

EX-SOLUTIONS CONSULTING PROJECT: **MIDAC BATTERIES**



BACKGROUND

Midac is the only company that produces automotive, motive power and stationary batteries in the same manufacturing plant, which is close to Verona in Italy. In less than twenty five years it has become one of the leading battery companies in Europe and its products are sold worldwide. The company has a wide range of products for the materials handling sector and supports all types of applications.

Midac has had many opportunities to sell batteries into businesses that operate with potentially explosive atmospheres. However, the company did not feel that the standard battery range would be suitable for ATEX hazardous areas without further investigation, despite mixed messages in the market regarding the suitability of using standard traction batteries in ATEX Zoned areas.

THE CHALLENGE

After many years of declining to quote in these markets, Midac looked for an explosion proof solution.

Midac wanted to extend its traction battery range to include explosion proof batteries that met all the Ex requirements for use in Zone 2 and 22 applications. However they wanted to achieve the ATEX certification across the whole range of cell types.

Midac also understood that the control of the complete process was critical to the Ex certification from cell production to final assembly. The company wanted to ensure that all aspects were addressed to ensure a robust, safe and ATEX compliant product for use in potentially explosive atmospheres.

Midac looked for a strategic partner to work with on the project.



HOW DID PYROBAN'S EX-SOLUTIONS CONSULTING TEAM HELP?

Midac and Pyroban already had a longstanding relationship as active members in the BITA Technical Standards Committee. Through initial discussions, the Pyroban team explained the different routes to achieve certification and the ongoing requirements for production control and change management of product lifecycles.

Pyroban supported the complete Ex certification process including Clause by Clause assessment, testing, production control requirements, quality records, labelling, training, change control and documentation resulting in a complete Midac Ex battery range for use in ATEX Zone 2 and 22 applications.

THE EX-CERTIFICATION JOURNEY

Pyroban used its extensive knowledge and utilised in-house capabilities, coupled with third-party testing to assess the battery assemblies under the Ex e & Ex t principles.

As ATEX certification is never guaranteed, the project was undertaken in phases. The initial phase was for a range of cells for Zone 2 (gas and vapour) applications. With successful certification testing, the range was then extended again for Zone 2. The initial phase took around 6 months.

With positive market demand and a steady sales order book, additional cell types were tested and certified to expand Midac's range of explosion proof batteries further. This phase was completed during Covid restrictions.

CREATING DIFFERENTIATION

In the latest phase, Midac saw opportunities in Zone 22 (powder and dust) applications, so added dust certification across the range.

With Pyroban's deep understanding of Ex requirements it meant that Midac has a market-leading battery solution for dust applications, where higher Ah capacity can be achieved which increases the operating time between charges compared to other Ex battery brands. This USP would not have been identified without Pyroban's input.

FAST AND COST EFFECTIVE ATEX CERTIFICATION

With Pyroban's expertise, Midac has brought a complete Ex range of batteries to market quickly and very cost effectively.

Pyroban remains on-hand to support ongoing design changes and opportunities to further expand the portfolio.

With positive market demand and the confidence of the successful project, Midac is looking to extend the range even further, to include their MHE opportunity charging range of batteries and chargers. This project further demonstrates Pyroban's capability to support OEMs and manufacturers in the complex ATEX certification process, to deliver the product on time and on budget.

Midac's new range shows that battery OEMs acknowledge that batteries need to be properly Ex certified for use in potentially explosive atmospheres and that it is not possible to just "risk assess" a standard battery for ATEX operations. Midac places their Ex certified battery assemblies on the market with the full Ex marking, certification and user documentation required for ATEX.

THE RANGES COVERED

The battery assembly ranges covered are the Midac MDL, MBS Lead-acid battery type, and the PzV gel type battery. Each range comprises many different individual cells that can be configured into a vast array of configurations that cover different capacity/voltage ratings.

The batteries are covered under the following



II 3G Ex ec IIB T6 Gc
II 3D Ex tc IIIC T85°C Dc

Ex ec is under EN60079-7:2015 – Equipment protection by increased safety "e"

Ex tb is under EN60079-31:2014 – Equipment dust ignition protection by enclosure "t"

ABOUT EX-SOLUTIONS CONSULTING

Pyroban's Ex-Solutions Consulting helps OEMs and businesses solve their Ex certification requirements, whether it's a one-off project or development of an Ex certified (ATEX / IECEx / UKEx - with UKCA marking) version of their product so they can win business in hazardous area applications.

