

MICROLYTE +Plus

Maintenance-Free Rechargeable

Sealed Lead Acid Batteries

6 volt 1.3 Ah to 12 volt 250 Ah



Features

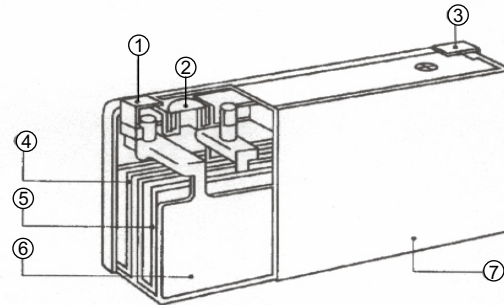
- * Maintenance free
- * Leak proof / spill proof
- * Gas recombination
- * Absorbed electrolyte
- * Float / cycle use
- * Low self discharge rate
- * Safety valve
- * Lead calcium alloy
- * Useable in any position
- * Rugged design
- * Available in flame retardant
ABS material (optional)

Application

- * UPS system DC & AC
- * Telecommunication PABX etc.
- * Emergency lighting
- * Fire & security alarm system
- * Portable VTR/TV
- * Power tools
- * Computer
- * Toys - cars
- * Fans
- * Electronic torch
- * Window washer

Battery Construction

1. Negative Terminal
2. Safety valve
3. Positive Terminal
4. Positive Electrode
5. Separator
6. Negative Electrode
7. Plastic Case



MICROLYTE + Plus Valve regulated batteries are of the absorbed electrolyte type. The cells are designed so that a controlled amount of electrolyte is contained within an absorbent non woven separator material that separates the battery plates. This type of separator construction allows full wetting of the plates with the available electrolyte and also allows the passage of oxygen generated during charging. This construction is generally referred to as absorbed glass mat (AGM) type

MICROLYTE + Plus Valve regulated batteries are sealed with the exception of a one way valve that opens when excess pressure builds up inside the battery, the valve automatically reseals itself. The recombination of gases is accomplished by allowing oxygen produced at the positive plate during charging to pass through the separator material to the negative plate where the recombination reaction occurs. The valve controls the internal pressure of the battery to optimize the efficiency of the recombination reaction and minimize the quantity of electrolyte released as gas.

Introduction

SEC Industrial Battery Co. is a large producer of modern technology, valve regulated (sealed) batteries. In its new battery manufacturing facility it has been able to draw on a wealth of international experience and knowledge to produce a high quality, reliable lead acid battery. The continuing installation of the most modern production equipment makes continuous product improvement possible.

General Features

* Valve Regulated Construction (sealed)

The **SEC** valve regulated AGM rechargeable lead acid battery allows safe, trouble free operation in any position. There is never any requirement to top up electrolyte because over 99% of all Gases generated in normal operation are recombined inside the battery.

* Immobilized Electrolyte

Due to the type of construction, the batteries can be shipped by sea, road or air without special handling and packaging precautions. Terminals are protected from the possibility of short circuit at all times.

* Low Self Discharge

Because of the use of Lead Calcium grids batteries can be stored for long periods of time without recharge.

* Cycle or Stand-By Service

Batteries are suitable for either cycling or standby Float service.

* Tough Construction

SEC MICROLYTE + Plus batteries utilize tough, high impact resistant and non-conductive ABS plastic for cases and lids. Batteries are also available in Flame Retardant ABS cover and case as an option.

* Compact Design

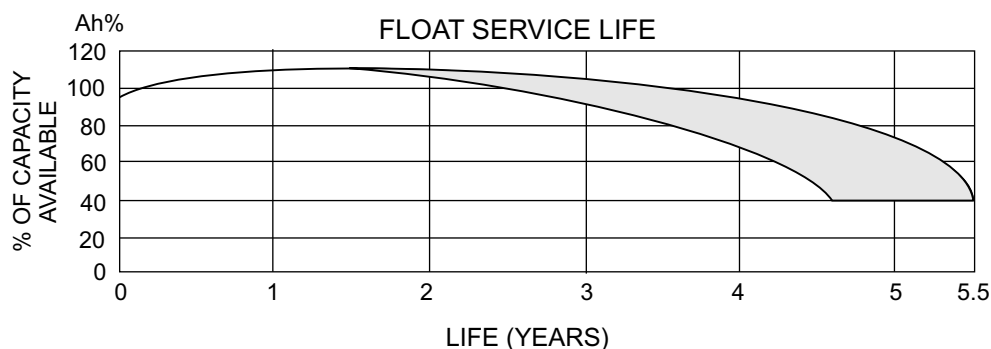
SEC MICROLYTE + Plus batteries utilize virgin lead and the best possible raw materials to build a high energy density battery. The International design team has a policy of continuous product improvement.

