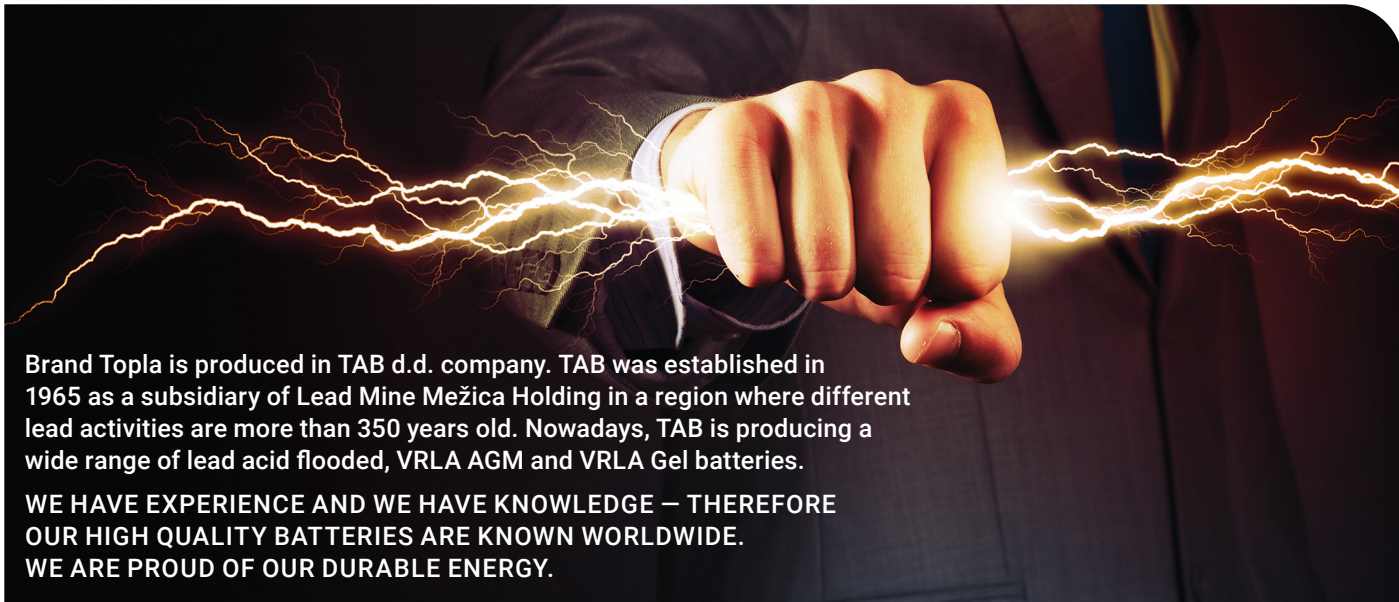


# TOPLA STARTER BATTERIES



topla

TOPLA ENERGY  
TOPLA TOP  
TOPLA TOP JIS  
TOPLA ENERGY TRUCK  
TOPLA TOP TRUCK  
TOPLA EFB Stop & Go  
TOPLA AGM Stop & Go



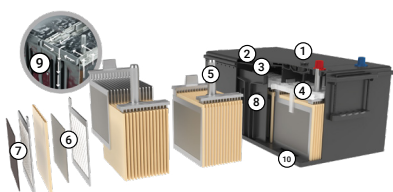
Brand Topla is produced in TAB d.d. company. TAB was established in 1965 as a subsidiary of Lead Mine Mežica Holding in a region where different lead activities are more than 350 years old. Nowadays, TAB is producing a wide range of lead acid flooded, VRLA AGM and VRLA Gel batteries.

