agricultural vehicles, Construction machines	
STANDARD VEHICLES, OLDER FLEETS		Standard and older vehicles	

EFB+C HIGH HEAT SERIES	SHD HIGH HEAT SERIES
✓	
✓	
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
✓	✓
	✓

THE FUTURE

MONBAT AGM SHD is the newest generation commercial vehicle battery that combines latest VRLA technology for unmatched deep cycle performance with high degree of reliability for your fleet. It has been developed in cooperation with the leading OEMs to support latest equipment innovations that will become the standard for heavy duty vehicles in the near future. AGM Super Heavy Duty is the optimal solution for unlocking the highest demanding application and power hungry features in the next generation truck and buses.



BENEFITS

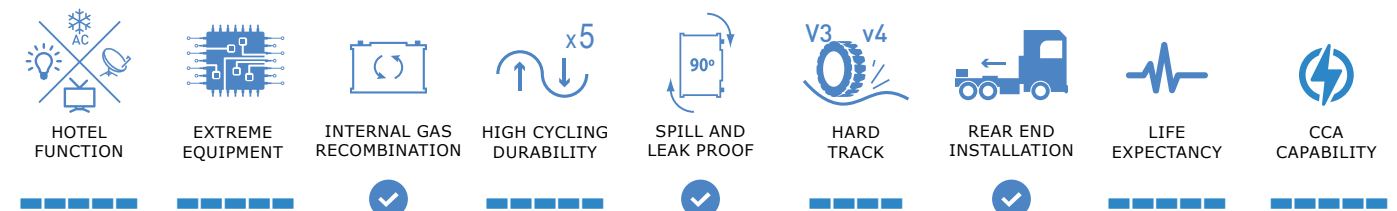
- Original equipment (OE) quality product and specification
- 5 times better cycle life stability compared to conventional batteries
- Withstands deep discharges up to 80% DOD for maximum reliability
- Highest cold cranking amperes enables engine start even in extreme climates while keeping hotel functions
- Maximum level of safety by AGM VRLA technology (Valve Regulated)
- Highest Vibration Resistance V3/V4
- Maintenance Free Technology with long lifespan
- Ensuring fuel saving and reducing CO2 emissions

BATTERY CLASSIFICATION AS PER EN 50342 - 1,6:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level	Micro-cycle Performance
W5	C2	V3/V4	E3	M3

HEAVY-DUTY BATTERY RANGE

MONBAT
BATTERIES



RECOMMENDED FOR:

- Rear chassis installation (EURO5/6)
- Latest generation long-haul trucks with advanced hoteling function
- Latest generation city buses and coaches with highest electrical equipment
- Newest express delivery trucks with power hungry equipment or deep cycling needs
- Applications with partial state of charge operation
- Any rough terrain application under high vibrations

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
AGM 67001	170	1100	B	513	223	223	3		1	B00
AGM 72001	220	1400	C	514	274	242	3		1	B00
AGM 72002	220	1400	C	514	274	242	4		1	B00

New EU Directives

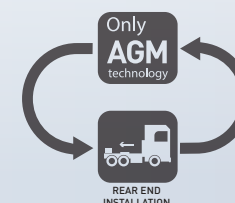
Since 2009 EU has taken further measures regarding NOx emissions and reduction of particulate matter.

Nowadays Euro 5/Euro 6 vehicles have new chassis design to integrate the Selective Catalytic Reduction (SCR) system and AdBlue tank.