Specifications - *MICROLYTE + Plus*

SEC MICROLYTE TYPE	Nom Volts	NOM Capacity C/20 AH	Capacity 10 Hr Rate to 1.75vpc	Capacity 8 Hr Rate to 1.75vpc	Capacity 5 Hr Rate to 1.75vpc	Capacity 3 Hr Rate to 1.75vpc	Capacity 1 Hr Rate to 1.75vpc	Internal Resistance Milliohms	Maximum Charging Amps	Maximum Discharge 5 Sec
SEC 6MP-1.3	6	1.30	1.20	1.16	1.10	1.05	0.90	70	0.22	36
SEC 6MP-3.2	6	3.20	3.00	2.91	2.70	2.40	1.80	30	0.55	70
SEC 6MP-4.5	6	4.50	4.30	4.17	3.40	3.15	2.63	18	0.7	75
SEC 6MP-4.5SP	6	4.50	4.30	4.17	3.40	3.00	2.30	20	0.7	75
SEC 6MP-7.2	6	7.00	6.50	6.31	5.75	5.25	4.50	13	1.2	105
SEC 6MP-10	6	10.0	9.50	9.25	8.50	8.10	6.50	10	2.0	120
SEC 6MP-12	6	12.0	11.4	11.1	9.75	9.30	7.60	10	2.0	180
SEC 6MP-130	6	130	120	117	106	97.4	69.8	3.0	19	1400
SEC 6MP-150	6	150	135	131	119	110	78.5	2.9	23	1700
SEC 6MP-200	6	198	180	175	158	146	105	2.4	29	2200
SEC 6MP-220	6	220	200	195	176	162	116	1.1	32	2600
SEC 6MP-230	6	230	210	205	185	171	122	1.0	36	3100
SEC 12MP-1.3	12	1.30	1.20	1.16	1.10	1.05	0.90	130	0.22	36
SEC 12MP-2.2	12	2.20	2.00	1.94	1.80	1.65	1.45	90	0.36	60
SEC 12MP-3.3	12	3.30	3.01	2.92	2.75	2.55	2.20	60	0.55	60
SEC 12MP-4.5	12	4.50	3.85	3.70	3.40	3.15	2.63	50	0.7	70
SEC 12MP-5.0	12	5.00	4.80	4.68	3.90	3.60	3.00	40	0.8	75
SEC 12MP-5SP	12	5.00	4.80	4.68	3.90	3.60	3.00	40	0.8	80
SEC 12MP-7.2	12	7.20	6.60	6.43	5.75	5.25	4.50	25	1.2	105
SEC 12MP-8.0	12	8.00	7.60	7.40	6.39	5.83	5.00	25	1.2	120
SEC 12MP-12	12	12.0	11.4	11.1	9.75	10.5	9.00	30	2.0	180
SEC 12MP-18	12	18.0	16.2	15.8	14.3	13.2	9.40	14	2.8	250
SEC 12MP-20	12	20.0	18.6	18.1	16.4	15.1	10.8	11	2.7	265
SEC 12MP-24A	12	24.0	22.5	21.9	19.8	18.3	13.1	9.2	4.0	270
SEC 12MP-24B	12	24.0	22.5	21.9	19.8	18.3	13.1	9.2	4.0	270
SEC 12MP-26A	12	27.0	25.0	23.7	22.0	20.3	14.5	8.2	4.5	288
SEC 12MP-26B	12	27.0	25.0	23.7	22.0	20.3	14.5	8.2	4.5	288
SEC 12MP-35	12	34.0	32.0	31.2	28.2	26.0	18.6	7.3	5.6	330
SEC 12MP-44	12	47.0	43.0	41.9	37.8	34.9	25.0	6.0	7.4	500
SEC 12MP-55	12	58.0	54.0	52.6	47.5	43.8	31.4	5.6	9.6	700
SEC 12MP-70J	12	70.0	64.0	62.3	56.3	52.0	37.2	5.5	11.4	800
SEC 12MP-80	12	77.0	69.0	67.2	60.7	56.0	40.1	5.4	12.3	850
SEC 12MP-90	12	88.0	79.0	76.9	69.5	64.1	45.9	4.5	14.0	900
SEC 12MP-100	12	100	89.0	86.7	78.3	72.3	51.7	4.3	15.8	950
SEC 12MP-110	12	110	99.0	96.4	87.1	80.4	57.6	3.9	17.5	1000
SEC 12MP-120	12	120	109	106	95.9	88.5	63.4	3.4	19.0	1050
SEC 12MP-130	12	130	119	116	105	96.6	69.2	3.1	21.0	1100
SEC 12MP-150	12	148	134	131	118	109	77.9	2.9	23.4	1200
SEC 12MP-160	12	165	150	146	132	122	87.2	2.8	26.2	1600
SEC 12MP-175	12	176	160	156	141	130	93.0	2.6	27.8	1800
SEC 12MP-200	12	198	180	175	158	146	105	2.3	31.4	2400
SEC 12MP-220	12	220	200	195	176	162	116	2.2	34.8	2700
SEC 12MP-250	12	253	230	224	202	187	134	2.0	40.0	3200

INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

Testing Conditions:
 Floating Voltage :
 2.23 to 2.33 V/Cell
 Ambient Temperature :
 20 to 25C



Dimensions and Weights - MICROLYTE + Plus

SEC MICROLYTE TYPE	Battery Weight KG	BATTERY DIMENSIONS				Battery Terminal Type	Units Per Box
		Length mm	Width mm	Height mm H	Height mm H1		
SEC 6MP-1.3	0.30	98.0	25.0	51.0	59.0	ST1	40
SEC 6MP-3.2	0.83	124	34.0	60.0	65.0	ST1	20
SEC 6MP-4.5	0.95	71.0	48.0	102	106	ST1	20
SEC 6MP-4.5 SP	0.98	67.5	67.5	97.5	112	ST7	20
SEC 6MP-7.2	1.30	151	34.0	93.5	99.0	ST1	16
SEC 6MP-10	2.05	151	50.0	94.0	98.0	ST1	10
SEC 6MP-12	2.12	151	50.0	94.0	98.0	ST1	10
SEC 6MP-130	16.0	196	170	214	214	FT4	1
SEC 6MP-150	19.0	260	180	247	214	FT5	1
SEC 6MP-200	26.0	306	168	220	220	FT5	1
SEC 6MP-220	31.5	323	178	224	224	FT5	1
SEC 6MP-230	35.0	243	188	275	275	FT5	1
SEC 12MP-1.3	0.60	97.0	43.5	52.0	57.0	ST1	20
SEC 12MP-2.2	1.02	179	35.0	60.0	65.0	ST1	20
SEC 12MP-3.3	1.30	134	67.0	61.0	67.0	ST1	10
SEC 12MP-4.5	1.86	90.0	70.0	102	106	ST1	10
SEC 12MP-5.0	1.89	91.0	71.0	102	105	ST1	10
SEC 12MP-5 SP	2.14	151	51.0	93.0	98.0	ST1	10
SEC 12MP-7.2	2.55	151	66.5	95.0	99.0	ST1&2	8
SEC 12MP-8.0	2.60	151	66.5	95.0	99.0	ST1&2	8
SEC 12MP-12	4.25	152	99.0	98.0	102	ST2	4
SEC 12MP-18	5.88	181	76.0	167	167	FT2	2
SEC 12MP-20	6.00	181	76.0	167	167	FT2	2
SEC 12MP-24A	8.50	166	126	176	176	FT2	1
SEC 12MP-24B	8.40	166	126	176	176	FT2	1
SEC 12MP-26A	9.40	166	126	176	176	FT2	1
SEC 12MP-26B	9.40	175	166	126	126	FT2	1
SEC 12MP-35	10.5	196	131	155	180	FT3	1
SEC 12MP-44	14.7	197	165	170	170	FT3	1
SEC 12MP-55	18.5	230	138	210	210	FT3	1
SEC 12MP-70J	23.0	350	166	174	174	FT3/Flag	1
SEC 12MP-80	23.0	259	169	208	208	FT3	1
SEC 12MP-90	25.7	259	169	208	208	FT3	1
SEC 12MP-100	28.0	307	170	215	215	FT3	1
SEC 12MP-110	31.0	328	172	215	215	FT3	1
SEC 12MP-120	31.5	339	173	215	215	FT3	1
SEC 12MP-130	32.5	405	175	227	227	FT4	1
SEC 12MP-150	42.0	342	173	285	285	FT5	1
SEC 12MP-160	47.0	483	170	242	242	FT5	1
SEC 12MP-175	52.0	530	209	225	225	FT5	1
SEC 12MP-200	56.7	530	209	225	225	FT5	1
SEC 12MP-220	63.0	524	240	225	225	FT5	1
SEC 12MP-250	68.0	524	269	215	215	FT5	1

