

# Batteries GRANIT 380

## General Features

- **Weight** 13.5 Kg.
- **Nominal Voltage** 12 V.
- **Capacity** - 20 hours : 38 Ah (Final voltage: 1.80 V/cel).  
- 100 hours : 43.5 Ah (Final voltage: 1.80 V/cel).
- **Max.Current** In 10 seconds : 280 A (Final voltage: 1.60 V/cel).  
short-circuit current : 900 A

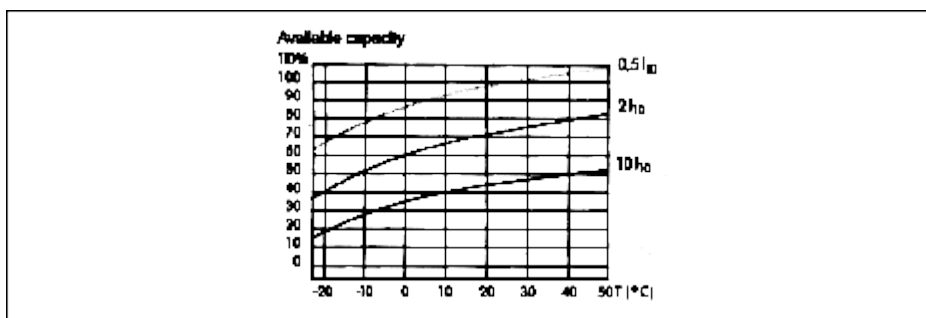
## Technical Specifications

### Residual capacity evaluation table, Battery off

e.m.f.	State of charge %
12.75 V	100
12.63 V	90
12.54 V	80
12.45 V	70
12.36 V	60
12.30 V	50

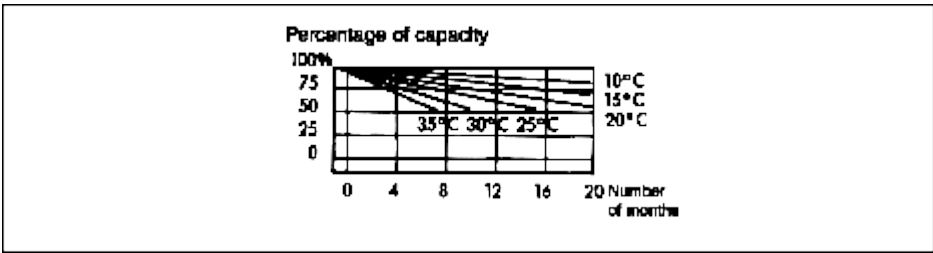
### Influence of temperature on capacity

The available capacity depends on the ambient temperature.  
The graph shows the necessary corrections to be done accordingly.



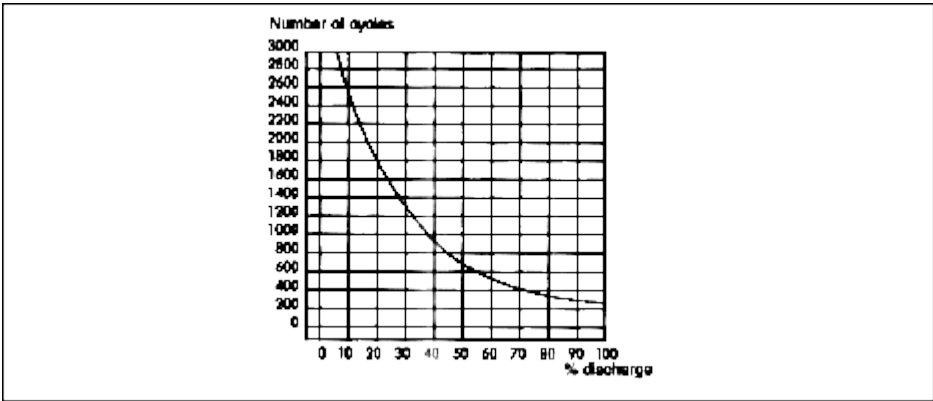
### Storage conditions and self-discharge

The lower the temperature the lower the self-discharge.  
The higher the temperature, the faster the self-discharge.  
STECO batteries have a very low self-discharge rate, as shown in the graph.  
We recommend recharging the battery if it has been stored for 6 months.