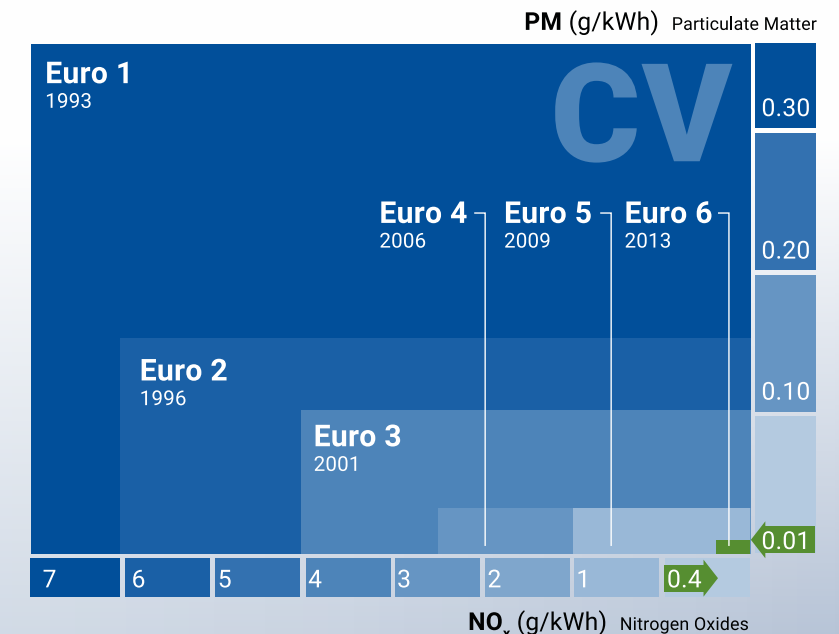
Truck manufacturers have moved the batteries into the rear-chassis position and batteries are exposed to greater vibrations.

IMPORTANT

AGM BATTERY MUST BE REPLACED WITH AGM.



EMISSION STANDARDS AS DEFINED BY EU DIRECTIVES



NEW GENERATION

Quick charge acceptance, working in partial state of charge, more cycling – these are the most important features of any battery which can fulfill the very high demands of nowadays commercial fleets.

In this new reality the Enhanced Flooded Batteries are one of the best options along with MONBAT AGM. EFB+C batteries can withstand multiple electrical loads while providing sufficient cranking power to start the engine. The MONBAT R&D worked in these directions and the new EFB+C battery has a significant improvement in terms of charge acceptance and cycle life.



BENEFITS

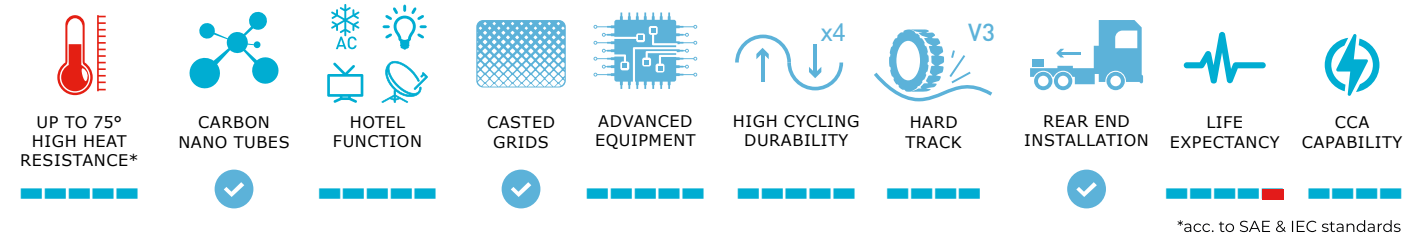
- Original equipment (OE) quality product and specification
- 3 times the cycle life stability compared to conventional batteries
- Completely remastered SMF lid labyrinth system for gas recombination and battery control over water loss
- Micro 4BS Crystal Structure of Active Material and Teflon additives in positive plate for better cycling endurance
- Exceptional dynamic charge acceptance thanks to new formula containing CNT in NAM
- Highest Vibration Resistance V3/V4 thanks to robust design and hot melt resin both on top of plates and at the bottom of the box
- High cold cranking amperes (CCA) and reliable starting after overnight stay
- Eco Friendly Product and 99% Recyclable

BATTERY CLASSIFICATION AS PER EN 50342 - 1:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level
W4	C2	V3	E3

HEAVY-DUTY BATTERY RANGE

MONBAT
BATTERIES



*acc. to SAE & IEC standards

RECOMMENDED FOR:

