

# Manufacturer Certificate

We certificate with this document, that our product

## Gel Batteries Panasonic

fulfills all of the following technical specifications. Additionally the product fulfills all standards which are applicable within the EC area. (CE Conformity)

### Technical specifications:

The GEL BATTERIES PANASONIC battery range is composed by maintenance free stationary mono blocs with tubular plates. GEL BATTERIES PANASONIC provide long time discharge performances due to high specific capacity tubular plates and good high rate discharge due to a technical design aimed to reduce internal resistance. The interval between two subsequent filling up operations exceeds 5 years in floating conditions at 25 °C.

### Product advantages

- Safety
- Reliability
- Long life
- Reduced maintenance

### Technical characteristics

- Long life time (over 12 years)

The end of service life is defined as the point at which the cell's actual capacity has reached 80% of the Nominal Capacity. Operation at temperature higher than 20°C will reduce the life expectancy. The following graph gives some indication of the depreciation in service life in relationship with temperature

Service Life versus Temperature

- Very low self-discharge rate
- Visual control of electrolyte level
- Good charge/discharge rate
- Applicable for solar powered systems (cycle operation)

### Applicable standards

- CEI 21.6.
- IEC 896 part 1.

### Electrical characteristics

- Float voltage per cell: 2,23 Volt
- Recharge voltage per cell: 2,4 Volt
- Self discharge @ 20°C: 2% monthly
- Maximum short circuit current: 10 x C10 (A)
- Internal resistance per cell: 0,16/C10 (Ohm)

### Environmental/Mechanical Data

- Operating temperature range: -30°C to 60°C (with increased acid density of 1,26 kg/l)
- Humidity < 95% without condensation
- Dimensions: see above table

### Origin

- Manufacturer: Panasonic
- Country of origin: Japan

### Production quality standard

- Production according to ISO9001
- Lead Battery GEL BATTERIES PANASONIC 6V/4 Ah