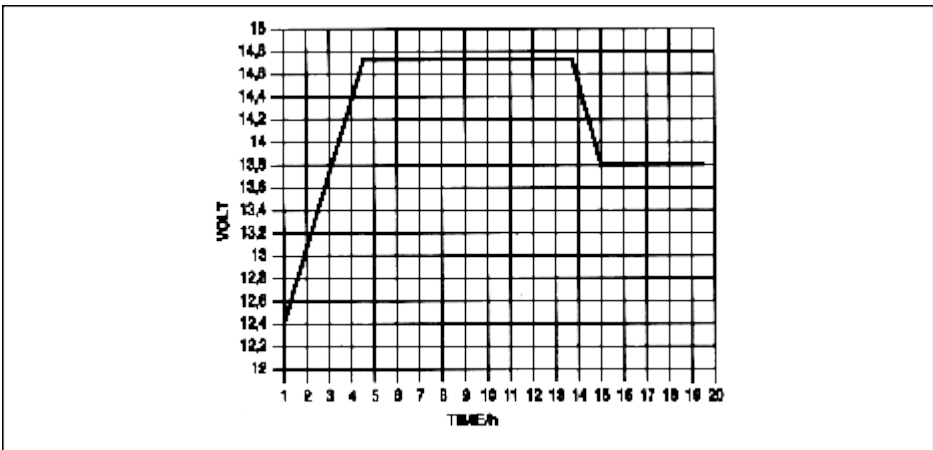
**Operation in charge-discharge cycles**

The depth of the discharge determines the number of cycles that the battery can produce. For example, with 20% discharge, the battery can implement 1,800 charge-discharge cycles.



**Recommended recharging method at 20°C ±5°C**

The reference charging voltage is 2.45 V per cell at 20°C ± 5°C. This value should be increased by 5 mV for every degree below 20°C and decreased by 5 mV for every degree above 20°C.



## Recharging Conditions

The depth of discharge determines the voltage and time required for recharging. According to the recharging voltage selected, the values in the tables below give in percentage the capacity available for the following levels of discharge.

Charging time \ Charging voltage	2.27 V/cell			2.35 V/cell			2.45 V/cell		
	1h	1,5 h	2 h	1h	1,5 h	2 h	1h	1,5 h	2 h

For a battery discharged by 25% of C20

3 hours	92	93	94	94	96	97	98	98	99
6 hours	94	95	95	96	98	98	98	98	100
10 hours	96	97	97	98	99	99	99	100	100
20 hours	97	98	98	99	100	100	100	100	100
30 hours	98	99	100	100	100	100	100	100	100

For a battery discharged by 50% of C20

3 hours	73	76	81	75	81	86	75	83	88
6 hours	86	87	88	89	91	93	91	96	98
10 hours	91	92	93	94	96	97	98	100	100
20 hours	95	96	97	98	100	100	100	100	100
30 hours	97	98	99	100	100	100	100	100	100

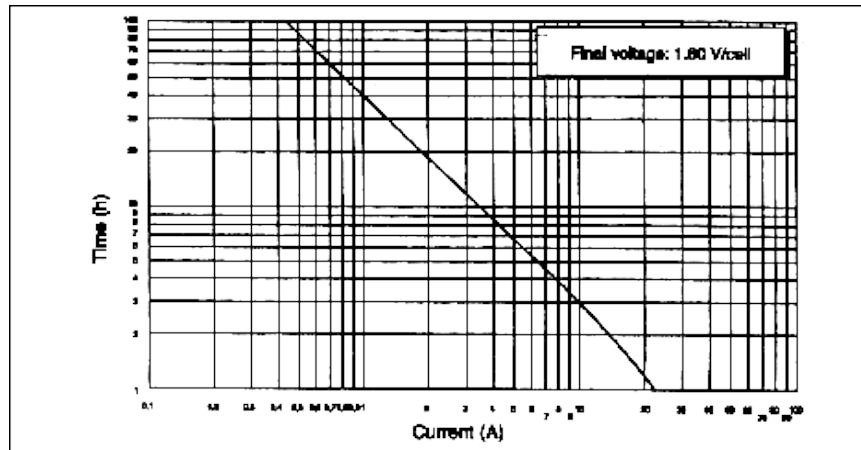
For a battery discharged by 75% of C20

3 hours	54	62	67	54	62	67	54	62	67
6 hours	74	80	86	76	84	88	78	87	90
10 hours	85	89	91	88	92	94	90	94	95
20 hours	90	94	95	94	96	98	96	100	100
30 hours	93	97	98	99	100	100	100	100	100

