

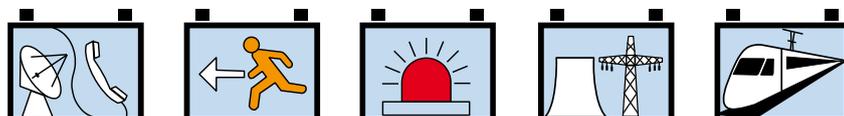
Guarantee

**EverExceed**<sup>®</sup>  
*power your applications*

## SUBMARINE BATTERIES



*»Premium quality for  
uninterrupted communication«*



[www.everexceed.com](http://www.everexceed.com)

## Introduction

### Who we are

EverExceed has won a dominant position as a manufacturer of high quality submarine batteries for all types of conventional submarines.

### What we do

Manufacture high quality submarine batteries in accordance to the strictest international specifications meeting the Navies' standards of performance.

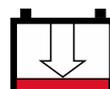
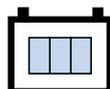
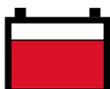
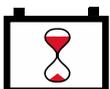
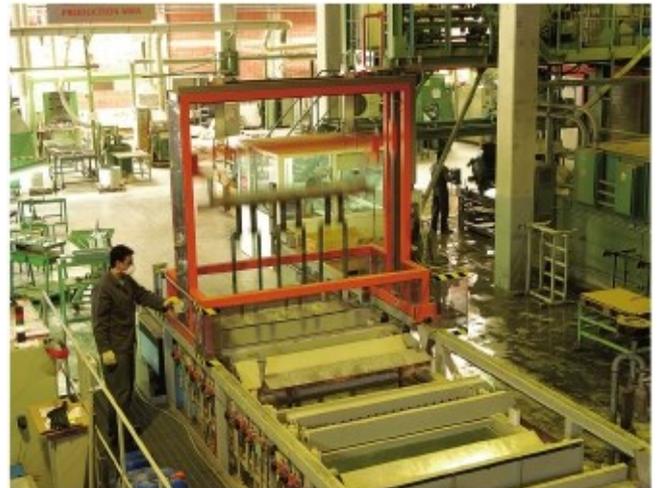
### Where are we

EverExceed has operations on six continents including three manufacturing plants and two research & development centers, allowing our products be available and enjoy technical support all over the world.



## Manufacturing Capability

- ☑ One of the most modern facilities world wide.
- ☑ State of the art manufacturing equipment.
- ☑ Optimum level of safety and quality control in every step of the production.
- ☑ In house manufacturing of all the critical components so as to assure the best quality and performance of the final product (plates, pole bridges, containers, lids, rubber liners, etc).
- ☑ Computer aid design methods.
- ☑ Continuous R&D to improve performance and life time of the product.
- ☑ In house Advanced Testing facilities (shock test, electrical performance test, environmental tests).





**SUBMARINE BATTERIES**

**GERMANY TECHNOLOGY**

EverExceed's submarine batteries are very effective, powerful, reliable and long-lasting for military submarine. For the manufacturing of submarine batteries different types of technologies - all in the field of lead acid technology but with different designs - are used in order to achieve the varied demands and sophisticated requirements in terms of energy and performance (high capacity during discharge, high current capability during discharge, low gassing, good shock resistance etc). More specifically, EverExceed can offer the following technologies:

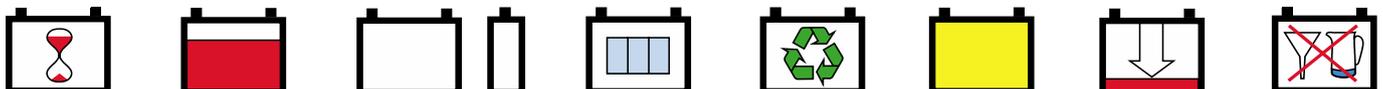
- ☒ Long Plate Positive tubular plate / Negative Plate Lead.
- ☒ Long Plate Positive tubular plate / Negative Plate Copper Stretch Metal (CSM).
- ☒ Double Decker Positive tubular plate / Negative Plate Lead.
- ☒ Double Decker Positive tubular plate / Negative Plate Copper Stretch Metal (CSM).
- ☒ Tailor-made cells: all the above mentioned technologies can be adapted to meet the tactical demands of the submarines and meet the specific requirements of the customers.

**Designed in Quality Manufacturing**

Quality manufacturing processes for the Submarine Batteries VRLA design batteries incorporate the industry's latest advances in this class of batteries, making them ideal for a variety of applications.