Actual Battery Dimensions may vary by +1%

Terminal Type and Details

ST2
(FASTON TAB No. 250)
Dimensions: 6.35 mm, 3.4 mm, 7.95 mm, 0.8 mm

ST7
Terminal Epoxy
27 stainless steel spring and DC plug
Dimensions: 13.5 mm, 15 mm

St1
(FASTON TAB No.187)
Dimensions: 4.75 mm, 3.2 mm, 6.35 mm, 0.8 mm

Type FT 2
12mm Ø Brass Insert
Terminal for M5 Bolt.

Type FT 3
14mm Ø Brass Insert
Terminal for M6 Bolt.

Type FT 4
16mm Ø Brass Insert
Terminal for M6 Bolt.

Type FT 5
16mm Ø Brass Insert
Terminal for M8 Bolt.

Typical View of Female insert Terminal.

Case Dimensions

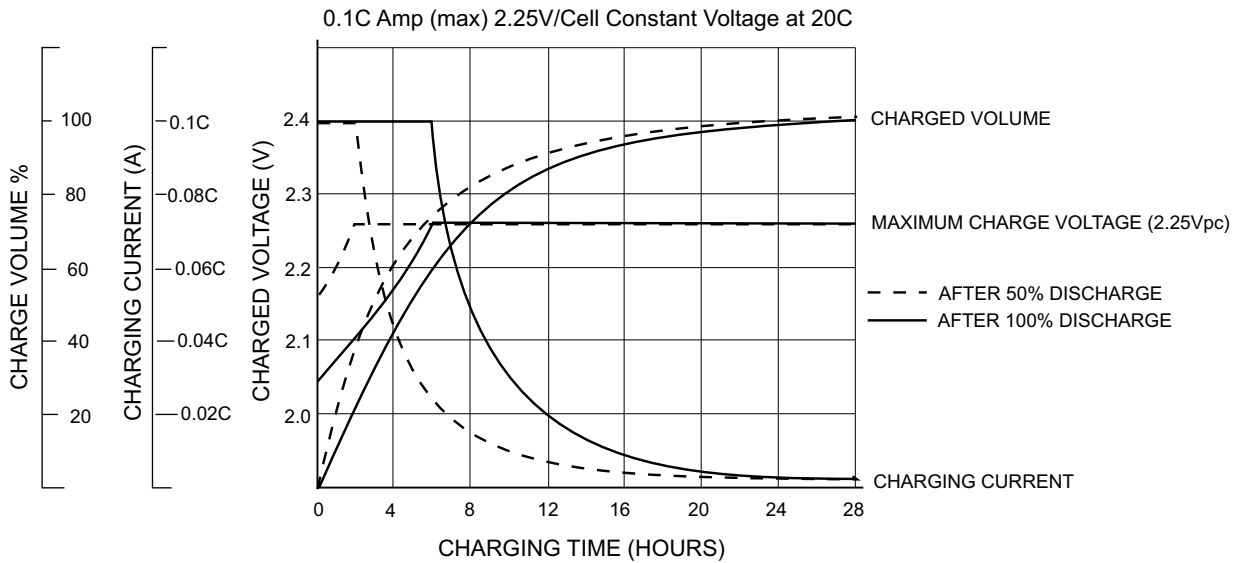
FT 2,3,4&5 Female Terminal
Dimensions: L, W, H, H1 mm

ST 1 & 2 Faston Tab
Dimensions: L, W, H, H1 mm

MICROLYTE + Plus - Watts per Cell @ 20 C.