**WE HAVE EXPERIENCE AND WE HAVE KNOWLEDGE – THEREFORE OUR HIGH QUALITY BATTERIES ARE KNOWN WORLDWIDE. WE ARE PROUD OF OUR DURABLE ENERGY.**

TAB tovarna akumulatorskih baterij d.d., Polena 6, SI-2392 Mezica, Slovenia | info@tab.si | +386 (0)2 8702 300 | www.tab.si

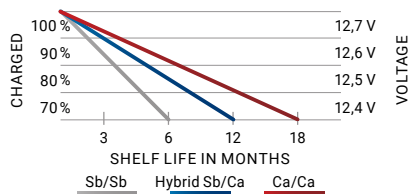
# ENERGY IN MOTION

## V4 TRUCK BATTERIES C AND B BOX

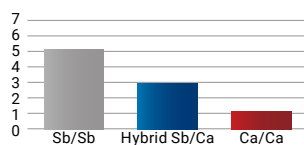


- 1 Electrolyte level indicator – Magic Eye
- 2 Top SMF lid with central degassing and flame arrestors
- 3 Main lid with labyrinth for additional safety and very low water loss
- 4 VTL (Vibration Top Locking) elements, improving vibration resistance of the battery (V4)
- 5 Robust plate connectors with large surface inter cell welds, increase cranking power
- 6 Negative plates with additives to increase charge acceptance. Permanent sulfation is minimized
- 7 Positive plates with thick casted grids. High-density active mass to increase cycle life and enhance resistance to deep discharge
- 8 Integrated internal flexible ribs generate adequate pressure to the plate stack in all states of charge
- 9 New cell design promotes electrolyte motion in vertical direction, eliminating stratification
- 10 Impact resistant polypropylene container

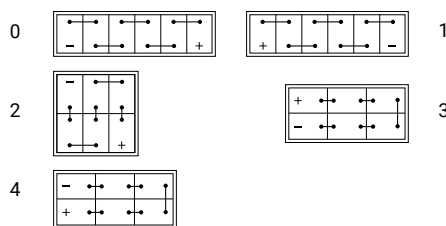
### Allowable shelf life (SELFDISCHARGE)



### Water consumption (g/Ah)



### Layout

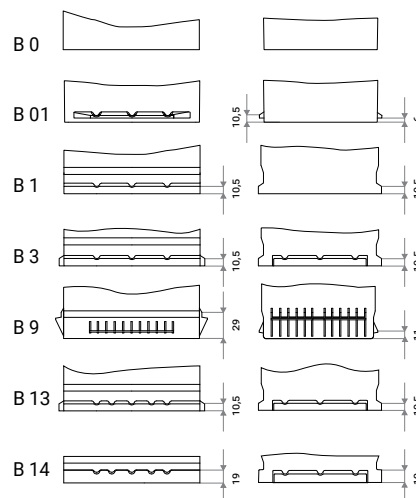


### Glossary of remarks

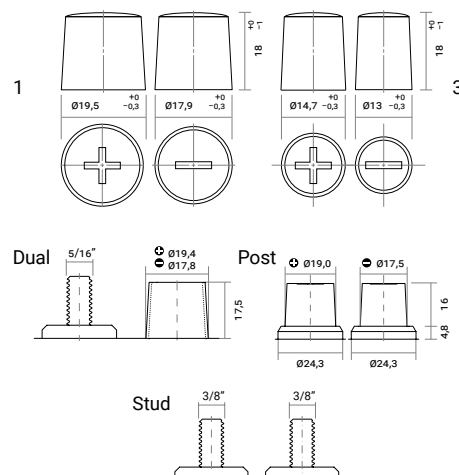
- |                           |                                      |
|---------------------------|--------------------------------------|
| <b>K</b> Kamina           | <b>SMF</b> Maintenance Free = Sealed |
| <b>H</b> Handle           | <b>DP</b> Dual Poles                 |
| <b>KH</b> Kamina Handle   | <b>A</b> Pole Adapter                |
| <b>ME</b> Magic Eye       | <b>AGM</b> Absorbed Glass Mat        |
| <b>HD</b> Heavy Duty      | <b>EMS</b> Electrolyte Mixing System |
| <b>JIS</b> Japanese Poles | <b>S</b> Stud Poles                  |
| <b>P</b> Post Poles       |                                      |

All measures and weights are within standard production tolerances. Technical modifications are reserved without prior notice. Weight tolerance is ± 5 %.

