



Aluminium to replace stainless steel?

Case study #1

Progress
Engineering
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Bespoke machining
and fabrication

Aluminium has its advantages, but could it really take the place of stainless steel in the design of a shipboard control cabinet? PEL was happy to give it a try.



Vestdavit and PEL

Vestdavit AS, based in Norway, designs, builds and supplies ship-mounted davits for launching and recovering boats in difficult sea conditions.

PEL has fabricated a number of hydraulic control cabinets for operation of these systems.

The challenge

For a new prototype, Vestdavit wished to consider the use of aluminium instead of the usual stainless steel. A major advantage of aluminium is its cost effectiveness. Key disadvantages are that folding/manipulating and welding are far more difficult. Welding of aluminium produces a rippled/wave effect rather than the smooth finish achievable with stainless steel. For Vestdavit's customers, a neat appearance was an important consideration.

The solution

Design engineers from the company visited PEL to discuss the issues involved. Having examined the engineering drawings, PEL's team was able to make suggestions on how to make the design work and changes were agreed.

Satisfactory finish results were obtained by a combination of careful welding followed by 'dressing' of the welds prior to powder-coat painting.

PEL completed the prototype by fitting the hydraulic gauges, handles and start/stop buttons.

However, for the purpose of exhibiting the design there was no need to install any internal pipework. The project also included the construction of a wall-mounted holder and protective box for a remote control unit.

"We are very pleased with our relationship with PEL. The team has been very helpful in commenting on our drawings, improving them and making adjustments to our equipment. Projects are delivered on time, to a high level of quality and at the right price."

Helge Gravdal, Technical Director, Vestdavit AS

The results

"The prototype has now been exhibited and the design has been discussed further at a review meeting," says PEL Managing Director David Cottam. "The next phase of the project will be for us to incorporate whatever design changes are agreed, so the new cabinet can go into production."



Early stages, with aluminium cut and shaped to fit the design.



Finished prototype with powder coating.