

MUTLU BATTERY

YOUR JOURNEY DESERVES BETTER



Automotive - Commercial - Leisure





AUTOMOTIVE

Batteries for Cars and Light Commercial Vehicles



Superior Flooded Battery Technology

Mutlu SFB type batteries are flooded type batteries featuring SLI technology, which are suitable for use in cars of all classes and light commercial vehicles. They meet the starter need of the vehicle and supply necessary energy when the engine is not running.

SFB type batteries are classified as Series 2 and Series 3 with different performance values to meet the electrical needs of vehicles.

SERIES 2

These are the products, which are designed to meet increasing electrical needs of the vehicles, with advanced technology and have a long service life.

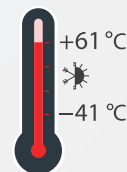
SERIES 3

These are the products, which meet high performance and starter current needs of the vehicles under challenging climate conditions. They feature enhanced performance and have a long service life.

Superior Technical Features



Up to 25% higher performance than standard batteries



Higher performance under extreme climate conditions compared to standard batteries



Patented calcium (Ca) alloy grid technology



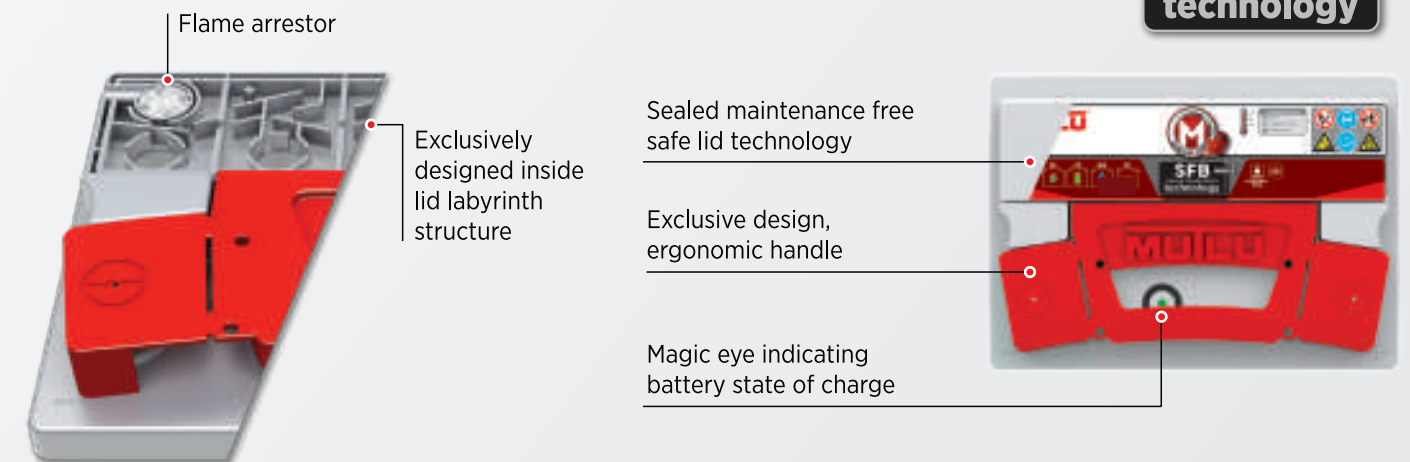
Sealed maintenance free safe lid technology



Advanced active material exclusively formulated for SFB technology

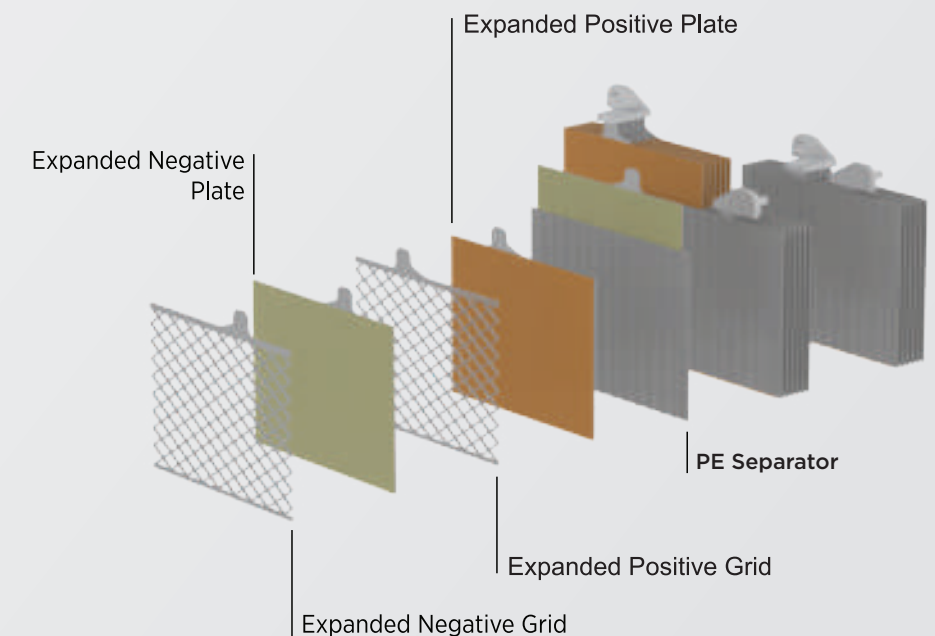
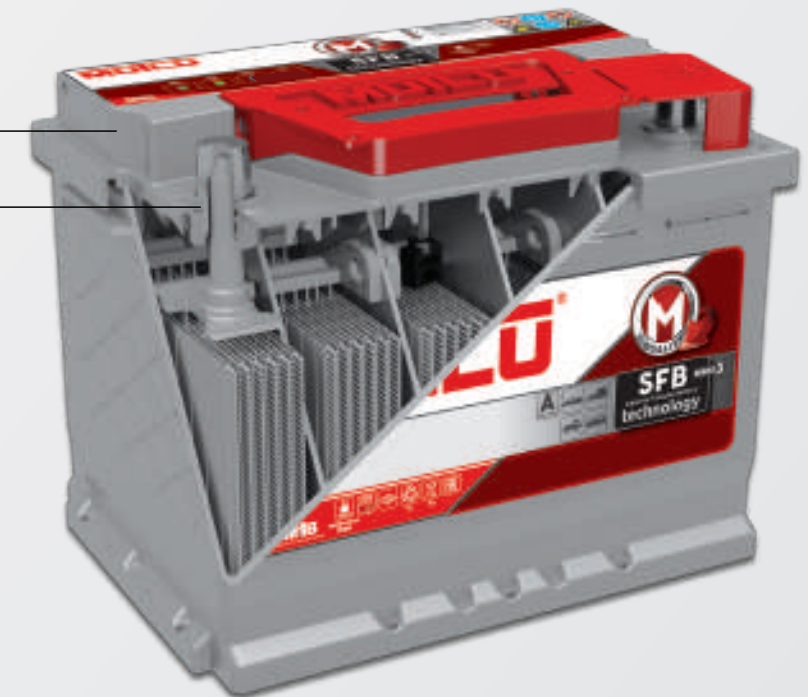


More vibration resistant compared to standard batteries



Post

Terminal



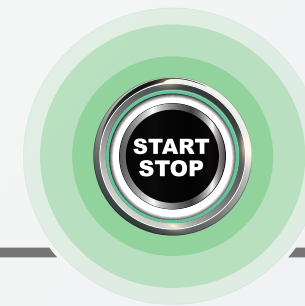


Start-Stop

Start-Stop technology that is designed to reduce fuel consumption and carbon dioxide emissions of vehicles, leads to an increase in the electrical needs of the vehicles. In these systems, batteries with high cycle life and high charging capacity are required to be used. Mutlu Battery's product range offers different types of EFB and AGM batteries suitable for Start-Stop system.



EFB



EFB
Enhanced Flooded Battery
technology

Enhanced Flooded Battery Technology

These are flooded type batteries developed for use in vehicles with Start-Stop technology. Thanks to their reinforced internal structure, they have 2 times longer cycle life and high charging characteristics compared to standard flooded type batteries. Mutlu Battery EFB product line, which is also preferred by vehicle manufacturers, includes batteries suitable for European and Japanese vehicle models.

Superior Technical Features



Quick charge acceptance for Start-Stop technology



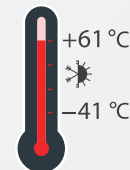
Up to 2 times longer cycle life



Innovative products for Start-Stop vehicles supporting reduced carbon dioxide emission



Up to 30% higher performance than standard batteries



Higher performance under extreme climate conditions compared to standard batteries



Patented calcium (Ca) alloy grid technology



Sealed maintenance free safe lid technology



Advanced active material exclusively designed for micro-hybrid Start-Stop technology

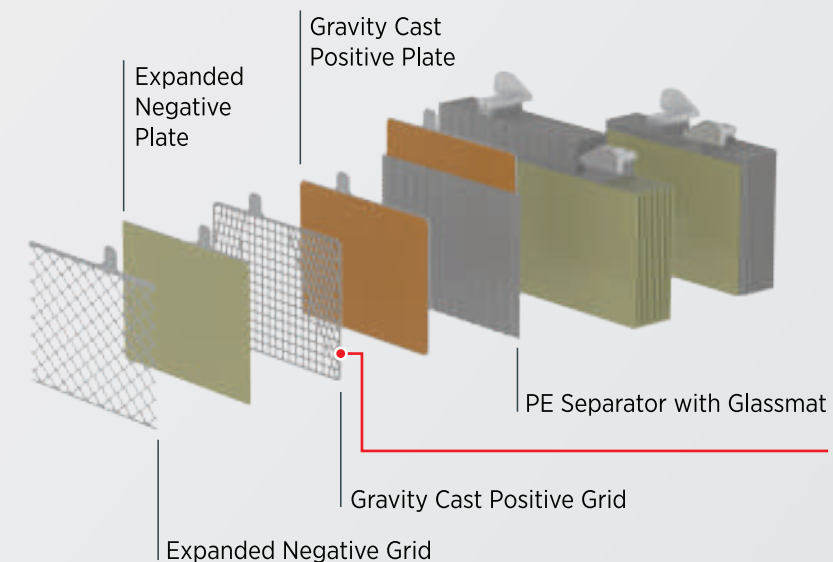
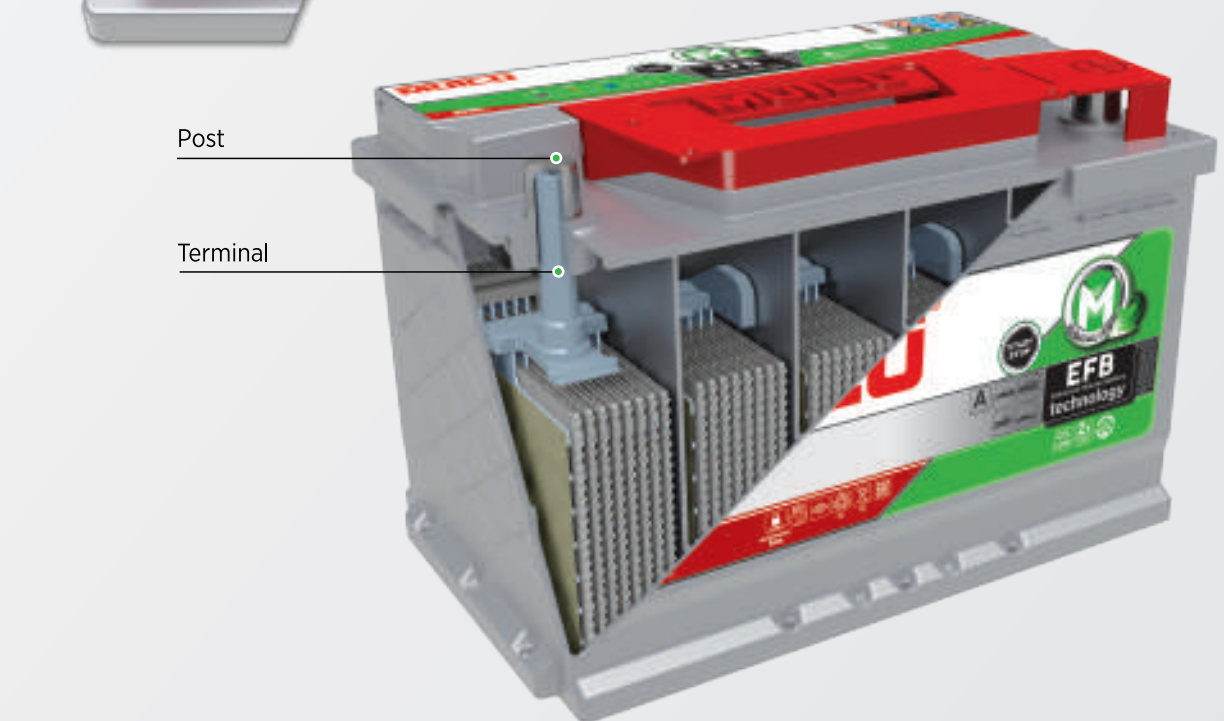


More vibration resistant compared to standard batteries



Post

Terminal

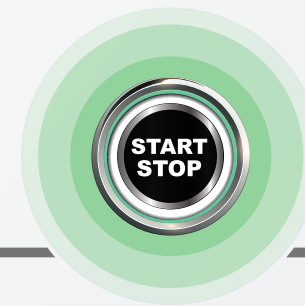


Electrolyte reserve in standard batteries

Electrolyte reserve in MUTLU EFB batteries

Higher endurance and extended cycle life due to advanced fully framed grid technology

AGM



AGM
Absorbent Glass Mat Battery
technology

Absorbent Glass Mat Technology

These are VRLA type batteries developed with AGM technology, which are suitable for use in vehicles featuring advanced Start-Stop technology with regenerative braking system. Thanks to the special internal structure design of AGM batteries and the VRLA technology, they have 3 times longer cycle life and high charging characteristics compared to flooded type batteries. Mutlu Battery AGM product line, which is also preferred by vehicle manufacturers, includes batteries suitable for all types of vehicles.