### Base hold down



### Terminals



**TOPLA ENERGY** is a battery produced using Ca/Ca expanded metal technology designed for vehicles with entry level of electric equipment with demand of superior starting, performance and reliability. Topla Energy is real all rounder offering excellent power, capacity, cold start performance and reliability. This is high quality product for vehicles of every class.

- + High starting capabilities
- + Reliable starting at extreme climatic conditions



## TOPLA ENERGY

Flooded starter batteries, Ca/Ca technology | CAR batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	LxWxH (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000221	54506	E45H	45	71	L0	400	175x175x190	B13	0	10,5	72/120	K, B
1000202	54002 SMF	TS40	40	62	L1B	360	207x175x175	B13	0	10,7	72/120	SMF, H, B
1000203	54502	E45	45	71	L1B	420	207x175x175	B13	0	11,2	72/120	KH
1000217	54403 SMF	E45X	45	71	L1B	420	207x175x175	B13	1	10,7	72/120	SMF, H, B
1000204	55010	E50H	50	81	L1	450	207x175x190	B13	0	12,2	72/100	KH
1000205	55509	TS54	55	90	L2B	500	242x175x175	B13	0	13,3	63/108	KH
1000207	56008	E60H	60	100	L2	600	242x175x190	B13	0	14,4	63/90	KH
1000213	56265	E60X	60	100	L2	600	242x175x190	B13	1	14,4	63/90	KH
1000208	56649	E66H	66	112	L2	620	242x175x190	B13	0	15,0	63/90	KH
1000209	57309 SMF	E73	73	126	L3B	630	278x175x175	B13	0	15,9	51/96	SMF, H, HD, B
1000215	56638 SMF	S66H	66	112	L3	600	278x175x190	B13	0	16,1	51/80	SMF, H, HD, B
1000210	57412	E75	75	130	L3	750	278x175x190	B13	0	17,5	51/80	KH, HD
1000218	57413 SMF	E75X	75	130	L3	700	278x175x190	B13	1	17,2	51/80	SMF, H, HD, B
1000201	59249 SMF	E100V	100	182	L4	800	315x175x190	B13	0	20,0	42/60	SMF, KH, HD, B
1000211	59220	E92	92	165	L5B	800	353x175x175	B13	0	20,5	36/72	KH, HD
1000219	60044	E100H	100	182	L5	900	353x175x190	B13	0	22,5	36/60	KH, HD

## ENERGY IN MOTION





## TOPLA ENERGY TRUCK

Flooded starter batteries, Sb/Ca technology | TRUCK batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	L×W×H (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000614	61028	ET11	110	203	60528	800	345×172×218/238	B0	0	26,5	36/48	H
1000617	61028	ET11P	110	203	60528	800	345×175×218/238	B1	0	26,5	36/48	H
1000515	61044	ET11M	110	203	MAC 110	720	509×175×182/208	B3	3	31,1	24/40	H, HD
1000615	62512	ET12H	125	236	62512	800	345×172×269/289	B0	0	33,0	24/36	H
1000616	63512	ET13H	135	258	62512	800	345×172×269/289	B0	0	33,0	24/36	H
1003042	63530	ET13A	135	258	A	850	513×189×194/220	B0	3	35,6	24/35	H, HD
1000504	63544	ET13M	135	258	MAC 110	850	509×175×182/208	B3	3	33,3	24/40	H, HD
1003043	63545	ET13MR	135	258	MAC 110	850	509×175×182/208	B3	4	33,3	24/40	H, HD
1000507	65048	ET15M	150	292	MAC 110	1000	509×175×182/208	B3	3	36,9	24/40	H, HD
1000498	68032	ET18	180	361	B	1100	512×222×194/221	B0	3	43,3	21/28	H, HD, EMS
1000500	69032	ET19	190	385	B	1200	512×222×194/221	B0	3	43,3	21/28	H, HD, EMS
1003045	70027	ET20C	200	409	C	1200	518×273×214/241	B0	3	52,7	18/24	H, HD, EMS
1003046	72527	ET22	225	469	C	1300	518×273×214/241	B0	3	56,1	18/24	H, HD, EMS
1000117	6TN	EN11D7	110	203	D7	740	282×269×208/230	B0	2	30,8	24/36	H, HD