- Rear chassis installation (EURO5/6)
- Power hungry long-haul trucks including hoteling function
- Advanced City buses and Coaches with additional electrical equipment & consumers
- Express delivery trucks with power hungry equipment or deep cycling needs
- Applications with partial state of charge operation
- Rough terrain machines and vehicles with high vibrations
- Compatibility with any standard power train commercial vehicle with lots of regular short journeys & stops

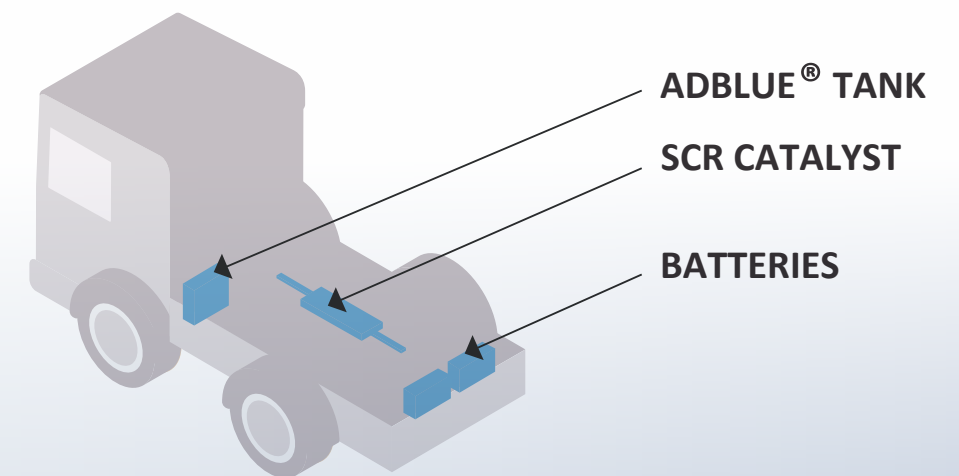
SPECIFICATIONS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
EFB 68502	185	1100	B	513	223	223	3		1	B00
EFB 73502	235	1250	C	514	274	242	3		1	B00
EFB 73503	235	1250	C	514	274	242	4		1	B00

Fleet owners decision

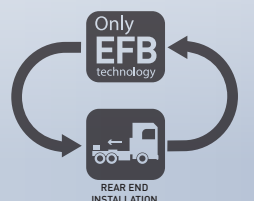
Alongside the new EU Directives, several economic factors (higher fuel costs, road taxes, higher tolls. Parking charges, higher charges for entering no emissions zone) have forced fleet owners to upgrade by purchasing new Euro 5/6 trucks. Installing the batteries at the rear faced the batteries under great vibrations.

Only batteries which have met V3/V4 test acc to EN 50342-6:2015 can guarantee a longer battery lifespan even in high vibration condition.



IMPORTANT

EFB BATTERY
MUST BE REPLACED
WITH EFB.



UNLOCK YOUR FLEET POTENTIAL

MONBAT SHD series is our newest high performance battery for wide range of commercial vehicles relying on unconditional power supply. The range is now sealed maintenance free with advanced glass free separator for great endurance and lifespan under heavy urban driving or mild cycling applications.



BENEFITS

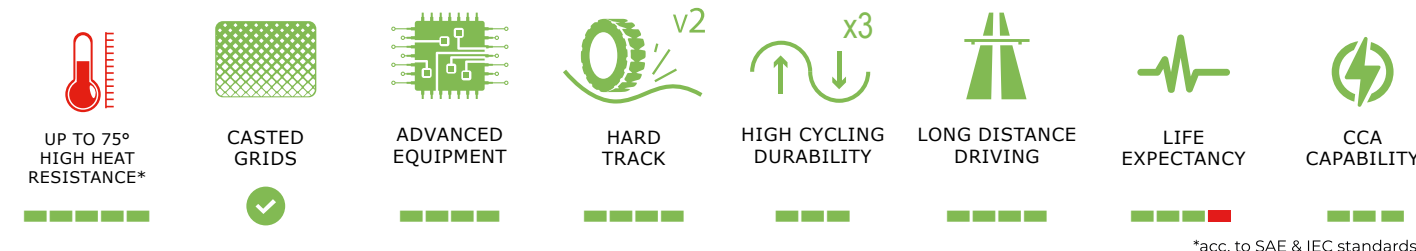
- Original equipment (OE) quality product and specification
- 2 times better cycle life stability compared to conventional batteries
- Robust and reliable design with hot melt resin for improved vibration resistance
- Excellent performance for light cycling applications
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Eco Friendly Product and 99% Recyclable