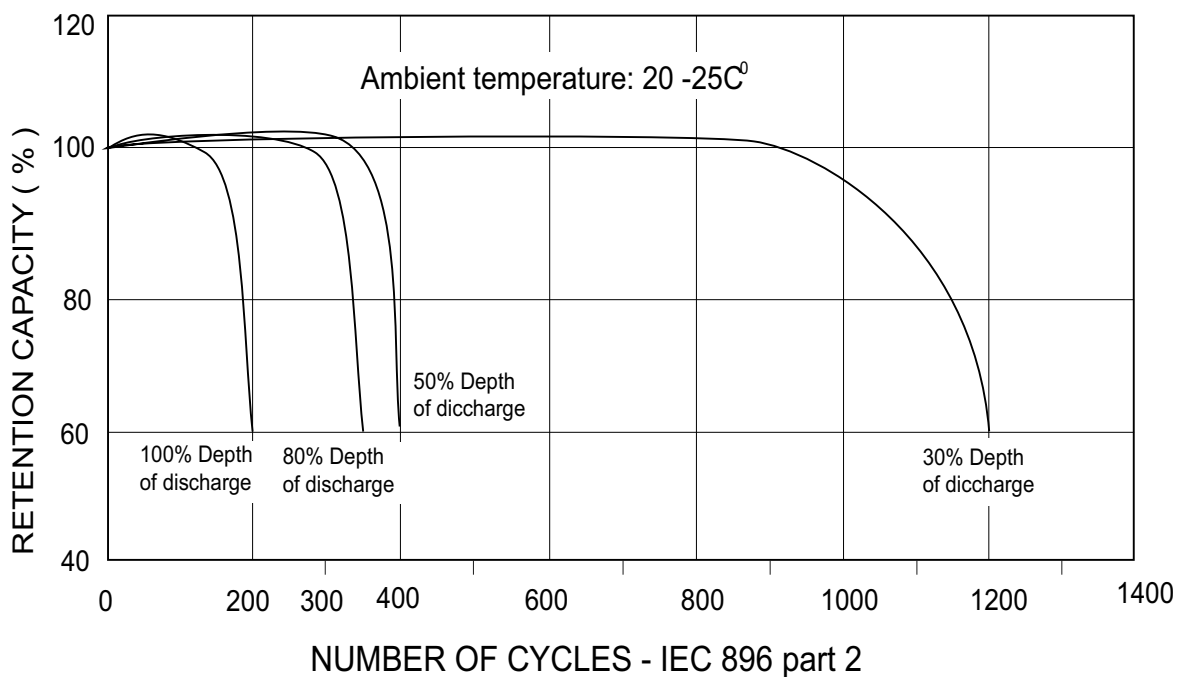
SEC MP AGM TYPE	END Volts / CELL	DISCHARGE DATA Watts @ 20 C.						END Volts / CELL	DISCHARGE DATA Watts Per Cell @ 20 C.											
		DISCHARGE TIME IN MINUTES							DISCHARGE TIME IN HOURS											
		5	10	15	20	30	45		1	1.5	2	3	4	5	6	8	10	12	20	24
SEC 6MP-10	1.67	52.3	41.6	33.3	29.5	21.7	16.4	1.75	12.5	9.15	7.20	5.26	4.07	3.35	2.85	2.30	1.89	1.63	1.00	0.85
SEC 6MP-12	1.67	61.1	48.7	38.9	34.5	25.3	19.2	1.75	14.6	10.7	8.36	6.04	4.66	3.84	3.32	2.76	2.27	1.96	1.20	1.02
SEC 6MP-130	1.75	610	482	383	332	238	179	1.80	127	106	85.5	61.4	48.5	40.4	35.0	28.2	23.0	19.7	12.8	10.8
	1.67	683	535	423	359	251	187	1.75	128	108	87.6	62.7	49.5	41.2	35.6	28.6	23.5	20.1	13.1	11.1
SEC 6MP-150	1.75	686	542	431	373	268	201	1.80	143	119	96.1	69.1	54.6	45.4	39.4	31.7	25.9	22.2	14.5	12.3
	1.67	769	601	476	403	283	210	1.75	144	121	98.5	70.5	55.7	46.3	40.1	32.2	26.5	22.6	14.8	12.6
SEC 6MP-200	1.75	915	722	575	498	357	268	1.80	190	159	128	92.1	72.8	60.6	52.5	42.2	34.5	29.6	19.2	16.3
	1.67	1025	802	635	538	377	280	1.75	191	162	131	94.0	74.2	61.8	53.4	43.0	35.3	30.1	19.6	16.6
SEC 6MP-220	1.75	1017	803	639	553	397	298	1.80	211	176	142	102	80.9	67.3	58.4	46.9	38.4	32.9	21.3	18.1
	1.67	1139	891	706	598	419	312	1.75	213	180	146	104	82.5	68.6	59.4	47.7	39.2	33.5	21.8	18.4
SEC 6MP-230	1.75	1067	843	671	581	417	313	1.80	222	185	150	107	84.9	70.7	61.3	49.3	40.3	34.5	22.3	18.9
	1.67	1196	936	741	627	440	327	1.75	223	189	153	110	86.6	72.1	62.4	50.1	41.2	35.2	22.7	19.3
SEC 12MP-5SP	1.67	24.1	19.2	15.4	13.6	10.0	7.58	1.75	5.76	4.04	3.19	2.34	1.84	1.54	1.35	1.16	0.96	0.82	0.50	0.43
SEC 12MP-7.2	1.67	40.2	32.0	25.6	22.7	16.7	12.6	1.75	9.60	6.68	5.24	3.79	3.00	2.52	2.09	1.60	1.32	1.13	0.80	0.68
SEC 12MP-8.0	1.67	45.9	36.6	29.3	25.9	19.1	14.4	1.75	10.9	7.64	5.98	4.33	3.43	2.88	2.50	2.10	1.74	1.49	0.91	0.78
SEC 12MP-12	1.67	72.4	57.7	46.1	40.8	30.0	22.7	1.75	17.3	12.0	9.42	6.80	5.27	4.32	3.59	2.76	2.27	1.96	1.20	1.02