Superior Technical Features



Quick charge acceptance for Start-Stop technology



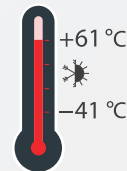
Up to 3 times longer cycle life



Innovative products for Start-Stop vehicles supporting reduced carbon dioxide emission



Up to 40% higher performance than standard batteries



Higher performance under extreme climate conditions compared to standard batteries



Patented calcium (Ca) alloy grid technology



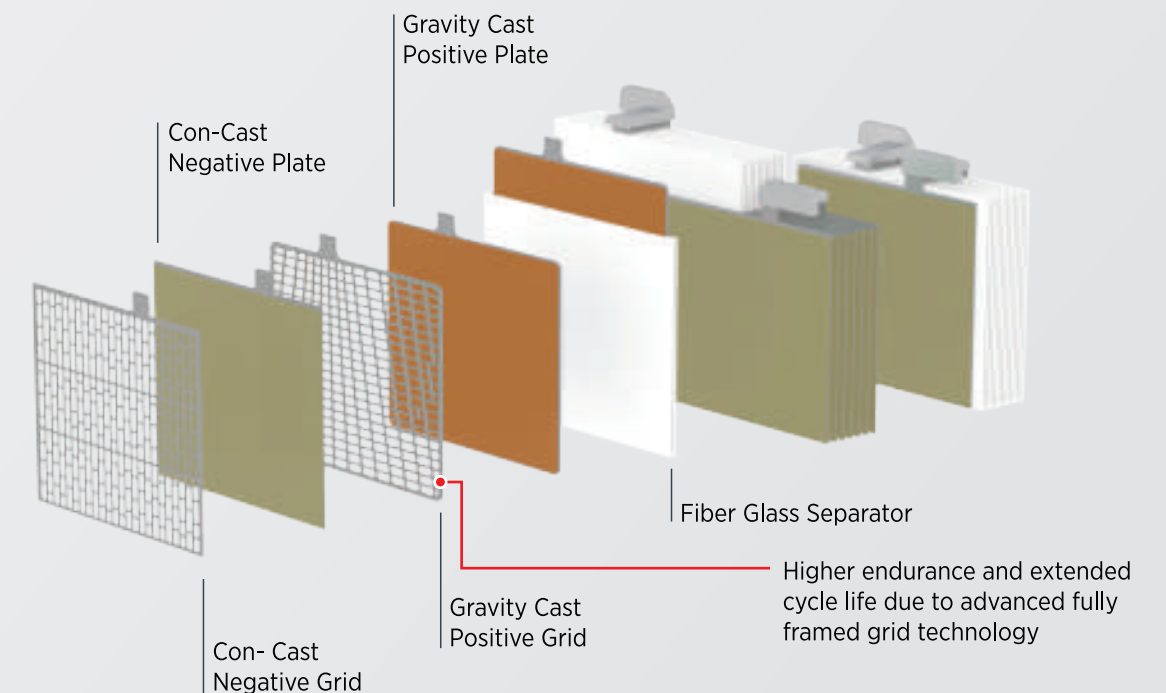
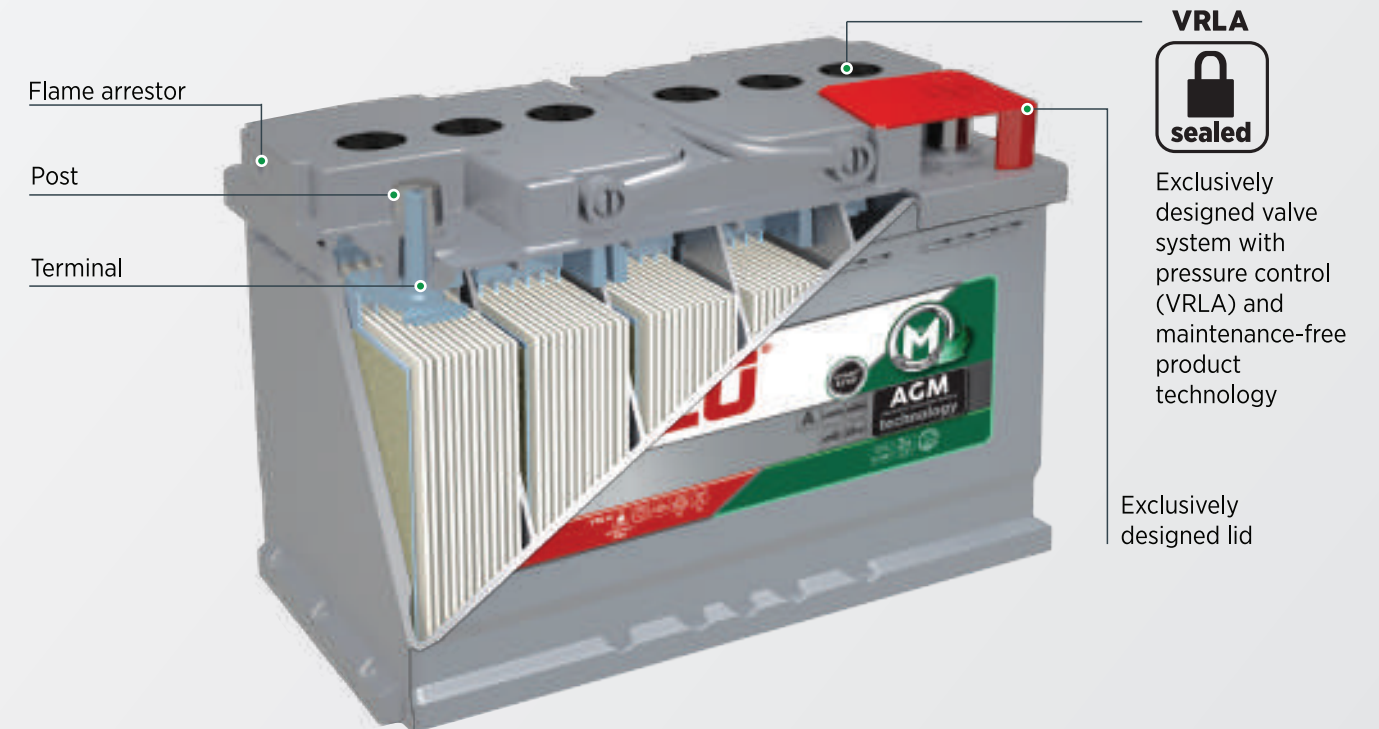
Exclusively designed valve system with pressure control (VRLA) and maintenance-free product technology



Advanced active material exclusively designed for AGM Start-Stop technology

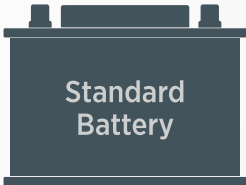


More vibration resistant compared to standard batteries



BATTERY REPLACEMENT CHART

REPLACED BATTERY OF THE VEHICLE

	 Standard Battery	 Start-Stop EFB Battery	 Start-Stop AGM Battery
	✓	✗	✗
	✓	✓	✗
	✗	✗	✓



Replace with same technology battery



Replace with same technology battery

COMMERCIAL

Heavy and Super Heavy Duty Batteries

*EFB batteries are usually placed next to the engine, AGM batteries are placed inside the trunk or under the seat as they are affected by heat.



EFB
Enhanced Flooded Battery
technology



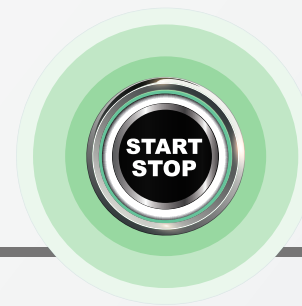
SFB
Superior Flooded Battery
technology



Commercial Batteries

Mutlu Commercial batteries are flooded type batteries featuring EFB and SLI technology, which are suitable for use in commercial vehicles. They meet the starter need of the vehicle and supply necessary energy when the engine is not running. EFB batteries are high performance products developed for use in commercial vehicles featuring Start-Stop technology. SFB batteries, which are suitable for use in standard commercial vehicles, are classified as Series 1, Series 2 and Series 3 with Heavy Duty and Super Heavy Duty groups in order to meet the electrical needs of vehicles.





Enhanced Flooded Battery Technology

These are enhanced flooded type batteries, which are developed to meet the energy needs of commercial vehicles featuring Start-Stop technology. Thanks to their reinforced internal structure, they have 2 times longer cycle life and quick charging characteristics compared to standard flooded type batteries. They feature special lid technology offering high safety with central gas outlet system and flame arrestor features. Thanks to their high vibration resistance, they are maintenance-free, long-lasting batteries suitable for use in severe operating conditions.

EFB batteries can also be preferred in commercial vehicles with standard features for longer use and high performance.

Superior Technical Features



Quick charge acceptance for Start-Stop technology



Up to 2 times longer cycle life



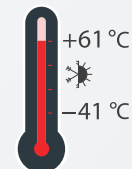
Innovative products for Start-Stop vehicles supporting reduced carbon dioxide emission



Patented, calcium (Ca) alloy grid technology developed for EFB commercial batteries



Active material developed for EFB commercial batteries



Higher performance under extreme climate conditions compared to standard batteries



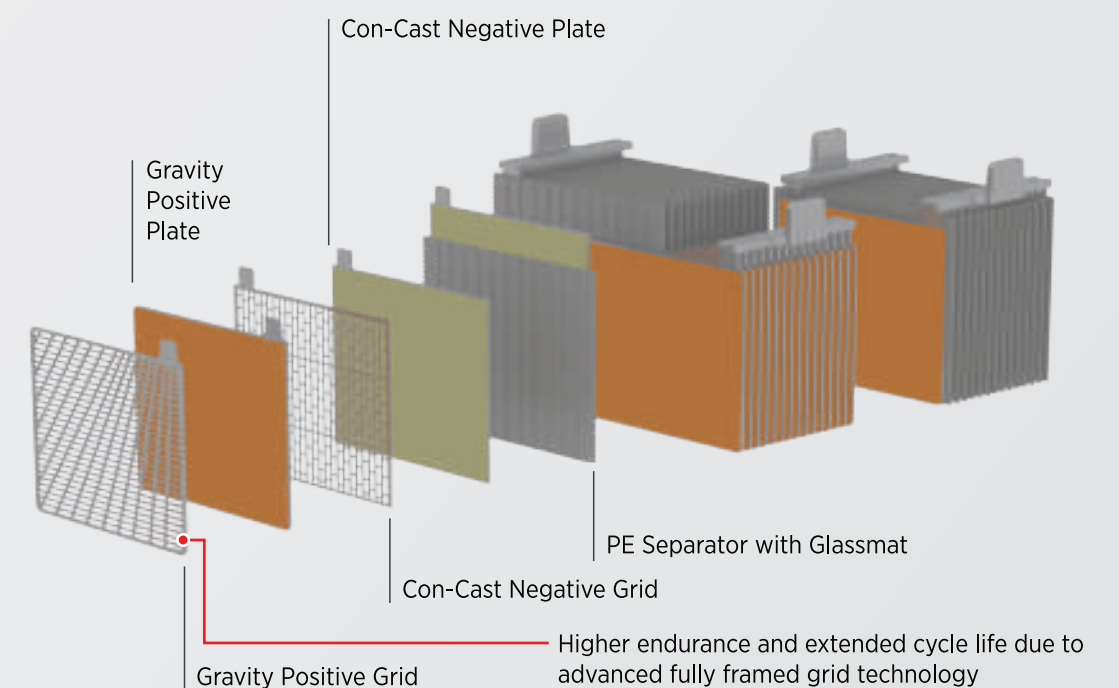
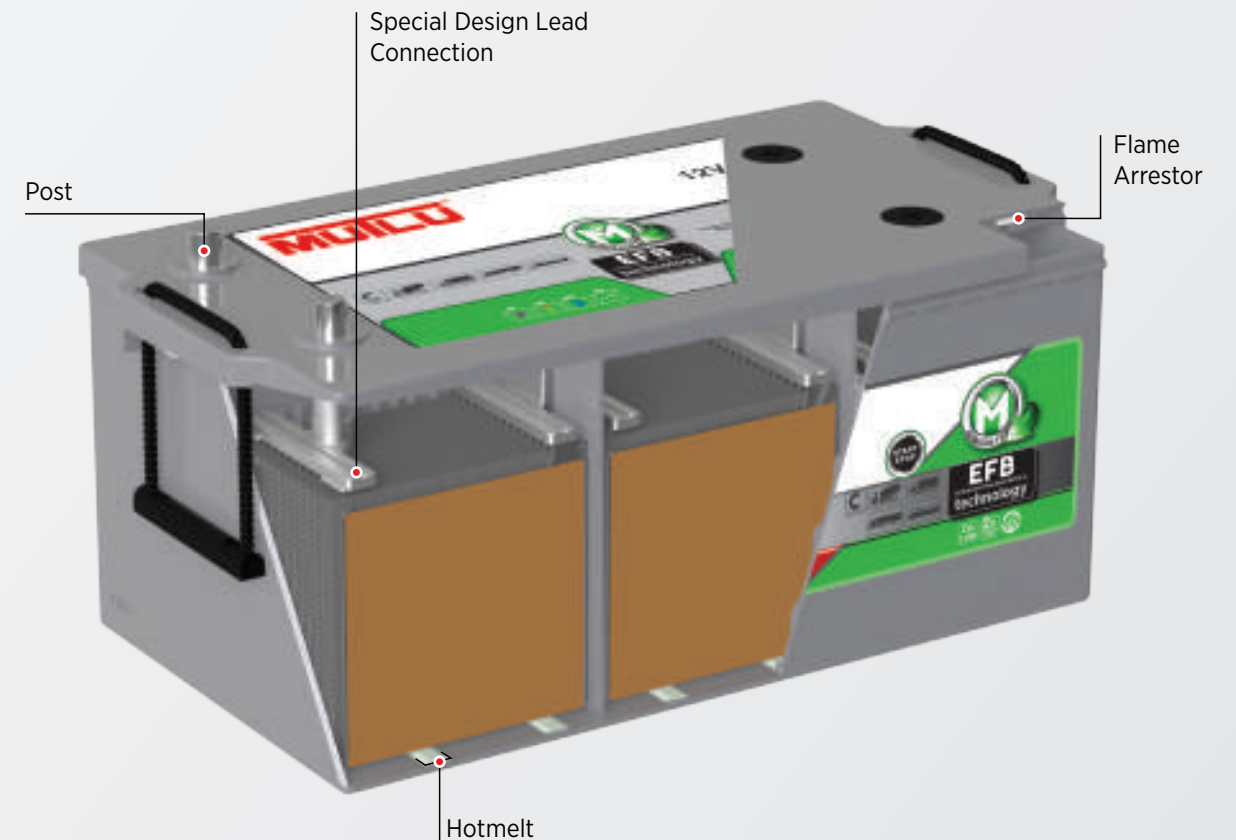
Maintenance-free product technology



Shelf life up to 18 months under suitable conditions



Meets V3 vibration resistance requirements according to EN 50342





Superior Flooded Battery Technology

SERIES 1

These are flooded type batteries manufactured with SLI technology, which are developed to meet the energy needs of commercial and heavy commercial vehicles. They can be used in severe operating conditions thanks to its high vibration resistance. It is maintenance-free with its calcium (Ca) alloy grid structure and does not require extra maintenance service under suitable conditions. They are classified as Heavy Duty and Super Heavy Duty.