BATTERY CLASSIFICATION AS PER EN 50342 - 1:2015

Water Consumption	Charge Retention	Vibration Resistance	Endurance Level
W4	C2	V2	E2

HEAVY-DUTY BATTERY RANGE

MONBAT®
BATTERIES



RECOMMENDED FOR:

- Standard chassis installation (including EURO5/6)
- Delivery or Utility vehicles in city traffic
- City buses and Coaches with moderate electrical equipment
- Special vehicles with tail-lift platform
- Rough terrain construction machines with high vibrations
- Any standard power train commercial vehicle with short journeys & stops

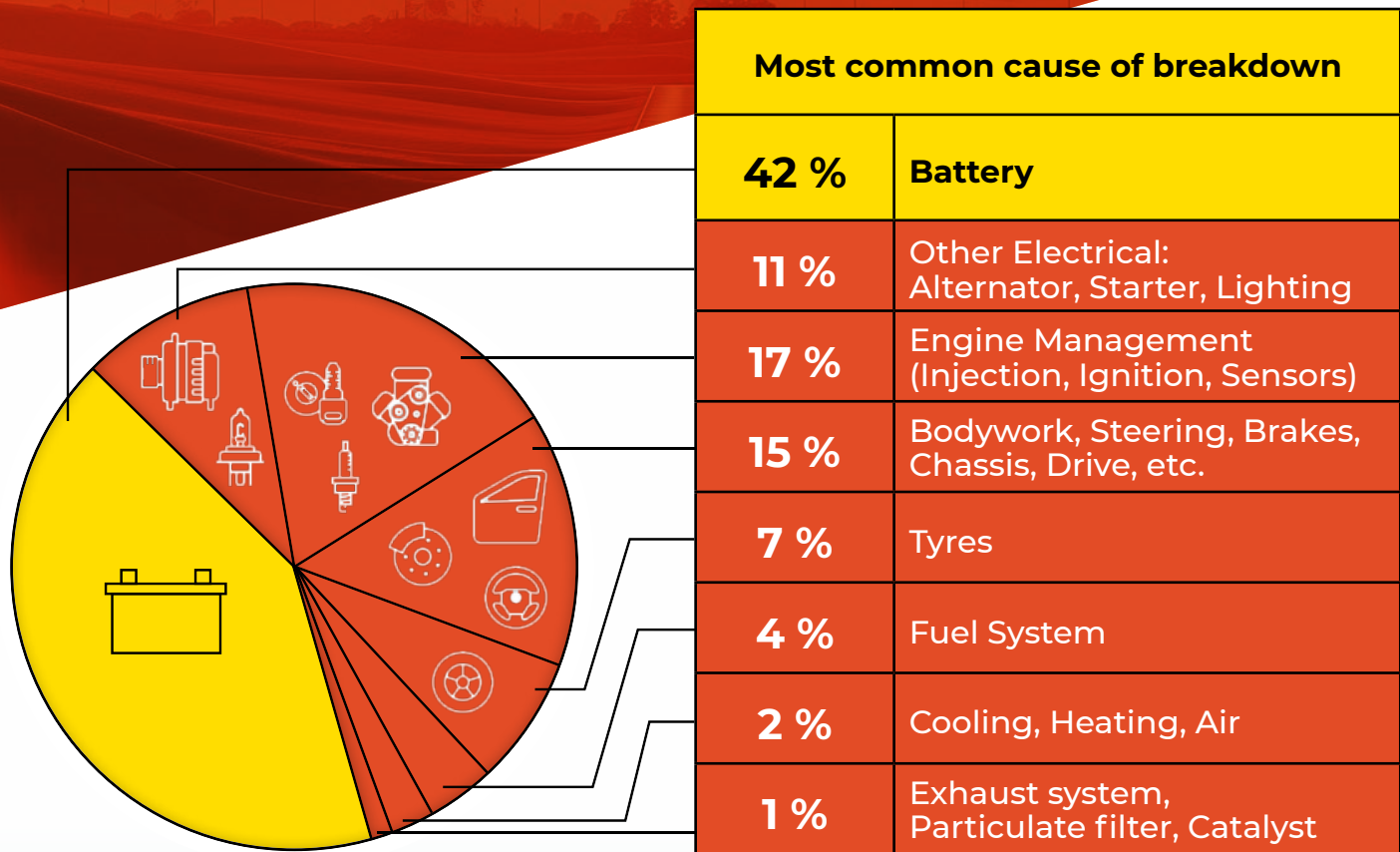
SPECIFICATIONS

Battery Type	Performance		Box	Dimensions, mm			Technical Characteristics			
	Capacity, Ah	CCA, A		L	W	H	Layout		Terminals	Hold Down
SHD 61002	110	900	GR31	336	173	235	9		1	B0
SHD 61003	110	900	GR31	336	173	235	9		8	B0
SHD N120	120	800	F51	513	189	220	4		1	B0
SHD 62545	120	800	A	513	189	220	3		1	B0
SHD 64020	140	900	A	513	189	220	3		1	B0
SHD N150	150	900	G51	513	223	223	4		1	B0
SHD 67043	170	1000	B	513	223	223	3		1	B0
SHD 68032	180	1100	B	513	223	223	3		1	B0
SHD N200	200	1150	H52	514	276	242	4		1	B0
SHD 70027	200	1150	C	514	276	242	3		1	B0
SHD 72512	225	1250	C	514	276	242	3		1	B0

