

# **The use of Bi-Steel for High Explosives Containment Facilities. Modelling and Testing.**

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## **Introduction**

AWE currently has a number of contained explosive test facilities on the Aldermaston site. These existing facilities are made from reinforced concrete and have been in service for approximately 30 years or more. The diagnostics fielded are primarily pulse power flash x-ray machines which require to be positioned close to and protected from the explosive experiment. The containment philosophy avoids these tests interacting with other facilities. To enhance AWE's diagnostic capability it is necessary to construct a new facility which better meets the long term scientific goals.

The nature of the requirements on the proposed facility and its location on a nuclear licensed site mean that there are perceived technical benefits in developing the use of Bi-Steel, both in terms of the technical solution and the cost of the structures. This paper gives a summary of the perceived technical benefits offered by Bi-Steel over traditional construction methods and gives an overview of work currently being undertaken by AWE, Corus and MFD International to develop and validate a dynamic design approach for the containment structures.

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