**No transport restrictions**

- ☒ Surface transport. Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.
- ☒ Marine transport. Classified as non-hazardous material as per IMDG amendment 27.
- ☒ Air transport. Complies with IATA/ICAO, Special provision A67.



**Innovative Features**

- ☒ Very low H2 evolution during operation.
- ☒ Internal cooling system with great efficiency.
- ☒ Container and lid are manufactured in house with a very sophisticated method. The container walls are thinner, which gives the container less weight and more volume, thus more active material for increased performance. The design of the container has successfully passed the BV430/85 and BV430/73 Shock Tests at BWB.
- ☒ The pole bridges are made of electrolyte copper to increase conductivity.
- ☒ The cells exhibit a very low operation temperature during activation and charging of the battery.
- ☒ The battery has a short activation time.
- ☒ The plates of the cells have excellent dry charge conditions.
- ☒ The improved agitation system inside the cell protects the battery from sulphation problems and increases the electrical performance.
- ☒ The battery exhibits an optimum performance at low (patrolling) and high rate (manoeuvring) operation.
- ☒ Each cell is equipped with an easy maintenance service plug with an integrated ceramic filter. The ceramic filter is specially designed with improved anti explosive capability.
- ☒ Proprietary Fixed Orifice Plate Pasting technology applying active materials on both sides of the grid for consistent cell-to-cell performance, higher capacity and uniform grid protection.

**Applications:**

EverExceed's submarine batteries are designed for long life and high performance in:

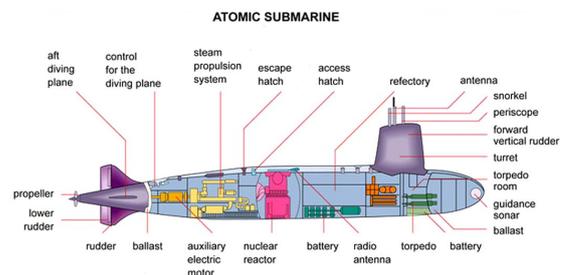
Western type submarines:

- ☒ U209                      ☒ U214                      ☒ Scorpene
- ☒ Agosta                      ☒ Daphne

Eastern type submarines:

- ☒ Romeo                      ☒ Foxtrot                      ☒ Kilo

Design development has been done also for classes U206, U212, Vastergotland (A17) (A19).



## Battery Accessories

### Battery Monitoring System (BMS)

The BMS is the ultimate tool for the commanding officers on board the submarine. It provides a complete and detailed picture of the energy flow from the batteries and also provides the remaining energy according to different selectable hypothetical tactical maneuvers. The alarm and warning capabilities can pinpoint a malfunctioning cell at once and an overheated situation. Special features like statistical records and performance records are valuable tools regarding the design of new tactical exercises for the submarine by the commanding officers.

### Built in Acid Circulation System

Provides the uniformly distribution of the acid all over the plates, thus keeping the density of the acid homogenous at all times and increases the performance of the cell and thus the sulphation phenomena in the cell is avoided.

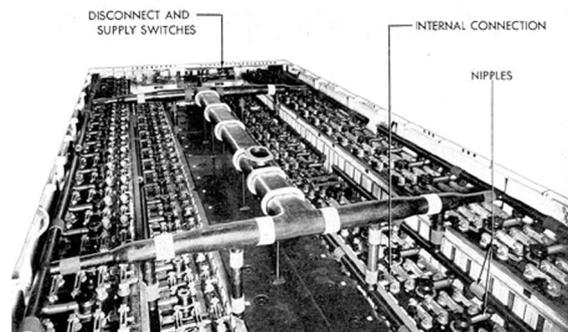
### Built in cooling System

The highly sophisticated cooling system provides internal cooling of the poles, reducing the internal temperature of the cell, especially in fast discharge situations (attack or escape maneuvers).

### Portable digital voltmeters, densimeters, thermometers

### Hydrogen and Oxygen analyzers

### Hydrogen eliminators



## Battery Logistics

### Training:

 Instructions for the ships personnel

 Instructions for the submarine base personnel

### Customer support:

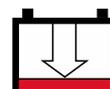
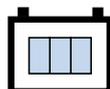
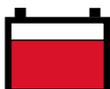
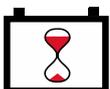
 Commissioning of the battery

 Activation of the battery

 Installation of the battery on board the ship

 Supervision of capacity tests

 Assistance for maintenance



***EverExceed***<sup>®</sup>  

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***power your applications***



***Supplied Worldwide by  
EverExceed Corporation***