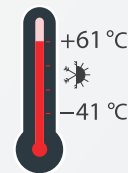
Superior Technical Features



Advanced patented calcium (Ca) alloy grid technology exclusively designed for SFB Series 1 heavy and super heavy duty batteries



Advanced active material designed for SFB Series 1 heavy and super heavy duty commercial batteries



Higher performance under extreme climate conditions compared to standard batteries



Maintenance-free product technology



Shelf life up to 15 months under suitable conditions

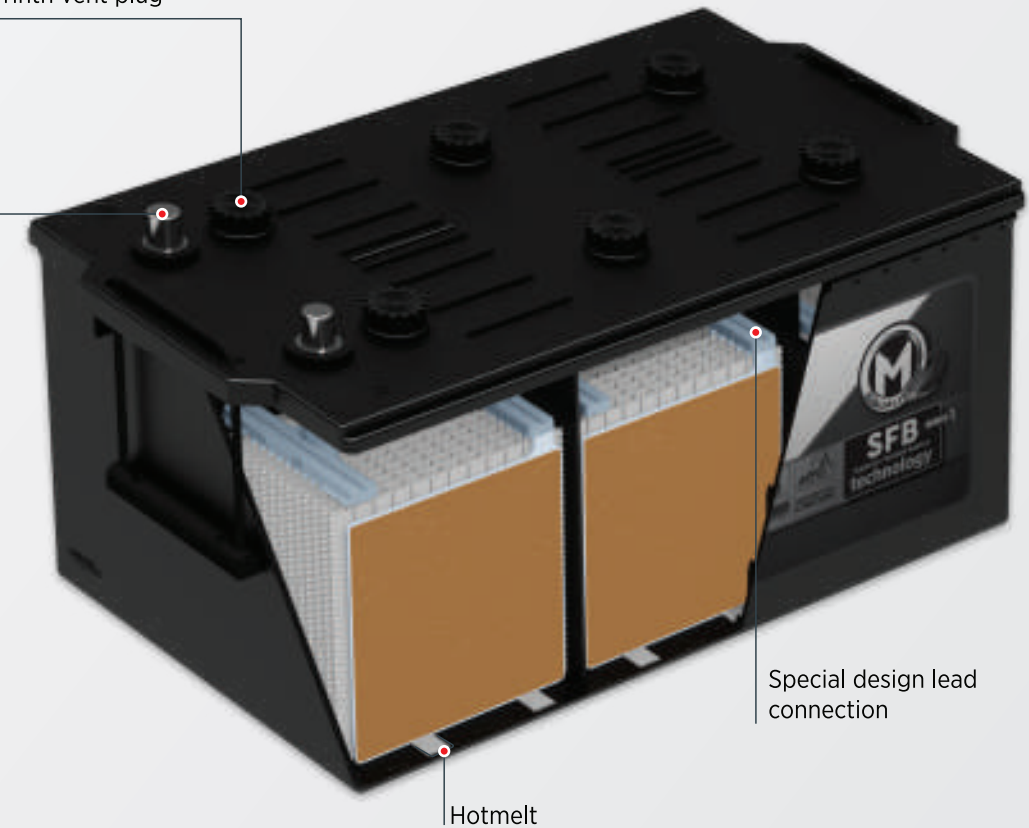


Meets V2 vibration resistance requirements according to EN 50342



Special labyrinth vent plug

Post

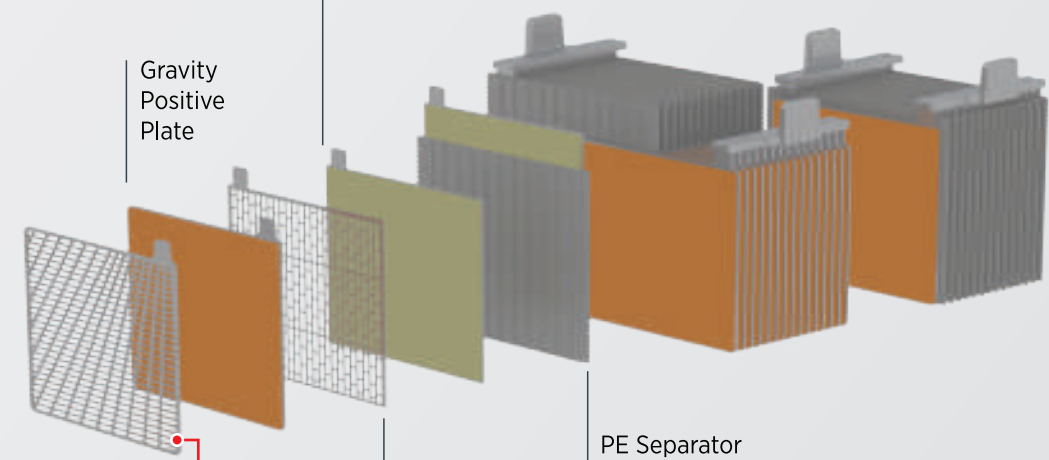


Special design lead connection

Hotmelt

Con-Cast Negative Plate

Gravity Positive Plate



PE Separator

Con-Cast Negative Grid

Gravity Positive Grid

Higher endurance and extended cycle life due to advanced fully framed grid technology



Superior Flooded Battery Technology

SERIES 2

These are flooded type batteries manufactured with SLI technology, which are developed to meet the energy needs of commercial and heavy commercial vehicles.

They can be used in severe operating conditions thanks to its high vibration resistance. It is maintenance-free with its calcium (Ca) alloy grid structure and does not require extra maintenance service under suitable conditions. These are heavy duty batteries featuring special lid technology offering high safety with central gas outlet system and flame arrestor.

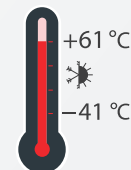
Superior Technical Features



Advanced patented calcium (Ca) alloy grid technology exclusively designed for SFB Series 2 heavy duty commercial batteries



Advanced active material designed for SFB Series 2 heavy duty commercial batteries



Higher performance under extreme climate conditions compared to standard batteries



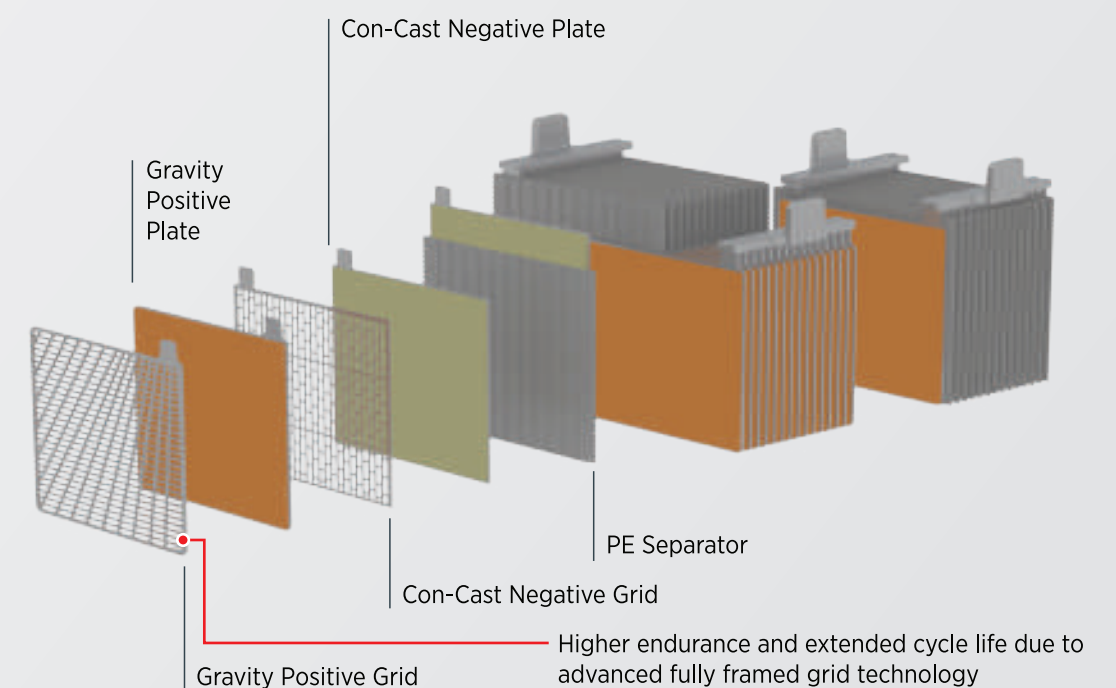
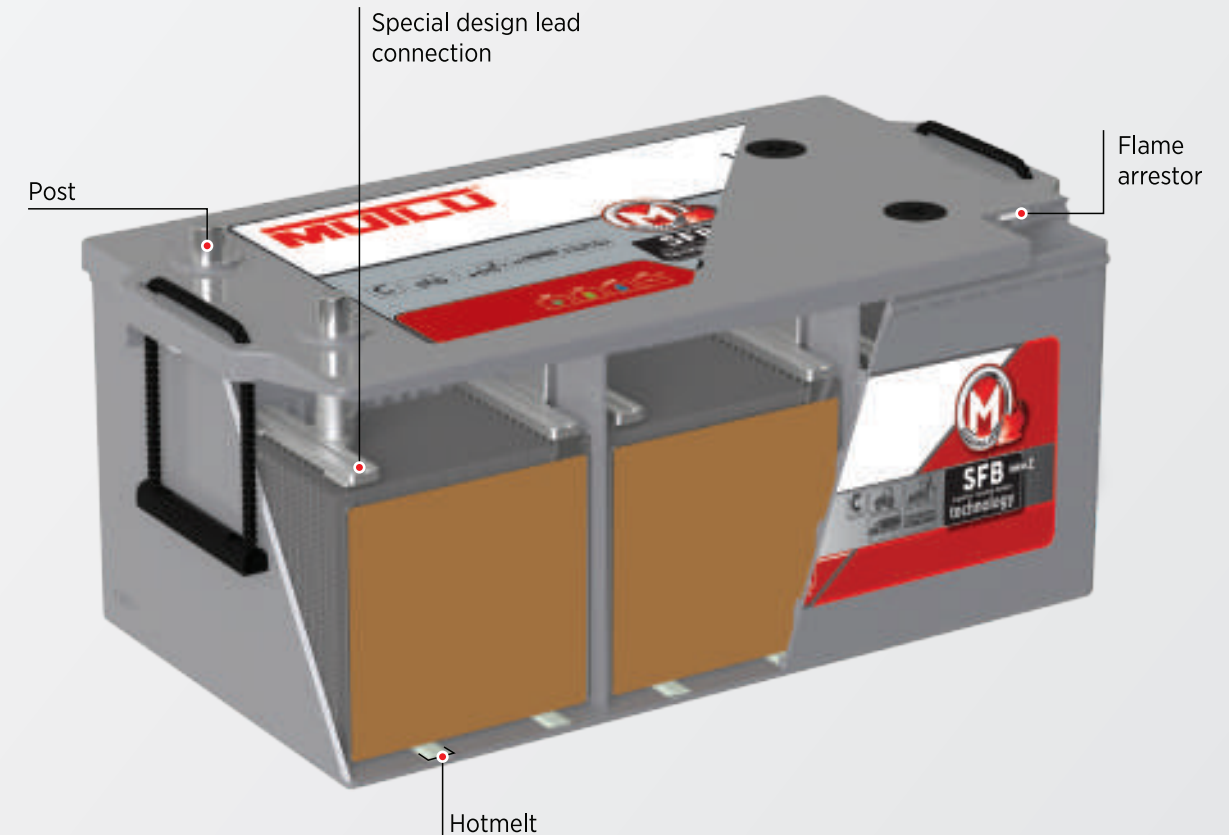
Maintenance-free product technology



Shelf life up to 18 months under suitable conditions



Meets V2 vibration resistance requirements according to EN 50342





Superior Flooded Battery Technology

SERIES 3

These are flooded type batteries manufactured with SLI technology, which are developed to meet the energy needs of commercial and heavy commercial vehicles.

They can be used in severe operating conditions thanks to its high vibration resistance. It is maintenance-free with its calcium (Ca) alloy grid structure and does not require extra maintenance service under suitable conditions. These are Super Heavy Duty type batteries with long cycle life featuring special lid technology offering high safety with central gas outlet system and flame arrestor.

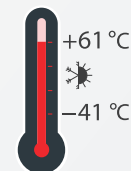
Superior Technical Features



Advanced patented calcium (Ca) alloy grid technology exclusively designed for SFB Series 3 heavy duty commercial batteries



Advanced active material designed for SFB Series 3 super heavy duty commercial batteries



Higher performance under extreme climate conditions compared to standard batteries