### TOPLA TRUCK



### TOPLA TOP TRUCK

Flooded starter batteries, Ca/Ca technology | TRUCK batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	L×W×H (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000860	63544 SMF	TT13M	135	258	MAC110	850	509×175×196/218	B3	3	33,3	24/40	SMF, ME, H, HD
1000842	64030 SMF	TT14	140	269	A	850	507×188×200/222	B0	3	35,6	24/35	SMF, ME, H, HD
1026930	65048 SMF	TT15M	150	292	MAC110	1000	509×175×196/218	B3	3	36,9	24/40	SMF, ME, H, HD
1001757	65018 SMF	TT15	150	292	B	950	513×222×194/216	B0	3	39,6	21/35	SMF, ME, H, HD, EMS
1001758	68032 SMF	TT18	180	361	B	1100	513×222×194/216	B0	3	43,1	21/28	SMF, ME, H, HD, EMS
1000838	70027 SMF	TT20	200	409	C	1200	517×275×214/236	B0	3	52,7	18/24	SMF, ME, H, HD, EMS
1000387	72527 SMF	TT22	225	469	C	1300	517×275×214/236	B0	3	56,1	18/24	SMF, ME, H, HD, EMS

**TOPLA TOP** utilises the latest innovations in Ca/Ca manufacturing technology, providing for the highest cold start performance and superior reliable power as demanded by the latest generation of cars with high energy drain. The SMF lid/cover provides complete roll over spill protection and is entirely maintenance free throughout the batteries life.

- + Sealed cover construction
- + Higher number of plates ensure 30% better starting capabilities
- + The expanded metal technology results in better corrosion resistance and providing a longer life time
- + The level indicator (magic eye) provides an instant status check
- + Explosion protection prevents flame brake-in into the battery
- + Ideal for cars with lots of electrical equipment
- + Battery of highest quality



## TOPLA TOP

Flooded starter batteries, Ca/Ca technology | CAR batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	L×W×H (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000312	55401 SMF	TT54	54	88	L1B	510	207×175×175	B13	0	12,3	72/120	SMF, ME, H
1000313	55510 SMF	TT55H	55	90	L1	560	207×175×190	B13	0	12,8	72/100	SMF, ME, H
1000314	56249 SMF	TT62	62	104	L2B	600	242×175×175	B13	0	13,9	63/108	SMF, ME, H
1000315	56649 SMF	TT66H	66	112	L2	640	242×175×190	B13	0	15,0	63/90	SMF, ME, H
1000302	57510 SMF	TT75	75	130	L3B	720	278×175×175	B13	0	16,5	51/96	SMF, ME, H, HD
1000317	57549 SMF	TT78H	78	135	L3	750	278×175×190	B13	0	17,5	51/80	SMF, ME, H, HD
1000318	58514 SMF	TT85	85	150	L4B	800	315×175×175	B13	0	18,9	42/72	SMF, ME, H, HD
1000322	60044 SMF	TT100	100	182	L5	920	353×175×190	B13	0	22,5	36/60	SMF, ME, H, HD
1000214	61002 SMF	TT110H	110	203	L6	1000	394×175×190	B13	0	24,7	36/60	SMF, ME, H, HD
1000319	BCI 31P SMF	TT90BCIP	90	161	BCI 31	800	330×173×218/239	B1	0	23,4	42/60	SMF, ME, H, HD, P
1000299	BCI 31S SMF	TT100BCIS	100	182	BCI 31	900	330×173×218/239	B1	0	24,3	42/60	SMF, ME, H, HD, S
1000311	BCI31S SMF-D	TT110BCID	110	203	BCI 31	1000	330×173×218/237	B1	0	26,2	42/60	SMF, ME, H, HD, DP