SEC 12MP-18	1.75	82.3	65.0	51.7	44.8	32.1	24.1	1.80	17.1	14.3	11.5	8.3	6.55	5.45	4.73	3.80	3.11	2.66	1.74	2.00
	1.67	92.2	72.2	57.2	48.4	33.9	25.2	1.75	17.2	14.6	11.8	8.5	6.68	5.56	4.81	3.87	3.18	2.71	1.78	1.51
SEC 12MP-20	1.75	94.5	74.7	59.4	51.5	36.9	27.7	1.80	19.6	16.4	13.2	9.5	7.52	6.26	5.43	4.37	3.57	3.06	1.94	2.00
	1.67	106	82.9	65.6	55.6	38.9	29.0	1.75	19.8	16.7	13.6	9.7	7.67	6.38	5.52	4.44	3.65	3.11	1.98	1.67
SEC 12MP-24	1.75	114	90.3	71.9	62.2	44.6	33.5	1.80	23.8	19.8	16.0	11.5	9.10	7.57	6.57	5.28	4.32	3.70	2.33	2.17
	1.67	128	100	79	67.2	47.1	35.0	1.75	23.9	20.2	16.4	11.8	9.28	7.72	6.68	5.37	4.41	3.77	2.37	2.01
SEC 12MP-26	1.75	127	100	79.8	69.2	49.6	37.3	1.80	26.4	22.0	17.8	12.8	10.1	8.41	7.29	5.87	4.80	4.11	2.62	2.17
	1.67	142	111	88.2	74.7	52.3	38.9	1.75	26.6	22.5	18.2	13.1	10.3	8.58	7.42	5.97	4.90	4.19	2.67	2.26
SEC 12MP-35	1.75	163	128	102	88.5	63.5	47.7	1.80	33.8	28.2	22.8	16.4	12.9	10.8	9.34	7.51	6.14	5.26	3.29	2.75
	1.67	182	143	113	96	67.0	49.8	1.75	34.0	28.8	23.3	16.7	13.2	11.0	9.50	7.64	6.27	5.36	3.36	2.85
SEC 12MP-44	1.75	219	173	137	119	85.3	64.1	1.80	45.4	37.9	30.6	22.0	17.4	14.5	12.5	10.1	8.25	7.07	4.55	3.67
	1.67	245	192	152	128	90.0	67.0	1.75	45.7	38.7	31.4	22.5	17.7	14.8	12.8	10.3	8.43	7.20	4.65	3.94
SEC 12MP-55	1.75	274	217	172	149	107	80.5	1.80	57.0	47.6	38.5	27.6	21.8	18.2	15.8	12.7	10.4	8.88	5.62	4.58
	1.67	307	241	191	161	113	84.1	1.75	57.4	48.6	39.4	28.2	22.3	18.5	16.0	12.9	10.6	9.04	5.74	4.86
SEC 12MP-70J	1.75	325	257	204	177	127	95	1.80	67.6	56.4	45.6	32.7	25.9	21.5	18.7	15.0	12.3	10.5	6.78	5.42
	1.67	364	285	226	191	134	100	1.75	68.1	57.6	46.7	33.4	26.4	22.0	19.0	15.3	12.5	10.7	6.92	5.86
SEC 12MP-80	1.75	351	277	220	191	137	103	1.80	72.9	60.9	49.1	35.3	27.9	23.2	20.1	16.2	13.2	11.4	7.46	6.32
	1.67	393	307	244	206	144	107	1.75	73.4	62.1	50.3	36.0	28.4	23.7	20.5	16.5	13.5	11.6	7.62	6.45
SEC 12MP-90	1.75	402	317	252	219	157	118	1.80	83.4	69.7	56.3	40.4	31.9	26.6	23.1	18.5	15.2	13.0	8.53	6.42
	1.67	450	352	279	236	165	123	1.75	84.0	71.0	57.6	41.3	32.6	27.1	23.5	18.9	15.5	13.2	8.70	7.37
