ZEROMAG News

Where in the world…

Zeromag is to be seen in far flung places around the world. Recent sales have included India, Australia, Kazakhstan, Malaysia, Abu Dhabi, USA and Brazil.

In a recent project in the Baltic, Zeromag was used to overcome magnetism in a very large base structure for an offshore wind turbine. The problems appeared in several places where the cylinders of the structure were cut to the shape of the required joints. This effect, where the strength of the remenant magnetic field is due to the shape of cutting, rather than bulk material processing, was analysed using finite element analysis and will be the subject of a future article in Zeromag News. If you have a magnetism problem which could be attributed to geometry we would be pleased to discuss this with you.

Before Zeromag was deployed, welding was at a standstill and the whole construction was stalled. Zeromag provided an instant solution for the team and allowed the fitted parts to be welded successfully.

Interestingly, there was a question about the validation of welds that had been made with Zeromag applied and this had not been used during the pre job weld tests. The answer here was that the magnetic field levels during the earlier tests were low and Zeromag served to reduce the field to the low levels of the validation. Hence the procedure was vindicated by the customer and their insurers.

High quality welds for wellheads

The blow out on the rig in the gulf of Mexico has concentrated minds on the quality of welds on high pressure wellheads. High pressures peaks from the well cause additional strain on all the high pressure components, pipes, valves and diverters. Many of these components are welded and could be a weak point in the structure when over pressure occurs. This underlines the need for high quality welds. Generally welds are fully inspected but even X-ray testing can miss brittle weld metal.

Magnetism during the welding process has long been recognised as the cause of magnetic arc blow, but welders often come across magnetism at lower levels. In these circumstances the temptation is to continue welding and “get the job done” even though the arc is wandering or unstable. This could result in brittle welds if temperature is not maintained at the weld point. Zeromag removes magnetism for welders so that welding can be undertaken to the highest quality even with magnetic fields sufficient to blow the arc. Zeromag has recently been adopted by one of the leading wellhead manufacturers.

ZeroB: Productionisation

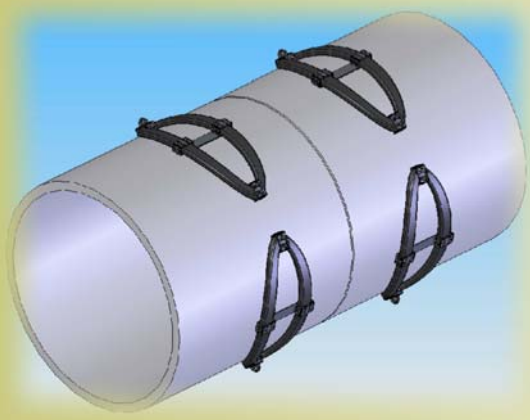
www.diverse-technologies.net

Diverse have been developing a new product, ZeroB, for use in high ambient magnetic field environments.

During 2011 Diverse signed a technology agreement with Rio Tinto who are now responsible for the sales of ZeroB to aluminium smelters. Several successful trials have been conducted and validation of the fully productionised unit due in the next few weeks.

The first project application on live bus bars is scheduled for July. The ZeroB technology which is able to null magnetic fields in excess of 800 Gauss, could be used in any electro-smelting or electro-deposition process. We would be pleased to discuss your application.

Split bobbins and Lay on coils

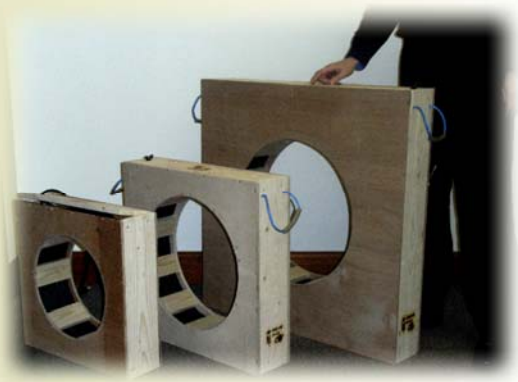


We are always seeking ways to speed the deployment of Zeromag and help our users reduce the cost of dealing with magnetised steel pipes and plates. In recent years we have introduced low cost bobbins, and quick deployment clam coils.

In many pipe applications when working with large diameter pipe it is desirable to have welding at 2 positions around the circumference of the pipe. If zoned magnetism is present then localised field nulling can be achieved using our lay on coils ZMLOC. The lay-on coils are a pair of flexible coils that are clamped onto the pipe surface using the adjustable straps provided. The coils are positioned adjacent to the weld positions with the coils on opposite sides of the pipe. Two Zeromag are then deployed either side of the pipes, one for each pair of lay-on coils.

In other circumstances, it is advantageous to prepare a bobbin in advance of the the weld. This is fine if Zeromag is used for pipe end degauss, but if it is required for active nulling then our new split bobbin ZMBOB-S is the ideal answer. It allows preparation of the demagnetizing coils in advance of the start of the work. The bobbin of cable is then slipped over the end of the pipe and Zeromag used in the normal way.

Once magnetic nulling is not required, usually after the root pass, the cable can be removed and the bobbin split and lifted off the pipe. The bobbin can then prepared for the next joint while the fill and capping is being completed.



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