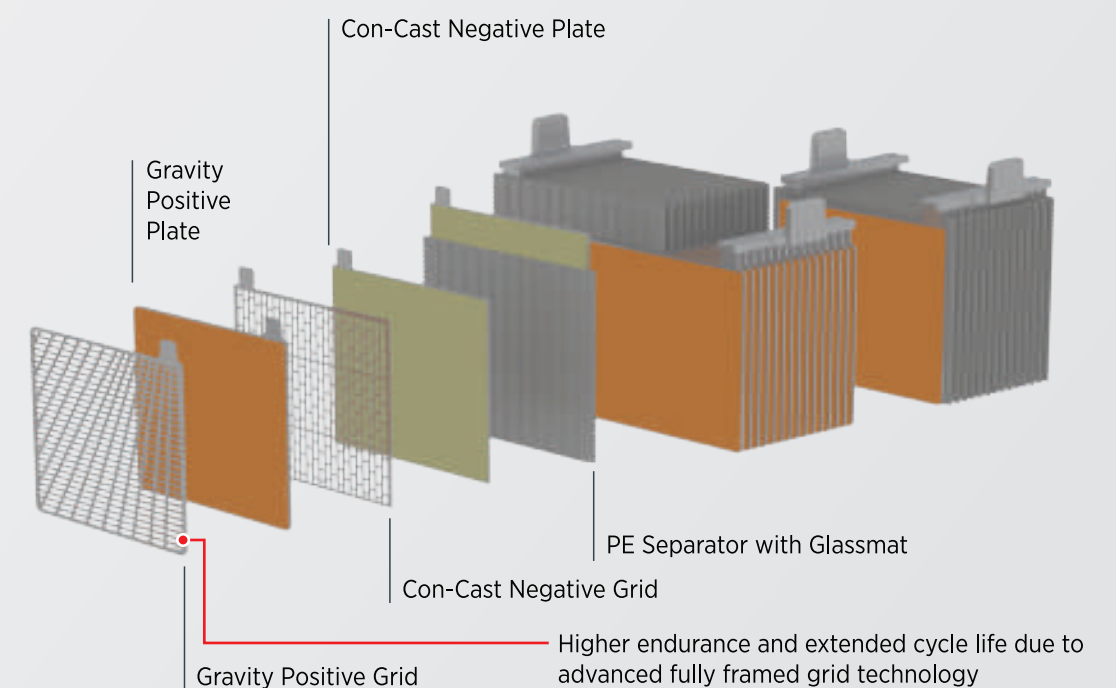
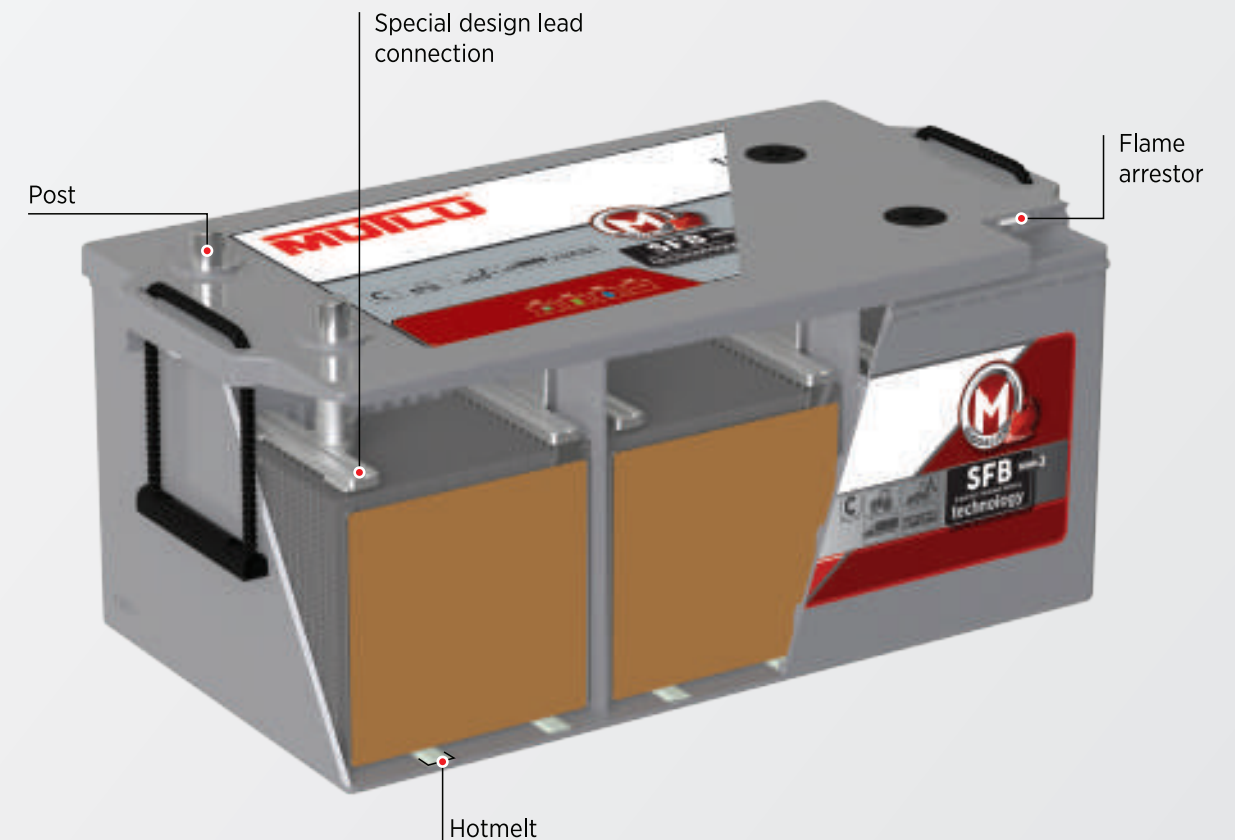
Maintenance-free product technology



Shelf life up to 18 months under suitable conditions



Meets V3 vibration resistance requirements according to EN 50342



SFB



Taxi Batteries

Mutlu SFB Taxi Batteries are enhanced flooded type batteries featuring SLI technology, which are suitable for use in commercial taxis. They meet the starter need of the vehicle and supply necessary energy when the engine is not running. These types of batteries are designed with a high cycle life as they are used more than standard batteries.



SFB

Standard Military Purposes Batteries

SFB Type Military Batteries are flooded type batteries comply to NATO VG95928 standard.

It is suitable for use in extreme climate conditions thanks to its high starting power, reinforced internal structure and impact resistance. It is safe with its special box design made of flame retardant plastic material.



AGM

AGM Military Purposes Batteries

AGM Type Military Batteries are products with VRLA technology, which comply with NATO MIL-STD-810G standards.

It is suitable for use in extreme climate conditions thanks to its high starting power, reinforced internal structure and impact resistance. It is safe with its special box design made of flame retardant plastic material. It is resistant to very high currents thanks to its specially designed brass terminals which are different from standard batteries.



LEISURE

Leisure and Alternative Energy Batteries

Superior Flooded Battery Technology - Marine

Marine Batteries are produced with SLI technology to meet the energy needs of water transportation vehicles. They offer high safety with special lid technology featuring a central gas outlet system and flame arrestor. They offer a longer cycle life than standard batteries thanks to the improved grid alloy, active material and special fiber separators.

Mutlu Marine Batteries are made of flame retardant plastic material and have Turkish Lloyd certificate.

Superior Technical Features



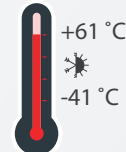
Advanced patented calcium (Ca) alloy grid technology exclusively designed for SFB marine batteries



Advanced active material developed for SFB marine batteries



Spill proof electrolyte system up to 55° tilt angle



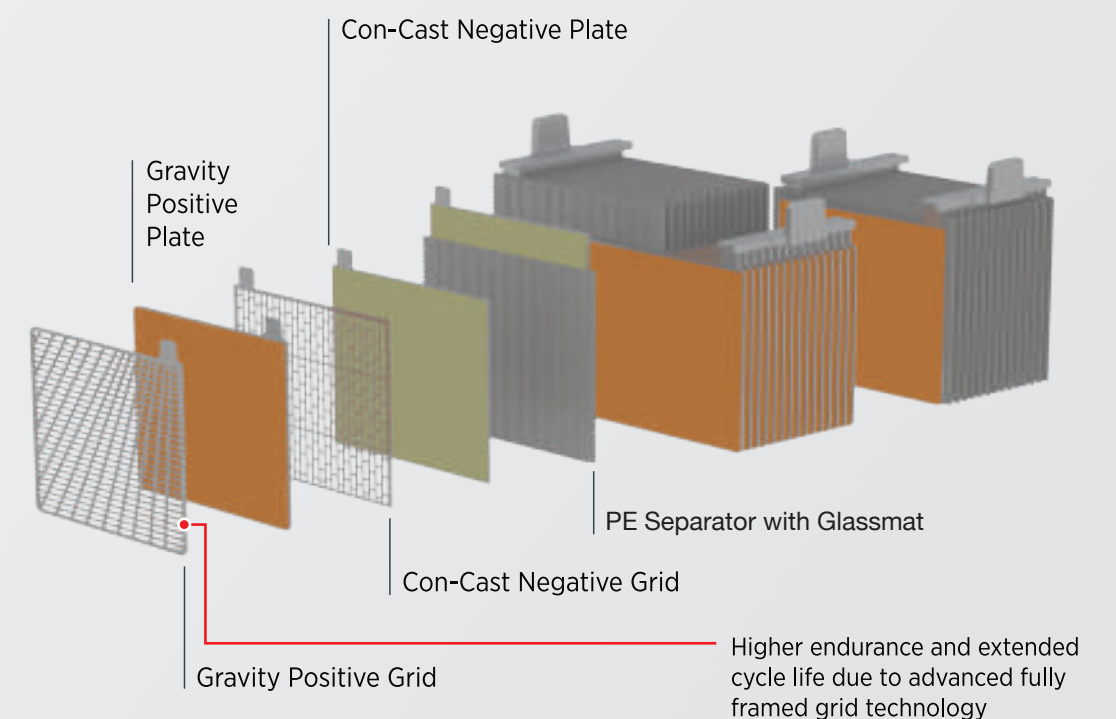
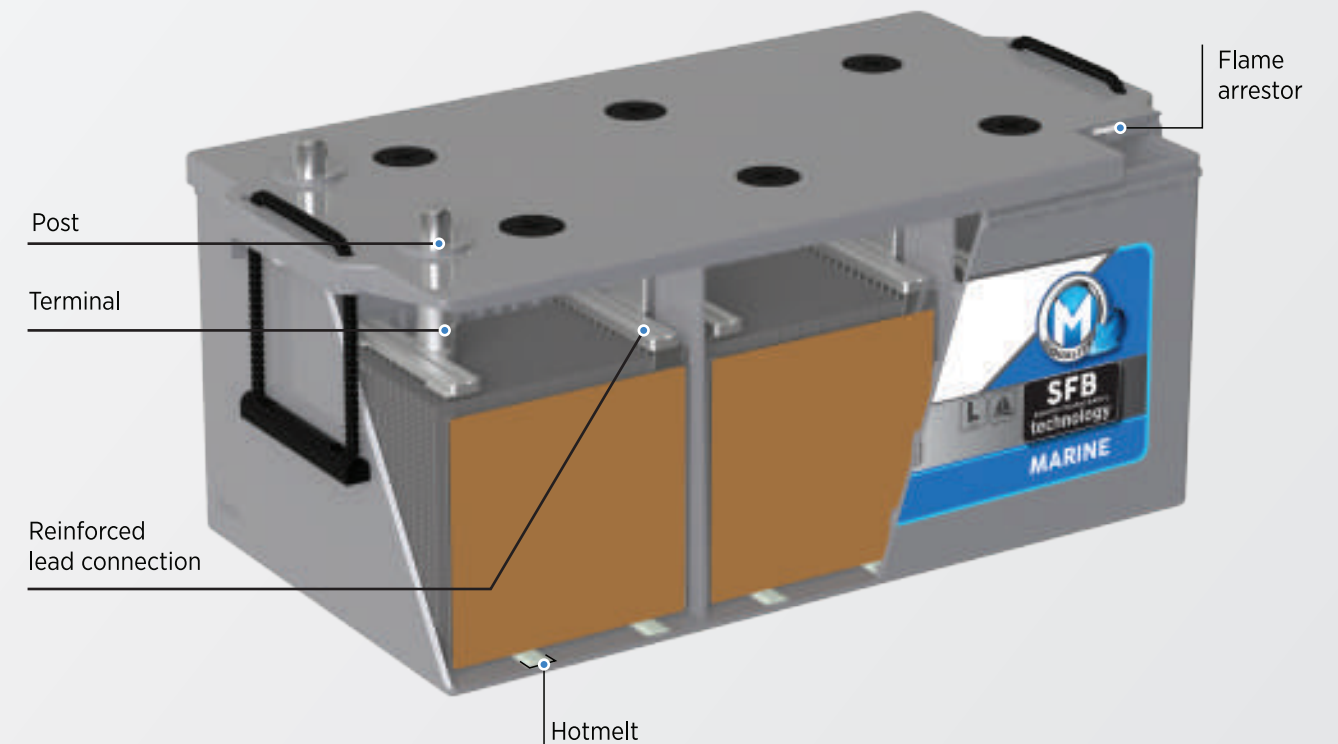
Higher performance under extreme climate conditions compared to standard batteries



Maintenance-free product technology



More vibration resistant



Enhanced Flooded Battery Technology - Full Energy

Full Energy and Solar batteries are the products designed to be used in energy storage solutions, with an advanced internal structure with high cycle life. They are capable of deep cycling up to 50% in high energy consuming applications. They are maintenance-free thanks to calcium (Ca) alloy grid technology. They are suitable for use in cleaning machines, alarm and emergency systems, wheelchairs, lifts, pallet trucks, golf carts and caravans.

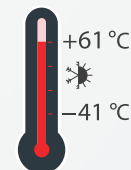
Superior Technical Features



Advanced patented calcium (Ca) alloy grid technology exclusively designed for EFB batteries



Advanced active material developed for EFB batteries



Higher performance under extreme climate conditions compared to standard batteries



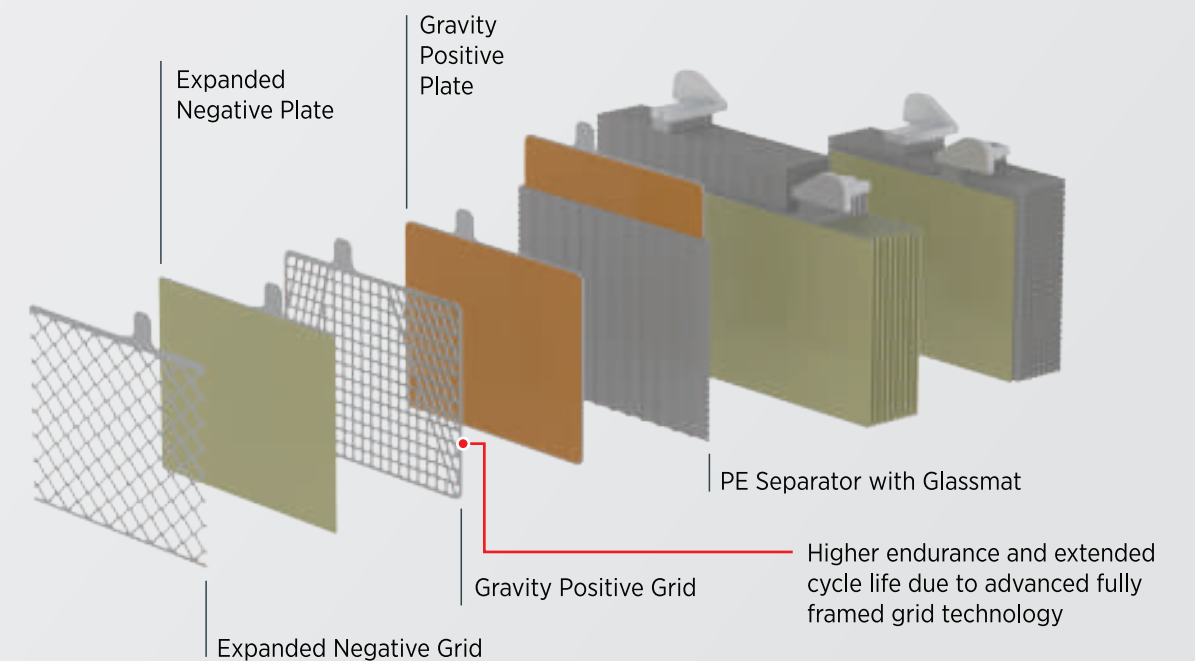
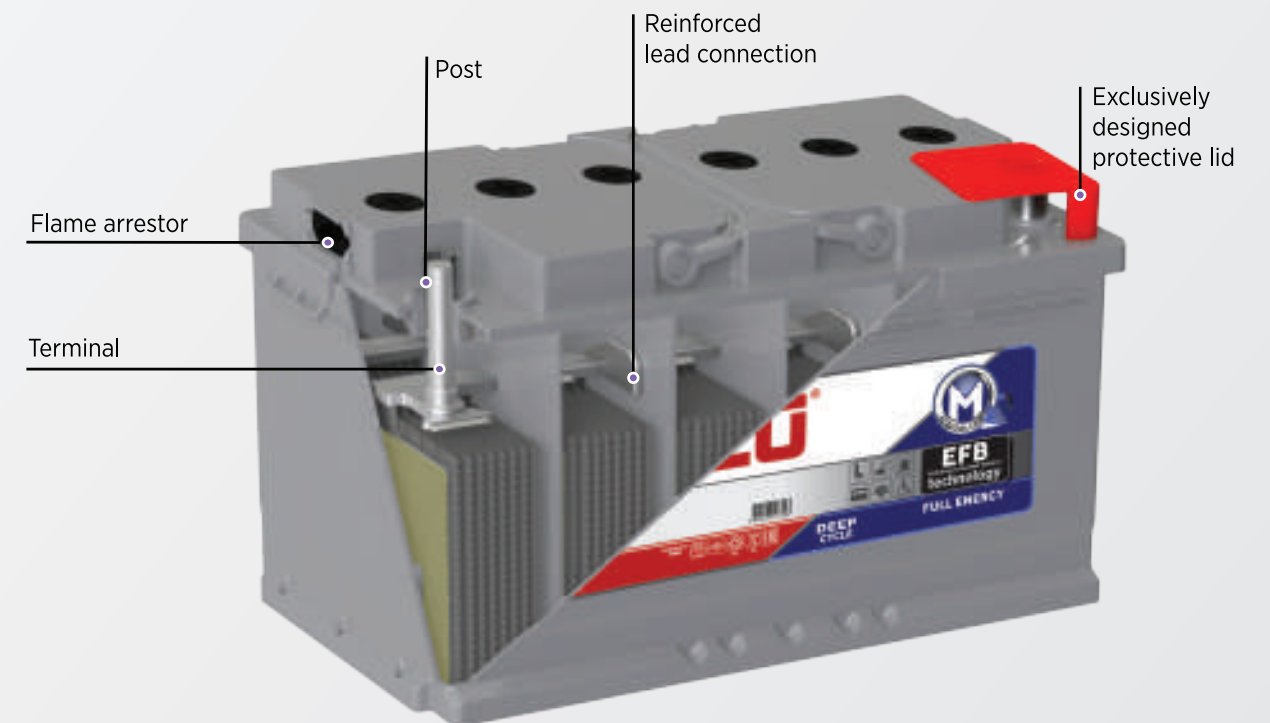
Resistant to deep discharge