SEC 12MP-100	1.75	452	357	284	246	177	133	1.80	94	78.5	63.4	45.5	36.0	29.9	26.0	20.9	17.1	14.6	9.69	7.42
	1.67	507	397	314	266	186	139	1.75	95	80.0	64.9	46.5	36.7	30.5	26.4	21.2	17.4	14.9	9.89	8.37
SEC 12MP-110	1.75	503	397	316	274	196	148	1.80	105	87.3	70.5	50.7	40.0	33.3	28.9	23.2	19.0	16.3	10.7	9.08
	1.67	564	441	349	296	207	154	1.75	105	89.0	72.2	51.7	40.8	34.0	29.4	23.6	19.4	16.6	10.9	9.21
SEC 12MP-120	1.75	554	437	348	302	216	162	1.80	115	96.1	77.6	55.8	44.1	36.7	31.8	25.6	20.9	17.9	11.6	9.08
	1.67	621	486	385	326	228	170	1.75	116	98.0	79.5	56.9	44.9	37.4	32.4	26.0	21.4	18.3	11.9	10.0
SEC 12MP-130	1.75	605	478	380	329	236	177	1.80	126	105	84.7	60.9	48.1	40.0	34.7	27.9	22.8	19.4	12.6	10.0
	1.67	677	530	420	356	249	185	1.75	127	107	86.8	62.2	49.1	40.8	35.3	28.4	23.3	19.7	12.9	10.9
SEC 12MP-150	1.75	681	538	428	371	266	200	1.80	142	118	95.4	68.6	54.2	45.1	39.1	31.4	25.7	22.0	14.3	11.6
	1.67	763	597	473	400	281	209	1.75	142	121	97.8	70.0	55.2	46.0	39.8	32.0	26.3	22.4	14.6	12.4
SEC 12MP-160	1.75	762	602	479	415	298	224	1.80	158	132	107	76.8	60.7	50.5	43.8	35.2	28.8	24.7	16.0	13.1
	1.67	854	668	529	448	314	234	1.75	160	135	109	78.4	61.8	51.5	44.5	35.8	29.4	25.1	16.3	13.8
SEC 12MP-175	1.75	813	642	511	443	317	238	1.80	169	141	114	81.9	64.7	53.8	46.7	37.5	30.7	26.3	17.1	14.9
	1.67	911	713	565	478	335	249	1.75	170	144	117	83.6	66.0	54.9	47.5	38.2	31.4	26.8	17.4	14.7
SEC 12MP-200	1.75	915	722	575	498	357	268	1.80	190	159	128	92.1	72.8	60.6	52.5	42.2	34.5	29.6	19.2	14.9
	1.67	1025	802	635	538	377	280	1.75	191	162	131	94.0	74.2	61.8	53.4	43.0	35.3	30.1	19.6	16.6
SEC 12MP-220	1.75	1017	803	639	553	397	298	1.80	211	176	142	102	80.9	67.3	58.4	46.9	38.4	32.9	21.3	19.0
	1.67	1139	891	706	598	419	312	1.75	213	180	146	104	82.5	68.6	59.4	47.7	39.2	33.5	21.8	18.4
SEC 12MP-250	1.75	1169	923	735	636	456	343	1.80	243	203	164	118	93.0	77.4	67.1	54.0	44.1	37.8	24.5	20.8
	1.67	1309	1025	812	687	481	358	1.75	245	207	168	120	94.8	78.9	68.3	54.9	45.1	38.5	25.0	21.2