MONBAT SHD offers Extra Life when mounted in standard power train commercial vehicle without special requirements. The best choice for hard working vehicles and construction machines.



PRODUCT LIFE AND PERFORMANCE



BATTERY SELF-DISCHARGE

All lead-acid batteries suffer from self-discharge. The place of this self-discharge depends on the storage conditions and technology. Generally, the cooler the storage conditions, the slower the self-discharge. Calcium (Ca)-Calcium (Ca) batteries, such as conventional flooded (maintenance-free) car and truck batteries, have a lower self-discharge than Antimony (Sb) Calcium (Ca) conventional batteries (Hybrid) like some marine/leisure and truck batteries with filling plugs for water top-up.

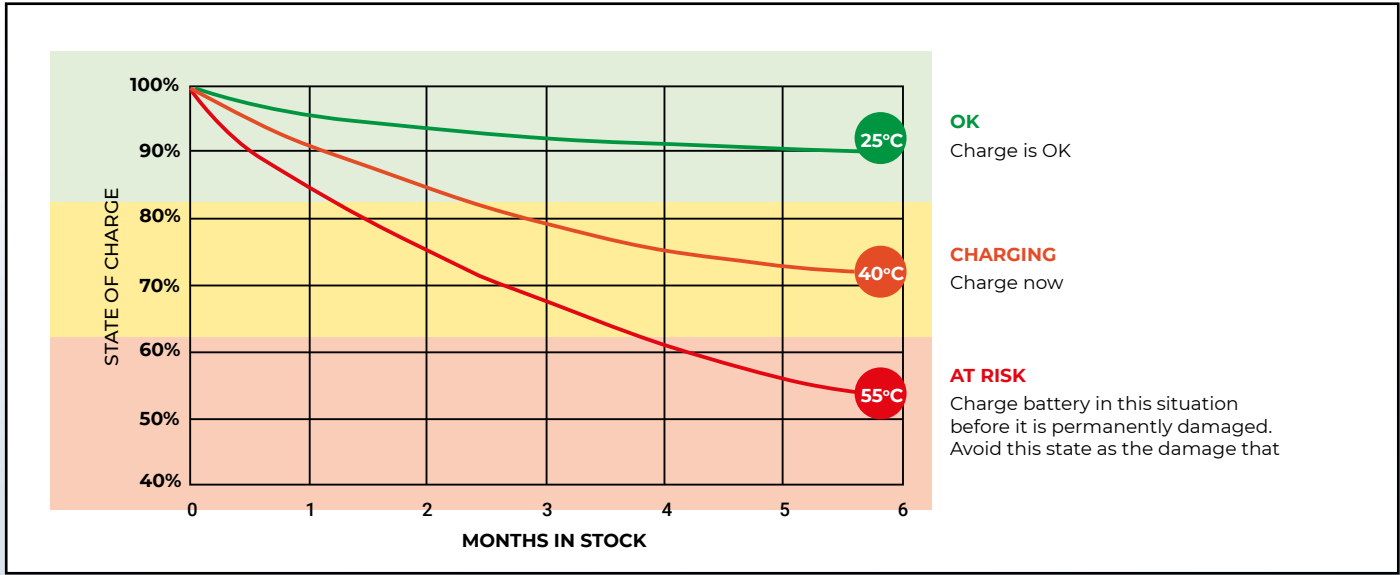
This is important for both distributors and battery users. Distributors have to make sure that the FIFO (first-in, first-out) rule is applied for stock management. At the same time, the voltage of the batteries should be regularly controlled: when the voltage drops to 12.5V, the battery needs to be recharged to avoid shortening the battery's lifespan and introducing performance problems.