Maintenance-free product technology



More vibration resistant



Valve Regulated Lead Acid Technology - GEL

Mutlu GEL Batteries are the products designed to be used in energy storage solutions, which have the longest cycle life among lead-acid batteries. The electrolyte in the battery is in the gel form instead of liquid. Thanks to the VRLA technology, there is no gas release while using the battery and therefore it is suitable for indoor usage. Minimum discharging feature provides maximum shelf life under suitable storage conditions.

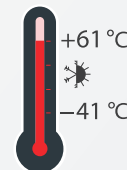
Superior Technical Features



Advanced patented calcium (Ca) alloy grid technology exclusively designed for GEL batteries



Advanced active material developed for GEL batteries



Higher performance under extreme climate conditions compared to standard batteries



Maintenance-free product technology

VRLA



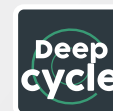
Exclusively designed valve system with pressure control (VRLA)



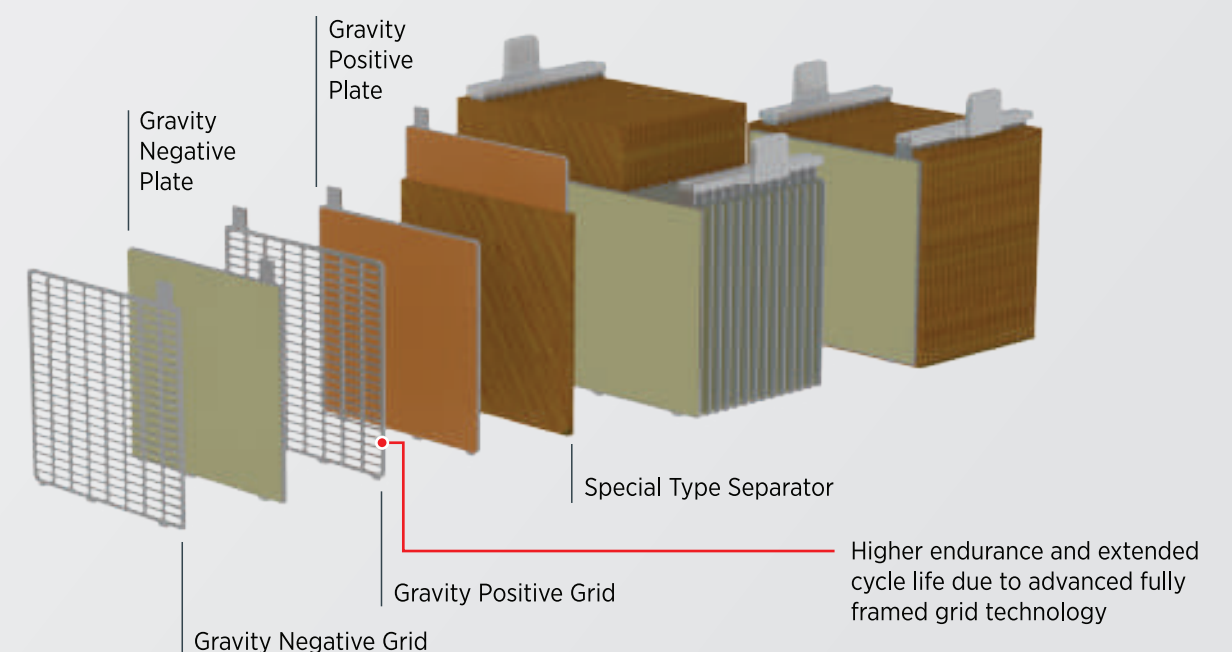
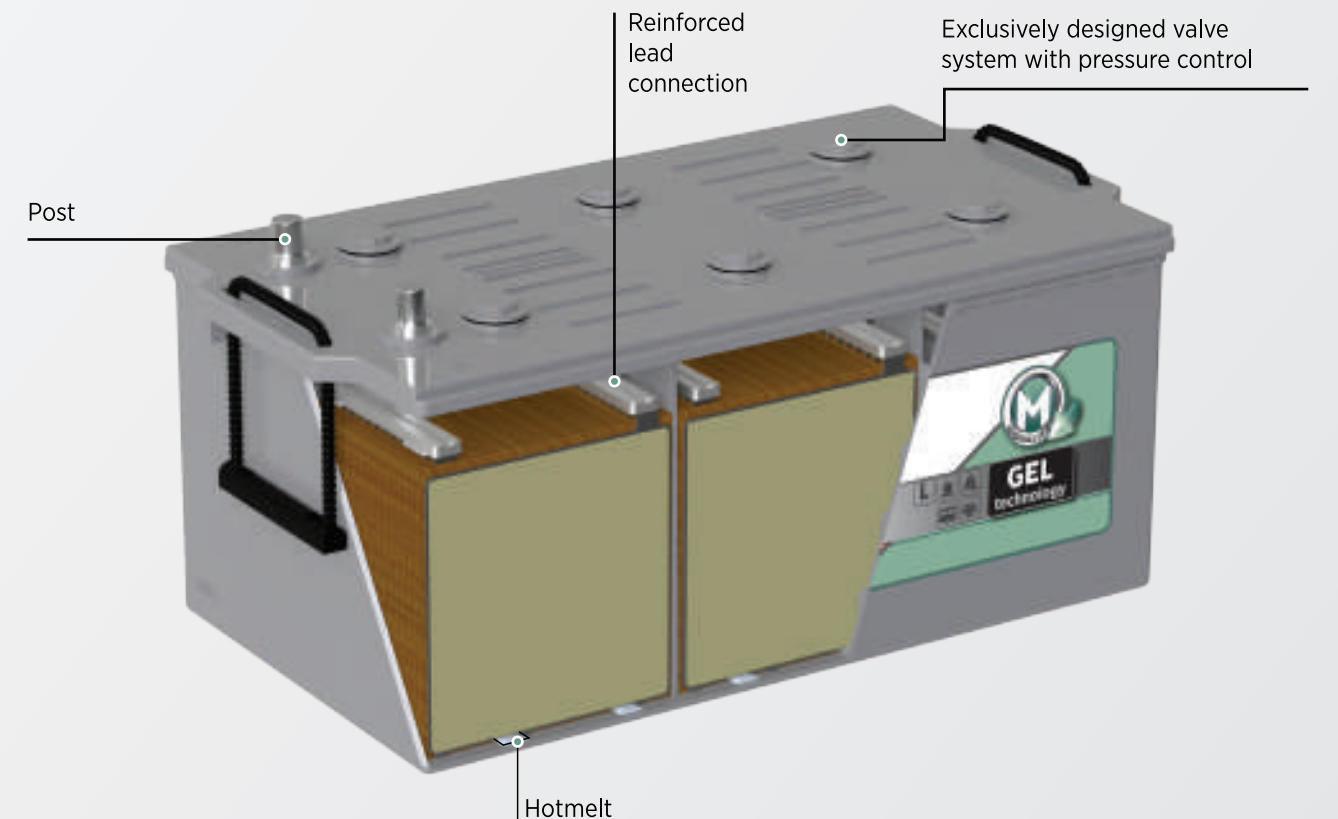
More vibration resistant



Spill proof gel electrolytes



Resistant to deep discharge



THE TECHNOLOGY TRUSTED BY CAR MANUFACTURERS

Many car manufacturers prefer Mutlu Battery, which is developed according to the needs of the vehicles thanks to its experience and innovative production technology.



Since 1945...

MUTLU
BATTERY

LIFESTYLE



Product List



Deep cycle capacity
(Up to 50%)



Reinforced internal structure
with high cycle life

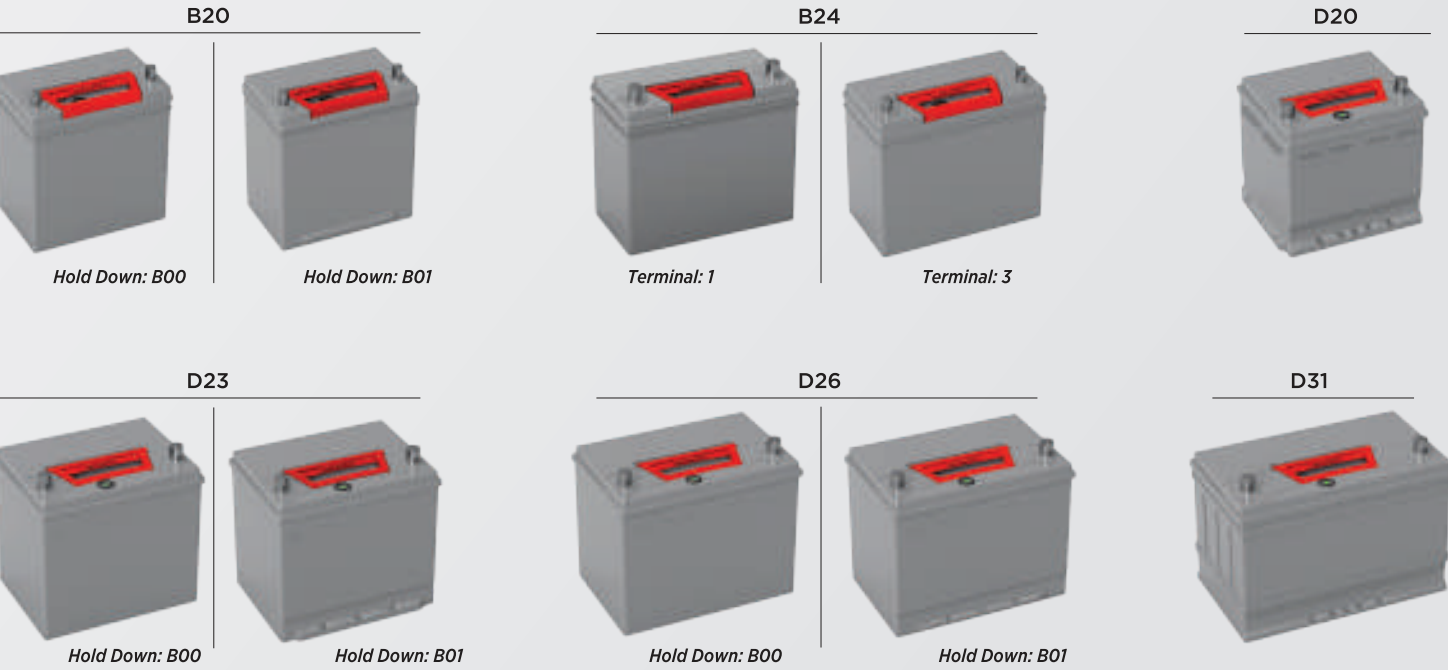


Sealed maintenance free
safe lid technology



SFB SERIES 2 - JAPANESE (JIS) TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
B20 (NS40)	B20.35.028.G	40B19FL	35	280	300	0	3	B01	196	134	202	222	9.6
	B20.35.028.H	40B19FR	35	280	300	1	3	B01	196	134	202	222	9.6
B24 (NS60)	B24.45.030.A	50B24LS	45	300	320	0	1	B00	237	127	201	222	11.6
	B24.45.030.B	50B24RS	45	300	320	1	1	B00	237	127	201	222	11.6
	B24.45.030.E	50B24L	45	300	320	0	3	B00	237	127	201	222	11.6
	B24.45.030.F	50B24R	45	300	320	1	3	B00	237	127	201	222	11.6
	B24.45.036.A	50B24LS	45	360	400	0	1	B00	237	127	201	222	12.1
	B24.45.036.B	50B24RS	45	360	400	1	1	B00	237	127	201	222	12.1
	B24.45.036.E	50B24L	45	360	400	0	3	B00	237	127	201	222	12.1
	B24.45.036.F	50B24R	45	360	400	1	3	B00	237	127	201	222	12.1
D23	D23.60.045.A	55D23L	60	450	480	0	1	B00	232	173	204	225	15.0
	D23.60.045.B	55D23R	60	450	480	1	1	B00	232	173	204	225	15.0
	D23.60.045.C	55D23FL	60	450	480	0	1	B01	232	173	204	225	15.0
	D23.60.045.D	55D23FR	60	450	480	1	1	B01	232	173	204	225	15.0
	D23.60.052.A	55D23L	60	520	550	0	1	B00	232	173	204	225	15.5
	D23.60.052.B	55D23R	60	520	550	1	1	B00	232	173	204	225	15.5
	D23.60.052.C	55D23FL	60	520	550	0	1	B01	232	173	204	225	15.5
	D23.60.052.D	55D23FR	60	520	550	1	1	B01	232	173	204	225	15.5
D26 (N50)	D26.70.054.A	80D26L	70	540	600	0	1	B00	260	173	204	225	17.0
	D26.70.054.B	80D26R	70	540	600	1	1	B00	260	173	204	225	17.0
	D26.70.054.C	80D26FL	70	540	600	0	1	B01	260	173	204	225	17.0
	D26.70.054.D	80D26FR	70	540	600	1	1	B01	260	173	204	225	17.0
	D26.70.063.C	80D26FL	70	630	680	0	1	B01	260	173	204	225	17.4
	D26.70.063.D	80D26FR	70	630	680	1	1	B01	260	173	204	225	17.4
D31 (N70)	D31.80.067.C	95D31FL	80	670	720	0	1	B01	306	175	202	224	20.5
	D31.80.067.D	95D31FR	80	670	720	1	1	B01	306	175	202	224	20.5
	D31.90.066.C	105D31FL	90	660	720	0	1	B01	306	175	202	224	22.0
	D31.90.066.D	105D31FR	90	660	720	1	1	B01	306	175	202	224	22.0
	D31.90.072.C	105D31FL	90	720	750	0	1	B01	306	175	202	224	22.4
	D31.90.072.D	105D31FR	90	720	750	1	1	B01	306	175	202	224	22.4
	D31.100.076.C	115D31FL	100	760	800	0	1	B01	306	175	202	224	23.5
	D31.100.076.D	115D31FR	100	760	800	1	1	B01	306	175	202	224	23.5