## TOPLA TOP JIS

Flooded starter batteries, Ca/Ca technology | CAR batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	L×W×H (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000324	53520 SMF	TT35J	35	53	B19	270	196×128×202/223	B0	0	9,4	96/128	SMF, H, JIS
1000332	53522 SMF	TT35JX	35	53	B19	270	196×128×202/223	B0	1	9,4	96/128	SMF, H, JIS
1000320	53520 SMF	TT35JP	35	53	B19	270	196×134×202/223	B01	0	9,4	96/128	SMF, H, JIS
1000304	54520 SMF	TT45J	45	71	B19	360	196×134×202/223	B01	0	10,6	96/128	SMF, H, JIS, A
1000303	54522 SMF	TT45JX	45	71	B19	360	196×134×202/223	B01	1	10,6	96/128	SMF, H, JIS, A
1000325	54523/84 SMF	TT45JA	45	71	B24	360	236×128×202/223	B0	0	11,9	72/96	SMF, H, JIS, A
1000333	54524/51 SMF	TT45JAX	45	71	B24	360	236×128×202/223	B0	1	11,9	72/96	SMF, H, JIS, A
1000305	55523/84 SMF	TT55J	55	90	B24	490	236×128×202/223	B0	0	13,5	72/96	SMF, H, JIS, A
1000308	55524/51 SMF	TT55JX	55	90	B24	490	236×128×202/223	B0	1	13,5	72/96	SMF, H, JIS, A
1000327	56068 SMF	TT60J	60	100	D23	600	230×173×200/220	B01	0	14,9	60/90	SMF, ME, H
1000334	56069 SMF	TT60JX	60	100	D23	600	230×173×200/220	B01	1	14,9	60/90	SMF, ME, H
1000316	56568 SMF	TT65J	65	110	D23	650	230×173×200/220	B01	0	15,5	60/90	SMF, ME, H
1000321	56569 SMF	TT65JX	65	110	D23	650	230×173×200/220	B01	1	15,5	60/90	SMF, ME, H
1000328	57029 SMF	TT70J	70	120	D26	700	259×175×200/221	B1	0	17,3	48/80	SMF, ME, H
1000335	57024 SMF	TT70JX	70	120	D26	700	259×175×200/221	B1	1	17,3	48/80	SMF, ME, H
1000329	57529 SMF	TT75J	75	130	D26	740	259×175×200/221	B1	0	17,8	48/80	SMF, ME, H
1000336	57524 SMF	TT75JX	75	130	D26	740	259×175×200/221	B1	1	17,8	48/80	SMF, ME, H
1000330	59518 SMF	TT95J	95	171	D31	850	306×173×200/221	B01	0	20,9	42/70	SMF, ME, H
1000337	59519 SMF	TT95JX	95	171	D31	850	306×173×200/221	B01	1	20,9	42/70	SMF, ME, H

# OUR CONTRIBUTION T

**TOPLA EFB Stop & Go** batteries are so called Enhanced Flooded Batteries intended for use in vehicles with entry level Start-Stop function. EFB batteries utilize the latest innovations in Ca/Ca flooded battery manufacturing technology, providing for the superior reliable power as demanded by the latest generation of cars with entry level Start-Stop system.

- + MFW fleece on positive plates, preventing active material shedding boast twice as much cyclic capability as standard batteries and can be more discharged without any loss of functionality
- + Improved charge acceptance for recovering energy more quickly during driving phase using special expander with carbon
- + The expanded metal technology results in better corrosion resistance providing a longer life time
- + Sealed cover construction, roll over proof
- + Maintenance free
- + The level indicator (magic eye) provides an instant status check
- + Explosion protection with flame arrestor



