

Cuming Corporation News

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OTC 2003

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Visit us at the expanded
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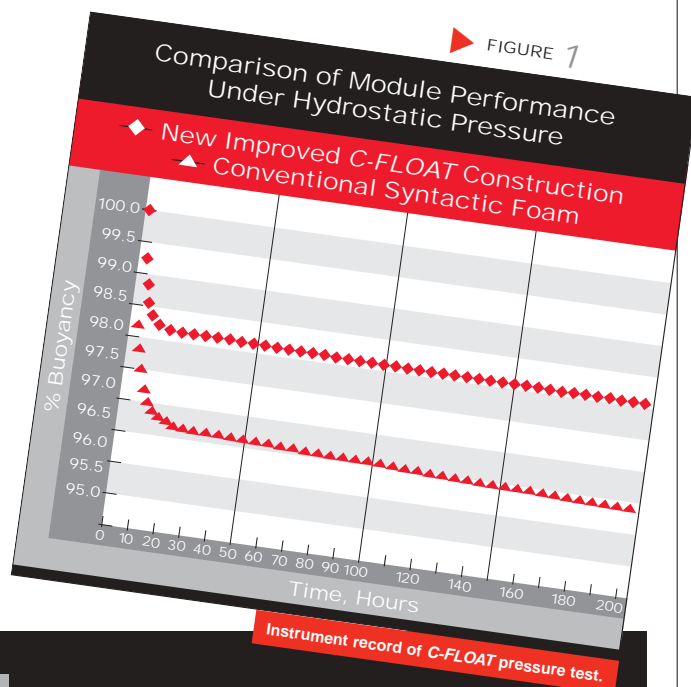
"EXTENDED LIFE" TECHNOLOGY: C-FLOAT BUOYANCY PRODUCTS WORK BETTER, LAST TWICE AS LONG

Cuming Corporation has a long history of responding to the technical challenges of offshore operations. As drillers reached into deeper and more inhospitable waters, the C-FLOAT line of buoyancy products expanded from the original high performance *Standard* construction to include first the *Ultralight* and then the *Ruggedized* construction options.

Now all three forms of C-FLOAT products benefit from a multi-year development program aimed at dramatically increasing the service life of syntactic foam materials (see box below).

As shown in Figure 1, both the compressive losses and water absorption losses of the new *Extended Life* construction are reduced to half the levels of previous materials. This means that, on the average, new C-FLOAT products will go on working *twice* as long as convention-

al floats and buoys. This feature, along with the other proven C-FLOAT attributes, gives offshore engineers the materials they need for extended safe, reliable operations under any kind of conditions. 



C-FLOAT Construction Options

Standard C-FLOAT - The standard of the industry: the most efficient and cost-effective high performance buoyancy products available.

Ultralight C-FLOAT - The lightest, strongest syntactic foam possible: "state-of-the art" for the deepest and most demanding applications.

Ruggedized C-FLOAT - The toughest and most damage-resistant construction: stands up to rough shipboard handling without breakage.

Extended Life Technology - Now applied to all three C-FLOAT constructions to give longer life and greater cost effectiveness.

A casing joint coated with C-TECH "Precision Strength" syntactic foam goes to work on BP-America *Thunder Horse* in the Gulf of Mexico. Cuming Corporation's C-TECH just received a Special Meritorious Award for Engineering Innovation from Hart's E&P.



C-THERM QUALIFIES FOR MAJOR SUBSEA PROJECTS

The *C-THERM* success story just keeps getting stronger, with qualification testing completed for a number of major subsea projects. *C-THERM* insulation for trees, sleds, jumpers, and other subsea equipment is now available in a wide range of formulations for temperatures up to 275° F (135° C). These are the most widely accepted materials of their kind, having been installed in a large number of offshore fields around the world. Their high thermal efficiency and resistance to thermal and hydrostatic degradation have been proven in service as well as long-term laboratory testing.

Figure 2 illustrates the kind of sophisticated equipment Cuming Corporation uses to certify the performance of *C-THERM* materials. The hydrostatic tester is a custom-built apparatus capable of measuring compressive properties, strength, water absorption, and bulk modulus of syntactic foam at temperatures up to 300° F (150° C), and pressures to 10,000 psi (680 bar). Special devices like this are what make Cuming Corporation's laboratory the best-equipped facility in the world devoted to syntactic foam research.

Another example of pioneering qualification work is the recent dynamic fatigue testing of a full-size joint of *C-THERM* insulation. The test setup is shown in Figure 3.

▶ FIGURE 2



This new hydrostatic tester simulates extreme deepwater temperature and pressure conditions up to 300° F (150° C), and 10,000 psi (680 bar).

The testing was performed as part of the successful qualification program for buoyant insulated vertical risers in a major project to be installed in West Africa. The *C-THERM* material, applied by Cuming Corporation's patented cast-on-pipe process, passed the test with flying colors, withstanding nearly three million flexural cycles without a sign of damage. If you need more proof that *C-THERM* is the best material for your own subsea application, contact any of the insulation experts in our sales engineering offices. ◀

C-THERM PROVIDES FLOW ASSURANCE FOR CRITICAL PROJECTS

Recent projects for Shell and Ocean Energy highlight the versatility of *C-THERM*, particularly for subsea equipment that requires special handling.

For Shell's *Bonga* project, Cuming developed insulation containers to surround heat banks and manifold connectors. Installed at sea, these containers maintain critical temperatures around sensitive equipment in the water. For the heat banks, insulation boxes surround control equipment, keeping the controls warm as they come into contact with colder water temperatures. Similar insulation boxes are being latched into place over subsea manifold connectors using ROVs. Cuming Corporation also continues to install pour-in-place *C-THERM* on 14 trees for *Bonga*. Elmer Hershey, manager of insulation products said, "We are pleased to have been selected by Shell for these multiple insulation opportunities, especially *Bonga's* critical controls and connectors."

Bayou Flow Technologies, LLC, the flow assurance partnership of Cuming Corporation, Bayou Companies and Perma-Pipe, has been tapped by Shell for *Habanero* in the Gulf of Mexico. Cuming is bonding pipe-in-pipe joints for *Habanero's* shear stops. By replacing metal bulkheads with syntactic foam to hold electrical lines in place, this *C-THERM* application prevents short circuits during pipe laying and operation.

Ocean Energy also selected BFT to handle all the insulation for its *Zia* project in the Gulf of Mexico. Cuming will insulate *Zia's* subsea tree and jumper as well as PLETs. ◀

▶ FIGURE 3



Fatigue testing of a full-size *C-THERM* buoyant insulated vertical riser joint as part of a major qualification program.

NEW C-FLOAT U.S. SALES REPRESENTATIVE

Louis D. Slaughter of Teal Equipment Company is the new U.S. sales representative for *C-FLOAT* syntactic foam buoyancy products. For information about how Cuming Corporation can support your offshore U.S. projects, see Louis' contact information below. ◀

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