SFB SERIES 3 - JAPANESE (JIS) TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
B20 (NS40)	B20.42.035.E	42B19L	42	350	390	0	3	B00	196	134	202	222	10.3
	B20.42.035.F	42B19R	42	350	390	1	3	B00	196	134	202	222	10.3
	B20.42.035.G	42B19FL	42	350	390	0	3	B01	196	134	202	222	10.3
	B20.42.035.H	42B19FR	42	350	390	1	3	B01	196	134	202	222	10.3
B24 (NS60)	B24.55.045.A	55B24LS	55	450	480	0	1	B00	237	127	201	222	13.2
	B24.55.045.B	55B24RS	55	450	480	1	1	B00	237	127	201	222	13.2
	B24.55.045.E	55B24L	55	450	480	0	3	B00	237	127	201	222	13.2
	B24.55.045.F	55B24R	55	450	480	1	3	B00	237	127	201	222	13.2
D20	D20.55.045.C	55D20FL	55	450	480	0	1	B13	203	175	183	202	12.6
	D20.55.045.D	55D20FR	55	450	480	1	1	B13	203	175	183	202	12.6
D23	D23.68.060.C	70D23FL	68	600	650	0	1	B01	232	173	204	225	16.25
	D23.68.060.D	70D23FR	68	600	650	1	1	B01	232	173	204	225	16.25
D26 (N50)	D26.75.064.A	80D26L	75	640	680	0	1	B00	260	173	204	225	17.8
	D26.75.064.B	80D26R	75	640	680	1	1	B00	260	173	204	225	17.8
	D26.75.064.C	80D26FL	75	640	680	0	1	B01	260	173	204	225	17.8
	D26.75.064.D	80D26FR	75	640	680	1	1	B01	260	173	204	225	17.8
	D26.80.066.A	95D26L	80	660	720	0	1	B00	260	173	204	225	19.0
	D26.80.066.B	95D26R	80	660	720	1	1	B00	260	173	204	225	19.0
	D26.80.066.C	95D26FL	80	660	720	0	1	B01	260	173	204	225	19.0
	D26.80.066.D	95D26FR	80	660	720	1	1	B01	260	173	204	225	19.0
D31 (N70)	D31.100.085.C	115D31FL	100	850	900	0	1	B01	306	175	202	224	24.0
	D31.100.085.D	115D31FR	100	850	900	1	1	B01	306	175	202	224	24.0



AUTOMOTIVE

SFB SERIES 2 - EUROPEAN (DIN) TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L0	L0.40.034.A	54018	40	340	360	0	1	B13	175	175	190	190	10.5
	L1.40.033.A	54059	40	330	350	0	1	B13	207	175	190	190	11.5
L1	L1.40.033.B	54064	40	330	350	1	1	B13	207	175	190	190	11.5
	L1.44.036.A	54459	44	360	400	0	1	B13	207	175	190	190	11.7
	L1.44.036.B	54464	44	360	400	1	1	B13	207	175	190	190	11.7
	LB1.40.033.A	54016	40	330	350	0	1	B13	207	175	175	175	11.0
LB1	LB1.40.033.B	54017	40	330	350	1	1	B13	207	175	175	175	11.0
	LB1.44.036.A	54416	44	360	400	0	1	B13	207	175	175	175	11.4
	LB1.44.036.B	54417	44	360	400	1	1	B13	207	175	175	175	11.4
	L2.45.036.A	56019	45	360	400	0	1	B13	242	175	190	190	12.0
L2	L2.45.036.B	56017	45	360	400	1	1	B13	242	175	190	190	12.0
	L2.55.045.A	55559	55	450	480	0	1	B13	242	175	190	190	14.3
	L2.55.045.B	55565	55	450	480	1	1	B13	242	175	190	190	14.3
	L2.60.048.A	56026	60	480	500	0	1	B13	242	175	190	190	14.5
	L2.60.048.B	56027	60	480	500	1	1	B13	242	175	190	190	14.5
	L2.60.051.A	56019	60	510	540	0	1	B13	242	175	190	190	14.6
	L2.60.051.B	56017	60	510	540	1	1	B13	242	175	190	190	14.6
	LB2.55.045.A	55560	55	450	480	0	1	B13	242	175	175	175	13.7
LB2	LB2.55.045.B	55564	55	450	480	1	1	B13	242	175	175	175	13.7
	LB2.60.051.A	56077	60	510	540	0	1	B13	242	175	175	175	14.1
	LB2.60.051.B	56064	60	510	540	1	1	B13	242	175	175	175	14.1
	L3.66.056.A	56638	66	560	600	0	1	B13	278	175	190	190	16.8
L3	L3.66.056.B	56640	66	560	600	1	1	B13	278	175	190	190	16.8
	L3.70.058.A	57058	70	580	620	0	1	B13	278	175	190	190	17.3
	L3.70.058.B	57059	70	580	620	1	1	B13	278	175	190	190	17.3
	L3.72.058.A	57258	72	580	620	0	1	B13	278	175	190	190	17.3
	L3.72.058.B	57259	72	580	620	1	1	B13	278	175	190	190	17.3
	L3.72.064.A	57220	72	640	700	0	1	B13	278	175	190	190	17.7
	L3.72.064.B	57219	72	640	700	1	1	B13	278	175	190	190	17.7
	LB3.66.056.A	56618	66	560	600	0	1	B13	278	175	175	175	16.4
LB3	LB3.66.056.B	56621	66	560	600	1	1	B13	278	175	175	175	16.4
	LB3.72.058.A	57260	72	580	620	0	1	B13	278	175	175	175	17.1
	LB3.72.058.B	57261	72	580	620	1	1	B13	278	175	175	175	17.1
	LB3.72.064.A	57213	72	640	700	0	1	B13	278	175	175	175	17.5
	LB3.72.064.B	57214	72	640	700	1	1	B13	278	175	175	175	17.5
	L4.80.062.A	58062	80	620	680	0	1	B13	315	175	190	190	19.0
L4	L4.80.062.B	58063	80	620	680	1	1	B13	315	175	190	190	19.0
	L4.80.074.A	58043	80	740	780	0	1	B13	315	175	190	190	20.0
	L4.80.074.B	58044	80	740	780	1	1	B13	315	175	190	190	20.0
LB4	LB4.80.074.A	58014	80	740	780	0	1	B13	315	175	175	175	19.4
	LB4.80.074.B	58015	80	740	780	1	1	B13	315	175	175	175	19.4
L5	L5.88.064.A	58838	88	640	700	0	1	B13	353	175	190	190	21.2
	L5.88.064.B	58839	88	640	700	1	1	B13	353	175	190	190	21.2
	L5.90.072.A	59018	90	720	750	0	1	B13	353	175	190	190	21.6
	L5.90.072.B	59019	90	720	750	1	1	B13	353	175	190	190	21.6
	L5.100.083.A	60044	100	830	880	0	1	B13	353	175	190	190	22.8
	L5.100.083.B	60045	100	830	880	1	1	B13	353	175	190	190	22.8
L6	L6.110.085.A	61042	110	850	900	0	1	B13	394	175	190	190	25.0

AUTOMOTIVE

SFB SEIRES 3 - EUROPEAN (DIN) TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L1	L1.50.042.A	55054	50	420	450	0	1	B13	207	175	190	190	12.8
	L1.50.042.B	55055	50	420	450	1	1	B13	207	175	190	190	12.8
	L1.55.054.A	55540	55	540	600	0	1	B13	207	175	190	190	13.3
	L1.55.054.B	55541	55	540	600	1	1	B13	207	175	190	190	13.3
LB1	LB1.50.042.A	55016	50	420	450	0	1	B13	207	175	175	175	12.3
	LB1.50.042.B	55017	50	420	450	1	1	B13	207	175	175	175	12.3
	LB1.55.054.A	55516	55	540	600	0	1	B13	207	175	175	175	13.0
	LB1.55.054.B	55517	55	540	600	1	1	B13	207	175	175	175	13.0
L2	L2.60.054.A	56081	60	540	600	0	1	B13	242	175	190	190	14.9
	L2.60.054.B	56082	60	540	600	1	1	B13	242	175	190	190	14.9
	L2.60.061.A	56083	60	610	650	0	1	B13	242	175	190	190	15.5
	L2.60.061.B	56084	60	610	650	1	1	B13	242	175	190	190	15.5
	L2.63.064.A	56319	63	640	680	0	1	B13	242	175	190	190	15.8
	L2.63.064.B	56317	63	640	680	1	1	B13	242	175	190	190	15.8
LB2	LB2.60.054.A	56054	60	540	600	0	1	B13	242	175	175	175	14.5
	LB2.60.054.B	56055	60	540	600	1	1	B13	242	175	175	175	14.5
	LB2.63.064.A	56360	63	640	680	0	1	B13	242	175	175	175	15.5
	LB2.63.064.B	56361	63	640	680	1	1	B13	242	175	175	175	15.5
L3	L3.75.072.A	57512	75	720	750	0	1	B13	278	175	190	190	18.2
	L3.75.072.B	57513	75	720	750	1	1	B13	278	175	190	190	18.2
	L3.78.078.A	57812	78	780	830	0	1	B13	278	175	190	190	18.8
	L3.78.078.B	57813	78	780	830	1	1	B13	278	175	190	190	18.8
LB3	LB3.75.072.A	57572	75	720	750	0	1	B13	278	175	175	175	17.8
	LB3.75.072.B	57573	75	720	750	1	1	B13	278	175	175	175	17.8
	LB3.78.078.A	57820	78	780	830	0	1	B13	278	175	175	175	18.5
	LB3.78.078.B	57821	78	780	830	1	1	B13	278	175	175	175	18.5
L4	L4.90.085.A	59042	90	850	900	0	1	B13	315	175	190	190	21.5
	L4.90.085.B	59043	90	850	900	1	1	B13	315	175	190	190	21.5
LB4	LB4.85.080.A	58515	85	800	850	0	1	B13	315	175	175	175	20.0
	LB4.85.080.B	58516	85	800	850	1	1	B13	315	175	175	175	20.0
L5	L5.100.090.A	60056	100	900	950	0	1	B13	353	175	190	190	23.2
	L5.100.090.B	60057	100	900	950	1	1	B13	353	175	190	190	23.2
LB5	LB5.95.085.A	59515	95	850	900	0	1	B13	353	175	175	175	22.3
	LB5.95.085.B	59516	95	850	900	1	1	B13	353	175	175	175	22.3
L6	L6.110.092.A	61045	110	920	970	0	1	B13	394	175	190	190	26.2

L0



L1



LB1



L2



LB2



L3



LB3



L4



LB4



L5



LB5



L6



AUTOMOTIVE

EFB - JAPANESE (JIS) TYPE STARTER BATTERIES

Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
B24	EFB.B24.45.036.A	-	45	360	400	0	1	B00	237	127	201	222	13.5
B24	EFB.B24.45.036.E	-	45	360	400	0	3	B00	237	127	201	222	13.5
D23	EFB.D23.64.062.C	-	64	620	650	0	1	B01	232	173	204	225	16.5
D26	EFB.D26.72.076.C	-	72	760	800	0	1	B01	260	173	204	225	18.4
D31	EFB.D31.86.080.C	-	86	800	850	0	1	B01	306	175	202	224	21.7

EFB - EUROPEAN (DIN) TYPE STARTER BATTERIES

Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L1	EFB.L1.50.045.A	-	50	450	480	0	1	B13	207	175	190	190	14.5
L2	EFB.L2.63.060.A	-	63	600	630	0	1	B13	242	175	190	190	16.7
L3	EFB.L3.72.072.A	-	72	720	750	0	1	B13	278	175	190	190	19.1
LB3	EFB.LB3.65.065.A	-	65	650	680	0	1	B13	278	175	175	175	17.9
L4	EFB.L4.84.080.A	-	84	800	850	0	1	B13	315	175	190	190	22.0
LB4	EFB.LB4.75.073.A	-	75	730	760	0	1	B13	315	175	175	175	20.7
L5	EFB.L5.100.085.A	-	100	850	850	0	1	B13	353	175	190	190	23.6

AGM - STARTER BATTERIES

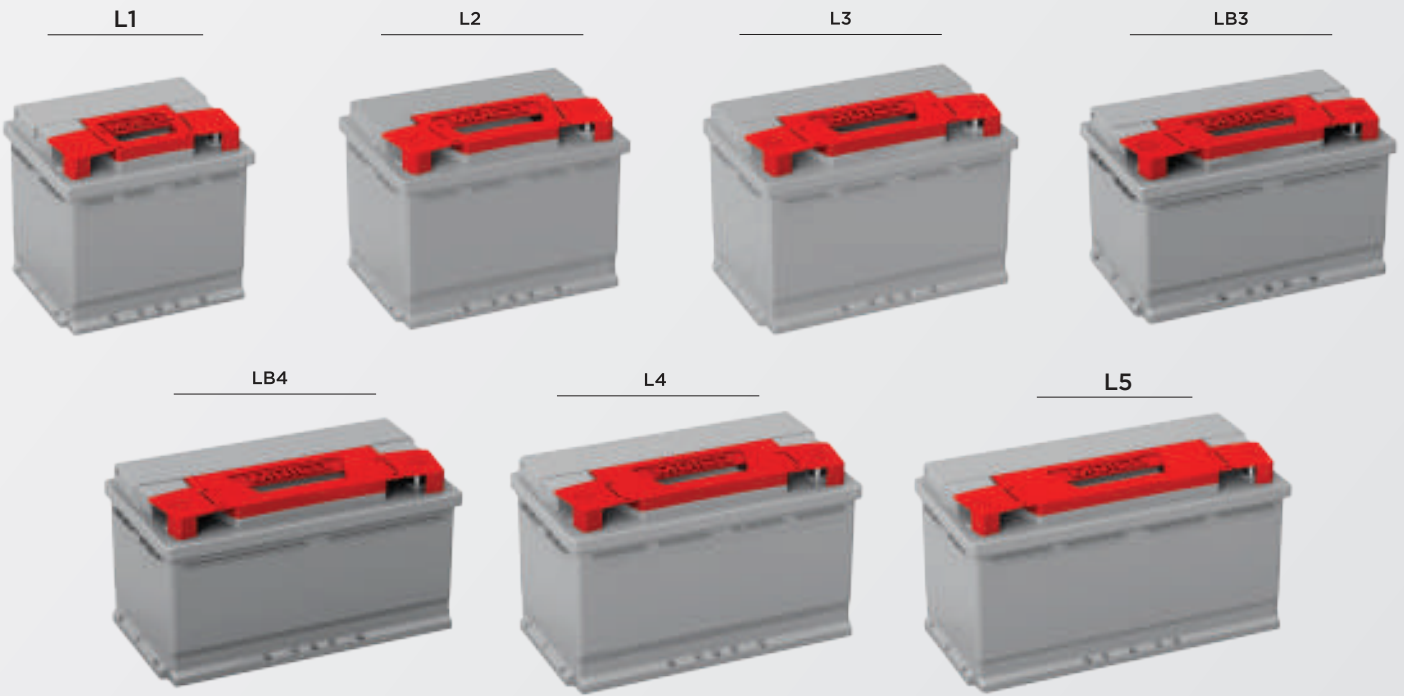
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L1	AGM.L1.50.056.A	-	50	560	560	0	1	B13	207	175	190	190	15.2
L2	AGM.L2.60.068.A	-	60	680	720	0	1	B13	242	175	190	190	18.0
L3	AGM.L3.70.076.A	-	70	760	800	0	1	B13	278	175	190	190	20.5
L4	AGM.L4.80.080.A	-	80	800	850	0	1	B13	315	175	190	190	23.5
L5	AGM.L5.95.090.A	-	95	900	950	0	1	B13	353	175	190	190	26.5