## TOPLA EFB Stop & Go

EFB starter batteries, Ca/Ca technology | CAR and TRUCK batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	LxWxH (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000238	56088 EFB	TSG60	60	100	L2	640	242x175x190	B13	0	16,6	63/90	SMF, ME, H
1000239	56588 EFB	TSG65	65	110	L3B	650	278x175x175	B13	0	16,7	51/96	SMF, ME, H, HD
1000240	57088 EFB	TSG70	70	120	L3	760	278x175x190	B13	0	19,2	51/80	SMF, ME, H, HD
1000241	58014 EFB	TSG75	75	130	L4B	730	315x175x175	B13	0	18,2	42/72	SMF, ME, H, HD
1000242	58088 EFB	TSG80	80	140	L4	800	315x175x190	B13	0	21,9	42/60	SMF, ME, H, HD
1000243	59088 EFB	TSG90	90	161	L5	850	353x175x190	B13	0	24,6	36/60	SMF, ME, H, HD
1001917	69032 EFB	TSG19	190	385	B	1100	513x222x194/216	B0	3	45,3	21/28	SMF, ME, H, HD, EMS
1001777	74027 EFB	TSG24	240	506	C	1250	517x275x214/236	B0	3	58,6	18/24	SMF, ME, H, HD, EMS
1000246	56568 EFB	TSG65J	65	110	D23	600	230x173x200/220	B01	0	17,1	60/90	SMF, ME, H
1000245	56569 EFB	TSG65JX	65	110	D23	600	230x173x200/220	B01	1	17,1	60/90	SMF, ME, H
1000247	57029 EFB	TSG70J	70	120	D26	680	259x175x200/221	B1	0	19,6	48/80	SMF, ME, H
1000248	57024 EFB	TSG70JX	70	120	D26	680	259x175x200/221	B1	1	19,6	48/80	SMF, ME, H
1000237	60518 EFB	TSG10J	105	192	D31	900	306x173x200/221	B01	0	23,3	42/70	SMF, ME, H
1000244	60519 EFB	TSG10JX	105	192	D31	900	306x173x200/221	B01	1	23,3	42/70	SMF, ME, H

# 0 LOW CO<sub>2</sub> EMISSIONS



**TOPLA AGM Stop & Go** batteries are Valve Regulated Lead Acid batteries intended for use in vehicles with enhanced level Start-Stop function with break energy recuperation. VRLA AGM battery is improved lead acid battery to its maximum performance. The battery cells are closed by a pressure relief valve and electrolyte is immobilized in absorbed glass mat (AGM). Plate stacks are kept in the cells under pressure.

THE ADVANCED CONSTRUCTION OF BATTERY LEADS TO IMPROVED PERFORMANCE IN:

- + Very low water consumption due to internal oxygen recombination,
- + Preventing active material shedding boast more than three times as much cyclic capability as standard batteries and can be more discharged without any loss of functionality
- + Increased cranking power due to better utilization of cell volume by more than 30 %
- + High rate charge acceptance for recovering energy more quickly during driving phase
- + Both side pasting of plates provides better corrosion resistance providing a longer life time
- + No acid stratification like in flooded cells
- + Explosive safe - minimum explosive gasses are produced
- + Vibration resistance and no acid leakage in case of crash



## TOPLA AGM Stop & Go

AGM starter batteries, Ca/Ca technology | CAR batteries

ID	DIN marking	Short code	C20 (Ah)	RC (min)	Box type	EN (A)	L×W×H (mm)	BHD	Layout	Weight (kg)	PCS/Pallet (EUR/CNT)	Remarks
1000256	L2 AGM	TAG60	60	109	L2	680	242×175×190	B13	0	17,9	63/90	AGM, H
1000259	L3 AGM	TAG70	70	130	L3	760	278×175×190	B13	0	20,5	51/80	AGM, H
1000262	L4 AGM	TAG80	80	151	L4	800	315×175×190	B13	0	23,2	42/60	AGM, H
1000264	L5 AGM	TAG95	95	184	L5	850	353×175×190	B13	0	26,0	36/60	AGM, H
1000266	L6 AGM	TAG105	105	206	L6	950	394×175×190	B13	0	29,2	36/60	AGM, H
1000269	57029 AGM	TAG75	75	140	D26	750	263×173×200/221	B1	0	20,4	48/80	AGM, H
1000268	57024 AGM	TAG75X	75	140	D26	750	263×173×200/221	B1	1	20,4	48/80	AGM, H