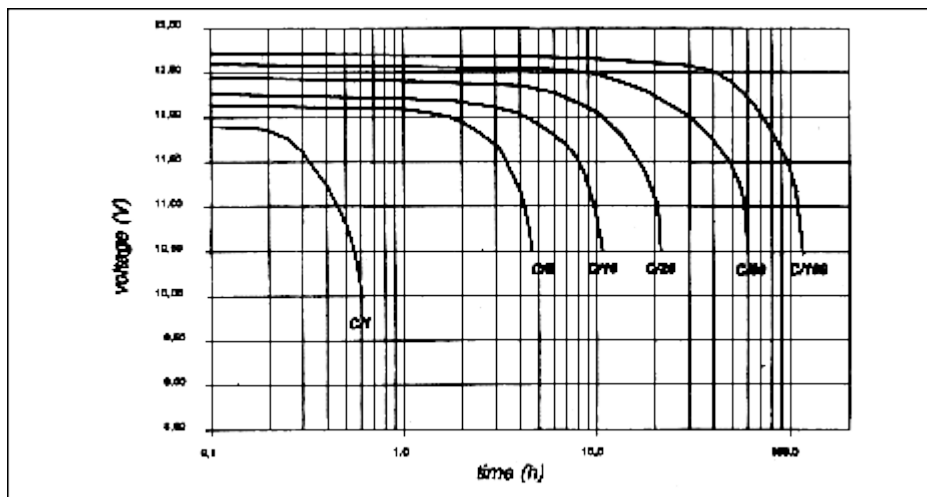
For a battery discharged by 100% of C20

3 hours	25	38	48	25	38	48	25	38	48
6 hours	50	70	79	50	76	83	50	76	85
10 hours	78	80	82	81	86	90	86	90	94
20 hours	85	87	89	90	94	95	94	97	98
30 hours	87	90	92	92	97	98	96	100	100

## Constant current discharge curves



## Discharge curves in different operating conditions



## Electrical Specifications

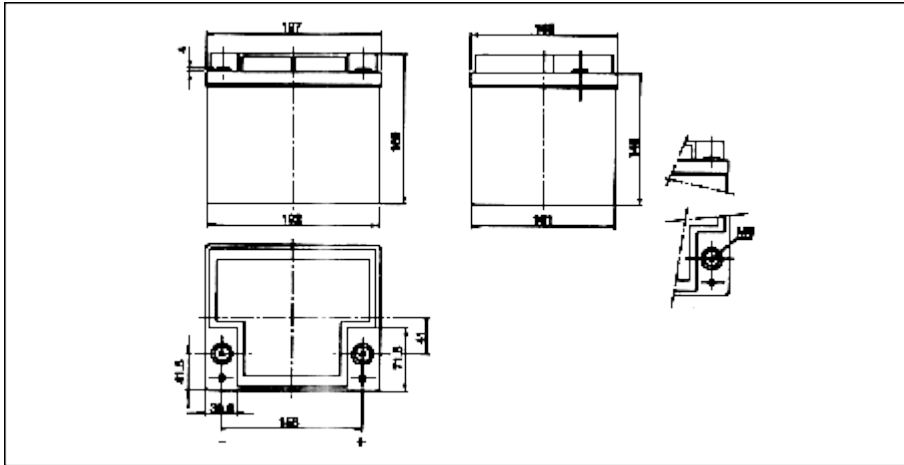
### Electrical specifications at 20°C

- **Nominal Voltage** 12 V.
- **Capacity** - 20 hours : 38 Ah (Final voltage: 1.80 V/cel).  
- 100 hours : 43.5 Ah (Final voltage: 1.80 V/cel).
- **Max.Current** In 10 seconds : 280 A (Final voltage: 1.60 V/cel).  
short-circuit current : 900 A
- **Internal Resistance** 10 milliohms.

## Mechanical Specifications

- **Weight** 13.5 Kg.
- **Clamping torque** 10 Nm.
- **Material** ABS
- **Terminal type** Female insert for M6 screw
- **Dimensions**
  - o Length : 197 mm
  - o Width : 165 mm

- o Height : 169 mm



**Manufacturing Plans**  
**Cabagle Notice**