AUTOMOTIVE

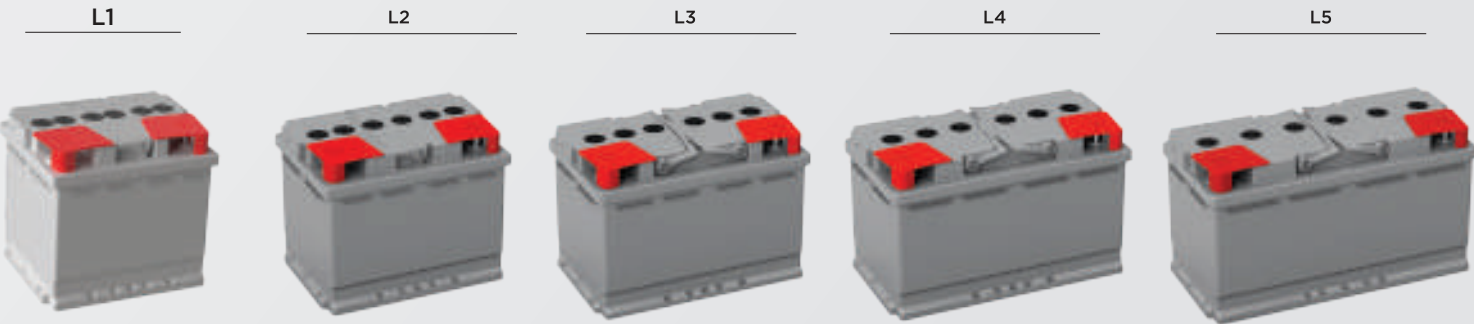
EFB - JAPANESE (JIS) TYPE



EFB - EUROPEAN (DIN) TYPE



AGM



COMMERCIAL

SFB SERIES 1 - HEAVY DUTY TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D26	D26.50.045.A	48D26L	50	450	480	0	1	B00	262	175	200	222	15.0
	D26.50.045.B	48D26R	50	450	480	1	1	B00	262	175	200	222	15.0
C13	C13.105.076.F	60512	105	760	800	0	1	B03	347	175	207	232	26.0
	C13.105.076.G	60513	105	760	800	1	1	B03	347	175	207	232	26.0
D2	D2.115.080.H	61527	115	800	850	0	1	B01	344	175	212	237	28.2
D3	D3.128.090.F	62810	128	900	950	0	1	B00	344	171	262	290	32.0
D4 (Type A)	1D4.120.080.A	62045	120	800	850	3	1	B03	513	189	195	223	33.5
	1D4.120.080.B	62046	120	800	850	3	1	B00	513	189	195	223	33.5
	1D4.135.095.A	63530	135	950	1000	3	1	B03	513	189	195	223	35.7
	1D4.135.095.B	63532	135	950	1000	3	1	B00	513	189	195	223	35.7
D5 (Type B)	1D5.150.100.A	65021	150	1000	1050	3	1	B03	513	223	195	223	40.5
	1D5.150.100.B	65022	150	1000	1050	3	1	B00	513	223	195	223	40.5
	1D5.165.110.A	66514	165	1100	1150	3	1	B03	513	223	195	223	43.2
	1D5.165.110.B	66515	165	1100	1150	3	1	B00	513	223	195	223	43.2
	1D5.180.120.A	68032	180	1200	1250	3	1	B03	513	223	195	223	46.5
	1D5.180.120.B	68033	180	1200	1250	3	1	B00	513	223	195	223	46.5
	1D5.190.125.A	69018	190	1250	1300	3	1	B03	513	223	195	223	47.5
	1D5.190.125.B	69021	190	1250	1300	3	1	B00	513	223	195	223	47.5
D6 (Type C)	1D6.200.125.B	70038	200	1250	1300	3	1	B00	518	273	216	242	55.5
	1D6.225.125.B	72538	225	1250	1300	3	1	B00	518	273	216	242	60.0
	1D6.225.140.B	72538	225	1400	1450	3	1	B00	518	273	216	242	60.5
	1D6.240.150.B	74012	240	1500	1600	3	1	B00	518	273	216	242	61.5

SFB SERIES 1 - SUPER HEAVY DUTY TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D5 (Type B)	1SD5.190.120.A	69019	190	1200	1300	3	1	B03	513	223	195	223	48.5
	1SD5.190.120.B	69020	190	1200	1300	3	1	B00	513	223	195	223	48.5
	1SD5.190.120.I	69026	190	1200	1300	4	1	B00	513	223	195	223	48.5
D6 (Type C)	1SD6.225.125.B	72539	225	1250	1300	3	1	B00	518	273	216	242	59.0
	1SD6.250.145.B	75011	250	1450	1500	3	1	B00	518	273	216	242	63.0

COMMERCIAL

SFB SERIES 1

D26

C13

D2

D3

D4

Hold Down: B03

Hold Down: B00

D5

Hold Down: B03

Hold Down: B00

D6

COMMERCIAL

SFB SERIES 2 - HEAVY DUTY TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
C13	2C13.105.076.F	60527	105	760	800	0	1	B03	347	175	213	235	26.0
	2C13.105.076.G	60528	105	760	800	1	1	B03	347	175	213	235	26.0
GR31	GR31.105.076.D	-	105	760	800	9	1	B00	328	171	220	241	25.0
	GR31.105.076.E	-	105	760	800	9	8	B00	328	171	220	241	25.0
	GR31.105.090.D	-	105	900	950	9	1	B00	328	171	220	241	25.5
	GR31.105.090.E	-	105	900	950	9	8	B00	328	171	220	241	25.5
D4 (Type A)	D4.120.080.A	62047	120	800	850	3	1	B03	513	189	195	223	33.5
	D4.120.080.B	62048	120	800	850	3	1	B00	513	189	195	223	33.5
	D4.135.095.A	63534	135	950	1000	3	1	B03	513	189	195	223	35.7
	D4.135.095.B	63535	135	950	1000	3	1	B00	513	189	195	223	35.7
D5 (Type B)	D5.150.100.A	65023	150	1000	1050	3	1	B03	513	223	195	223	40.5
	D5.150.100.B	65024	150	1000	1050	3	1	B00	513	223	195	223	40.5
	D5.165.110.A	66516	165	1100	1150	3	1	B03	513	223	195	223	43.2
	D5.165.110.B	66517	165	1100	1150	3	1	B00	513	223	195	223	43.2
	D5.180.120.A	68034	180	1200	1250	3	1	B03	513	223	195	223	46.5
	D5.180.120.B	68035	180	1200	1250	3	1	B00	513	223	195	223	46.5
	D5.190.125.A	69022	190	1250	1300	3	1	B03	513	223	195	223	47.5
	D5.190.125.B	69023	190	1250	1300	3	1	B00	513	223	195	223	47.5
D6 (Type C)	D6.200.125.B	70040	200	1250	1300	3	1	B00	518	273	216	242	55.5
	D6.225.125.B	72540	225	1250	1300	3	1	B00	518	273	216	242	60.0
	D6.225.140.B	72540	225	1400	1450	3	1	B00	518	273	216	242	60.5
	D6.240.150.B	74013	240	1500	1600	3	1	B00	518	273	216	242	61.5

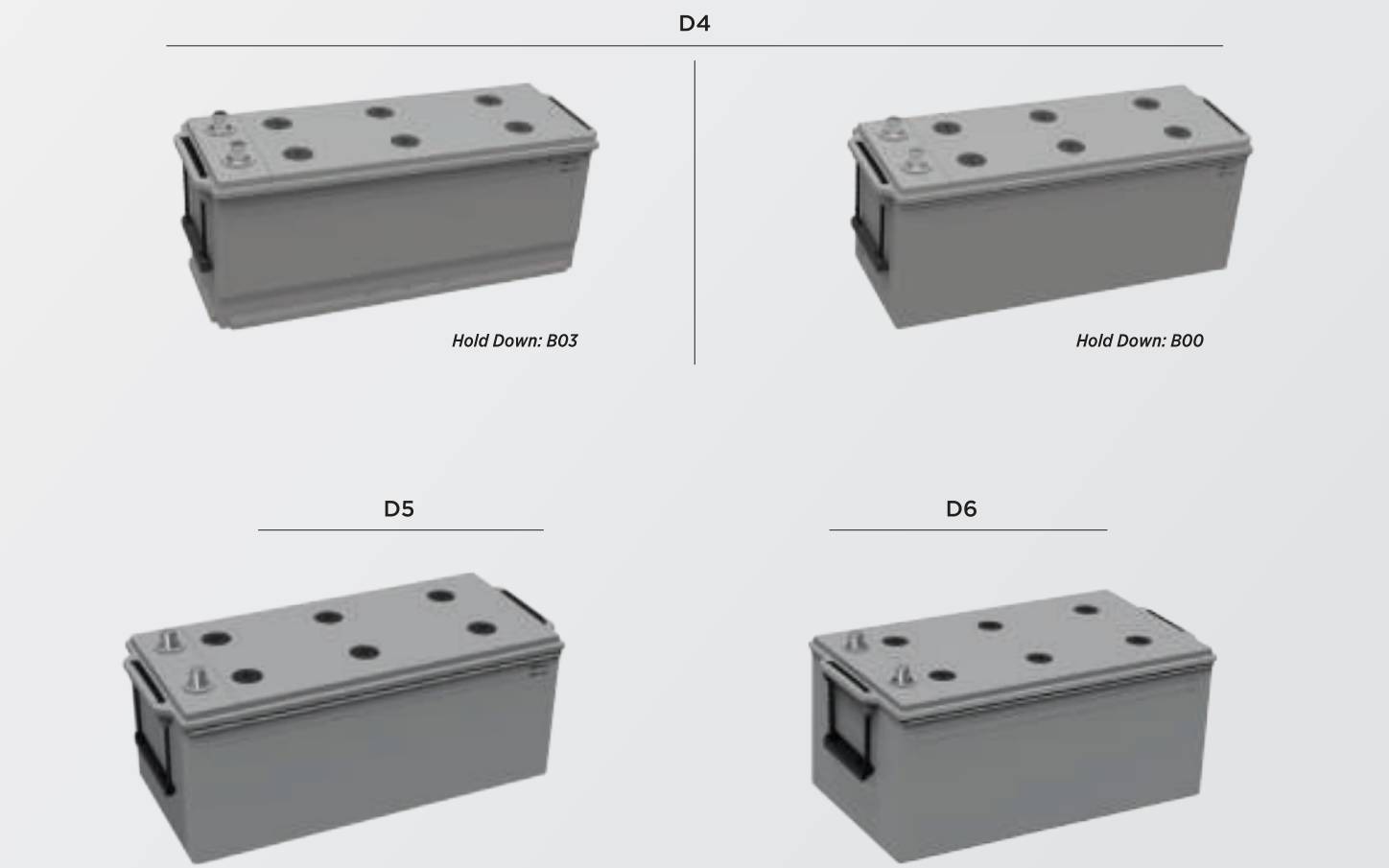
SFB SERIES 2 & 3



COMMERCIAL

SFB SERIES 3 - SUPER HEAVY DUTY TYPE STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
GR31	GR31.115.100.D	-	115	1000	1050	9	1	B00	328	171	220	241	26.5
	GR31.115.100.E	-	115	1000	1050	9	8	B00	328	171	220	241	26.55
D4 (Type A)	D4.145.095.A	64537	145	950	1000	3	1	B03	513	189	195	223	38.0
	SD4.145.095.B	64538	145	950	1000	3	1	B00	513	189	195	223	38.0
D5 (Type B)	SD5.190.120.A	69024	190	1200	1300	3	1	B03	513	223	195	223	48.5
	SD5.190.120.B	69025	190	1200	1300	3	1	B00	513	223	195	223	48.5
D6 (Type C)	SD6.200.120.B	70041	200	1200	1250	3	1	B00	518	273	216	242	55.0
	SD6.225.125.B	72541	225	1250	1300	3	1	B00	518	273	216	242	59.0
	SD6.250.145.B	75012	250	1450	1500	3	1	B00	518	273	216	242	63.0

SFB SERIES 2 & 3

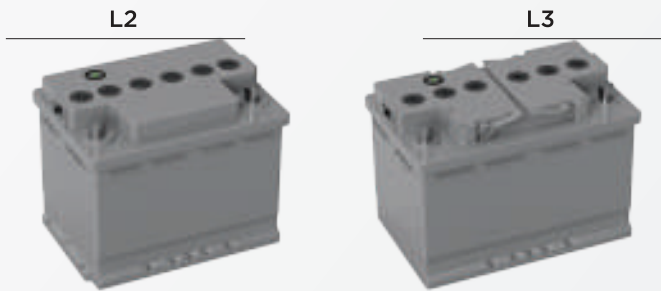


COMMERCIAL

EFB - STARTER BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D5	EFB.D5.190.120.B	-	190	1200	1250	3	1	B00	513	223	195	223	50
D6	EFB.D6.240.125.B	-	240	1250	1300	3	1	B00	518	273	216	242	65.5