VOLT	SoC
12.75V	100%
12.60V	90%
12.48V	80%
12.36V	70%
12.24V	60%
12.12V	50%
12.00V	40%
11.88V	30%
11.76V	20%
11.64V	10%



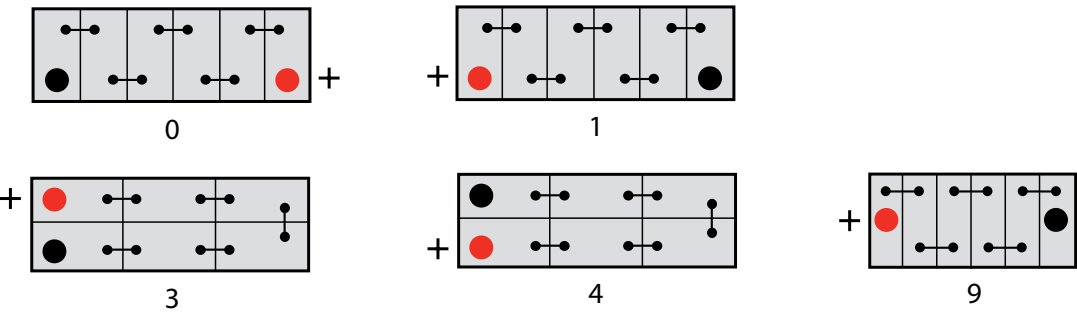
RECHARGING
Charge - Battery below
75% SoC



