ALS MARINE Ltd Newsletter

November 2010 ● Issue 1

ALS MARINE is a leading service provider in marine industry and a specialist provider of underwater engineering services in Greece and abroad

Welcome to ALSMARINE LTD

ALS MARINE LTD

ALS MARINE Ltd and IFREMER Performed Successful Pressure Tests of a Cylindrical Housing out of CFRP at 406 bar (4060 m depth)

ALS MARINE Ltd designed a cylinder out of Carbon Fiber Reinforced Plastic (CFRP) at the demand of the French Research Institute for the Exploitation of the Sea (IFREMER). The cylinder was manufactured by B&T COMPOSITES SA.

The CFRP cylinder is to replace an existing metallic cylinder which is used as pressuring housing for an oceanographic profiler. The profiler is used for recording and transmitting biochemical, physical and other parameters of the sea column from surface level up to 2.000 m depth.

The structural analysis and design was performed by ALS MARINE. A parametric finite element model was developed simulating the behavior of the cylinder's structure under high hydrostatic load.

Two sample cylinders were constructed by B&T COMPOSITES SA by filament winding method.

ALS MARINE LTD

85, Vouliagmenis Ave.,

City Plaza Centre,

Office 211

166 74 Glyfada, Greece

Tel: +30 2109607077

Fax: +30 2109642112

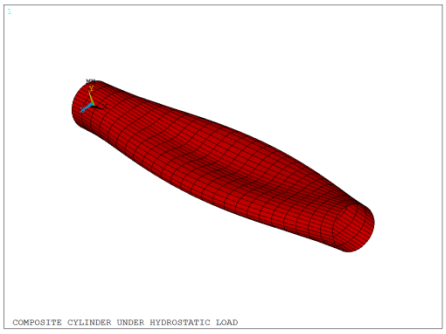
Mobile: +30 6983000908

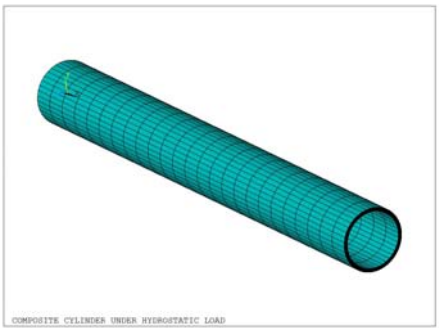
E-Mail:

alsmarin@otenet.gr

Web Site:

www.alsmarine.gr





ALS MARINE and B&T COMPOSITES are cooperating in the field of marine applications out of composite materials.

For the execution of the tests, the sample cylinders were sent to and prepared by IFREMER. The pressure tests were conducted on 17th and 18th of November on IFREMER's premises, in Brest, France.

The tests consisted of pressure and de-pressure cycles up to the safe depth (operating depth x safety factor) and a test up to the failure pressure. Specific measurements were taken to define the compressibility (reduction of the volume) of the structure.

The results were a success. All the requirements of IFREMER were achieved and the behavior of the structure followed the prediction of the model.