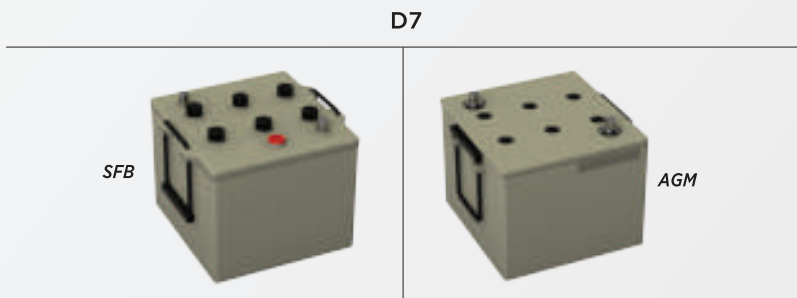


SFB TAXI BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L2	TAXI.L2.65.054.A	-	65	540	570	0	1	B13	242	175	190	190	16.6
L3	TAXI.L3.72.057.C	-	72	570	600	0	1	B01	275	175	190	190	19.0



SFB - MILITARY PURPOSES BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D7	D7.100.072.C	-	100	720	750	2	1	B00	286	269	208	230	30.5
	D7.125.090.C	-	125	900	950	2	1	B00	286	269	208	230	36.5

AGM - MILITARY PURPOSES BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D7	AGM.D7.120.120.C	-	120	1200	1300	2	1	B00	286	270	208	230	39.5



TAXI



Up to 2 times longer cycle life compared to standard batteries



Higher performance under extreme climate conditions

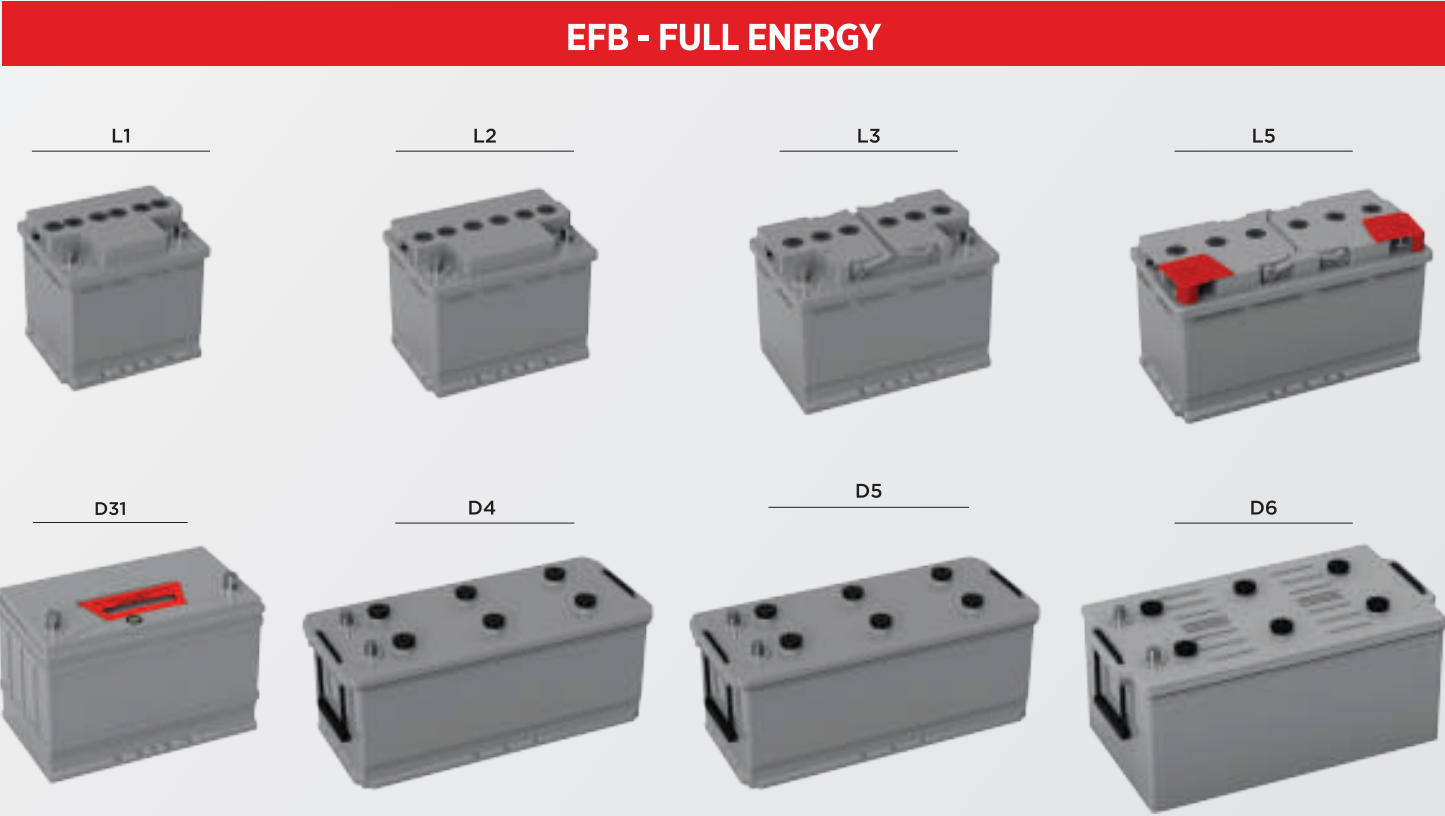
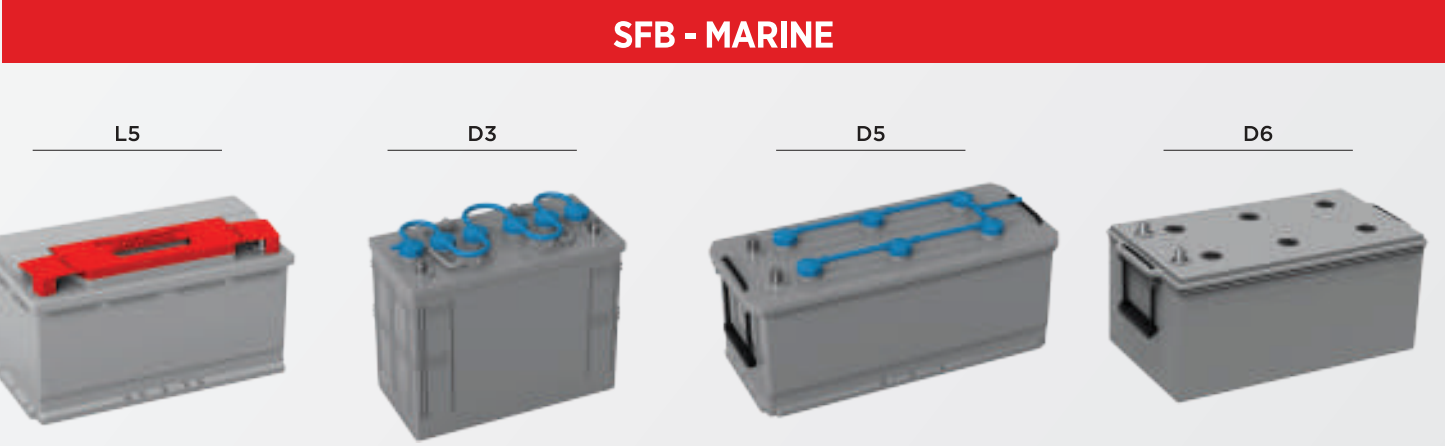


Maintenance free product technology

MARINE BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L5	ML5.90.060.A	-	90	600	650	0	1	B13	353	175	190	190	22.2
D3	MD3.125.090.A	-	125	900	950	0	1	B00	349	175	263	286	32.5
D5	MD5.180.100.A	-	180	1000	1050	3	1	B03	513	223	195	223	47.0
D6	MD6.200.100.B	-	200	1000	1050	3	1	B00	518	273	216	242	62.2

FULL ENERGY BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
L1	FL1.48.030.A	-	48	300	320	0	1	B13	207	175	190	190	13.0
L2	FL2.60.036.A	-	60	360	380	0	1	B13	242	175	190	190	14.5
L3	FL3.75.048.A	-	75	480	500	0	1	B13	278	175	190	190	17.5
L5	FL5.95.064.A	-	95	640	660	0	1	B13	353	175	190	190	22.5
D31	FD31.100.064.A	-	100	640	660	0	1	B01	306	175	202	224	25.0
D4	FD4.135.068.A	-	135	680	750	3	1	B03	513	189	195	223	35.5
D5	FD5.165.095.A	-	165	950	1000	3	1	B03	513	223	195	223	42.5
D6	FD6.225.110.B	-	225	1100	1150	3	1	B00	518	273	215	242	56.5

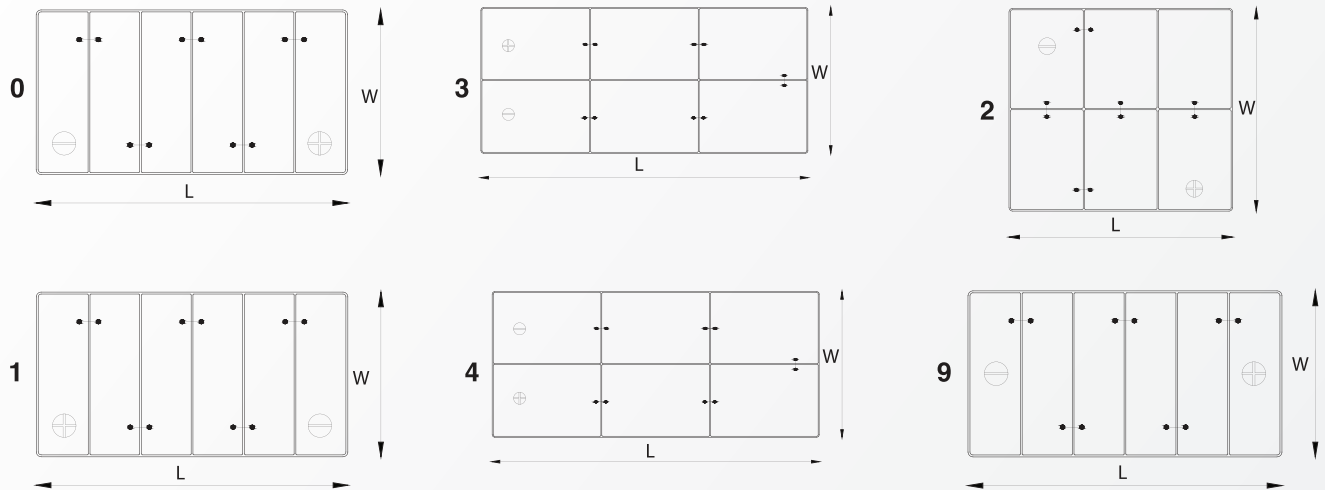
GEL BATTERIES													
Box	Mutlu Code	Part Number	Capacity at 20 Hr Rate (Ah)	CCA EN (A)	CCA SAE (A)	Layout	Terminal	Hold Down	Lenght (mm)	Width (mm)	Height Except Terminal (mm)	Height (mm)	Weight With Acid (kg)
D6	GD6.200.085.B	-	200	850	900	3	1	B00	518	273	216	242	72.5
	GD6.230.090.B	-	230	900	950	3	1	B00	518	273	216	242	76.0



TECHNICAL DRAWINGS

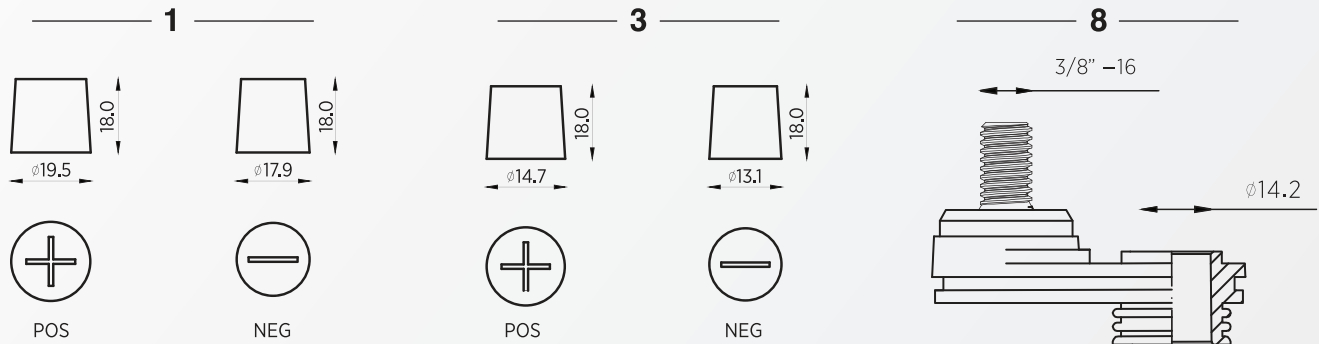
LAYOUT

12 Volt

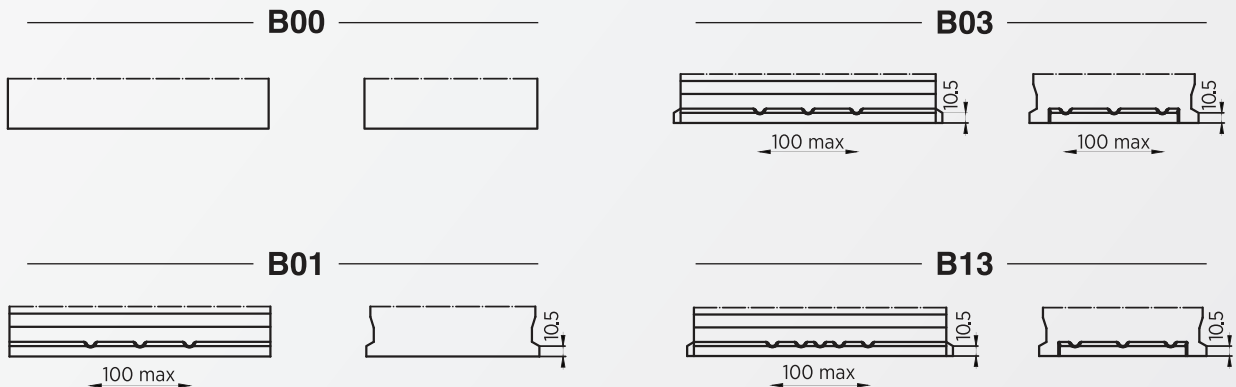


*W: Width, L: Length

TERMINAL



HOLD DOWN



WHY MUTLU BATTERY?

More than 75 years of experience

Export to more than **80 countries** in **6 continents**

Annual battery production capacity of **6 million**

Reliable solution provider meeting technical and performance expectations of automotive manufacturers (**IATF 16949:2016 certified**)

ISO 9001:2015, ISO 14001:2015, ISO 50001:2018 and ISO 45001:2018 certified environment-friendly manufacturing facility

ISO 17025 authorised R&D center

Nearly 100% recycling capability of all products (Recycling plant with an annual capacity of **40,000 tons**)

MUTLU BATTERY PLANTS



MUTLU
PLASTIC
PLANT
İSTANBUL



MUTLU
BATTERY
PLANT
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MUTLU
RECYCLING
PLANT
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MUTLU

BATTERY

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