Cell Assembly Layout

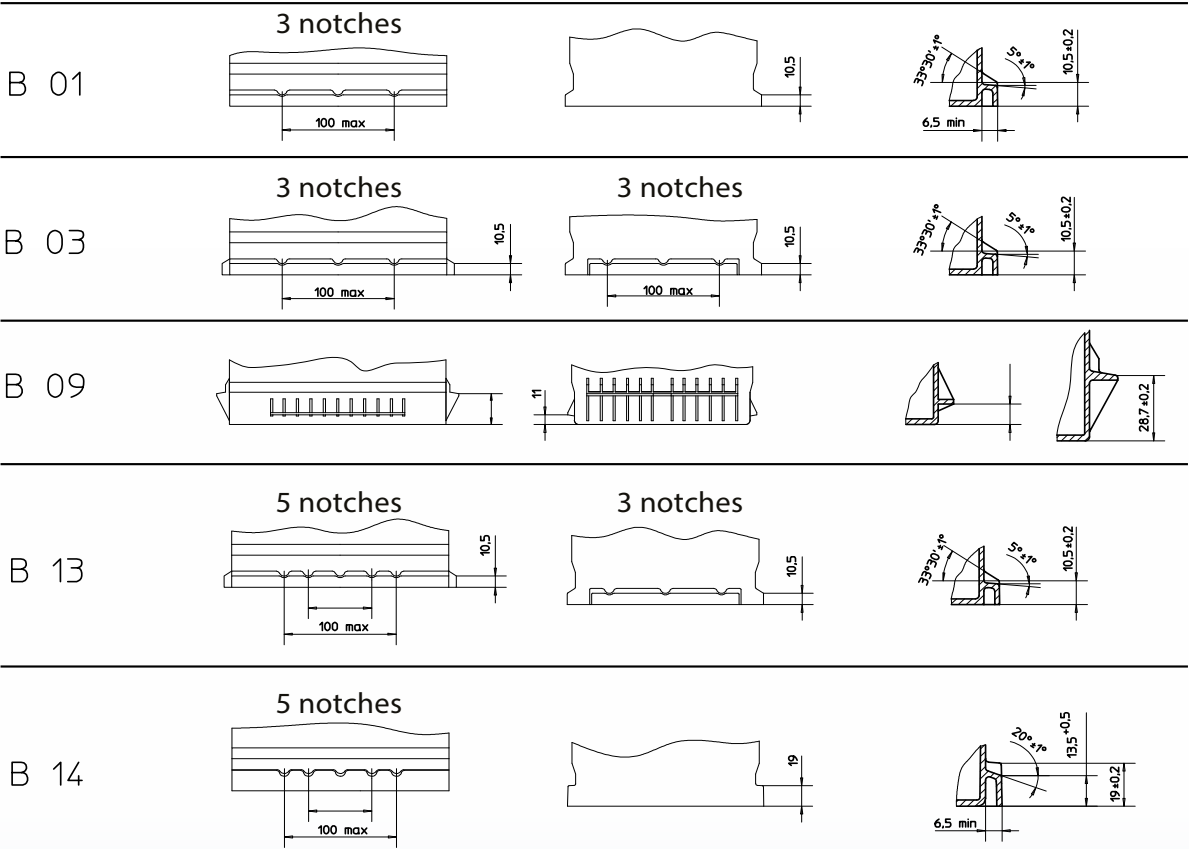
LEGEND

12 Volt

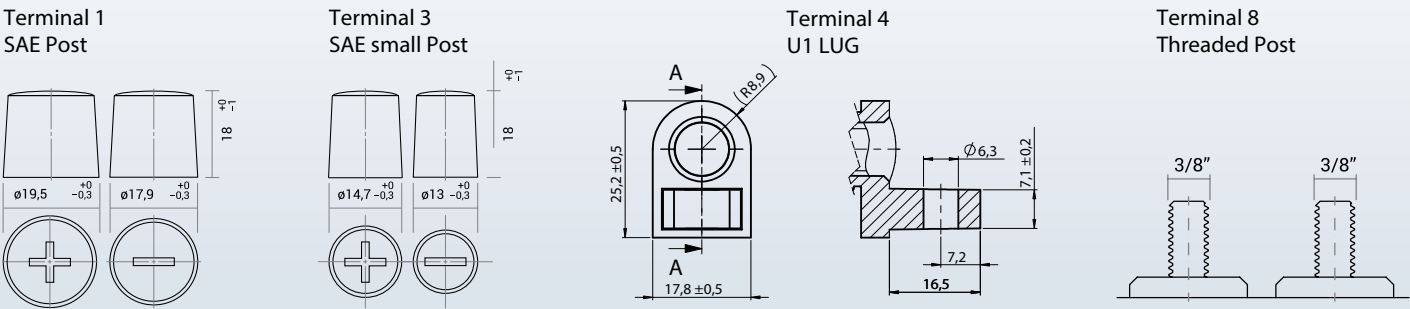


Hold Down

B 00 without hold down



Type of Terminals





RECYCLE WITH

MONBAT®



THE SOURCE OF POWER

HEAD OFFICE

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2024-2025 HIGH HEAT CATALOGUE

ISO 9001

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Intertek



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