Actual Battery Discharge Data may be +/-5% of figures shown.



TYPICAL CHARGING CHARACTERISTIC

LIFE CHARACTERISTICS vs D.O.D.



Battery Life

Battery Life depends on a number of key factors. These include:

- * Operating temperature of the battery
- * Method of charging
- * Actual use of the product i.e. Float Service or cycle life
- * Correct sizing etc.

Float Service

The float service is effected by the factors listed above and the number of and depth of discharge the battery suffers during its life time. Basically the more discharges suffered and the deeper the discharges, the shorter battery life.

Cycle Life

Giving due consideration to the above key factors, the actual life of a battery in cycle service is dependent on the depth of discharge of each cycle. The greater the depth of discharge of each cycle the lesser the number of cycles available from the battery.

Battery Storage

SEC MICROLYTE + Plus batteries have excellent charge retention characteristics, meaning that the self-discharge rate is low, less than 2% per month at 20 Deg C. To ensure the battery does not over discharge during storage, or when not in use, it is necessary to understand what is meant by fully discharged. A discharged battery can be determined by the open circuit voltage of the battery. Typically a battery is fully discharged when the open circuit voltage reaches 1.92 Vpc (11.5V) in a 12V battery.

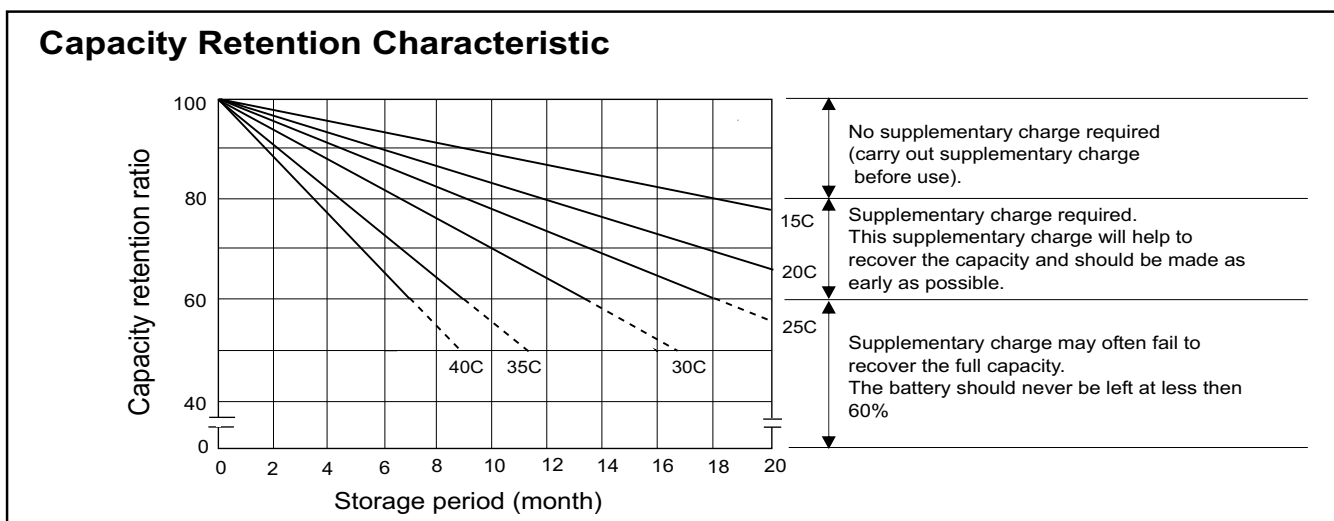
Final Acceptable Discharge

Discharge Current	Final Discharge Voltage
Up to 0.1 A	1.75
0.11 to 0.17 CA	1.70
0.18 to 0.25 CA	1.67
0.26 to 0.6 CA	1.60

In discharging a battery, lead sulphate (sulphation) is formed. If the battery is recharged as soon as discharge is completed then the lead sulphate is converted back into active material and electrolyte. However, on self discharge the lead sulphate that is formed may become non recoverable. That is, it cannot be recharged. The lower the voltage that a battery is allowed to fall to under self discharge, the more likely it is that the sulphate formation will not be reversible and the battery will be damaged beyond recovery.

Precautions against over Self Discharge

- * **The batteries should be stored in a cool, dry place 25C or below**
- * **The batteries should not be stored in direct sunlight.**
- * **The batteries should not be subjected to an external heat source.**
- * **An adequate stock control system should be introduced - first in first out basis.**



Supplementary Charge

It may be necessary to give the batteries a refreshing charge during the period the batteries are being stored. Maximum recommended storage times are detailed below, if storage exceeds these times or the open circuit voltage of a battery being stored falls below 12.40 Vpc (6.2 Vpc) then it is recommended the batteries be given a 12 to 24 hour boost charge immediately at 2.33 - 2.43 Vpc.at 20-25C

Storage Temperature	Charging Interval
20 Deg C or less	Every 9 months
25 Deg C - 30 Deg C	Every 6 months
30 Deg C - 40 Deg C	Every 3 months