



Strength
through
Innovation



Cover Photo

C-FLOAT riser buoyancy modules during loading on R&B Falcon's Deepwater Nautilus for the vessel's inaugural commissioning. Cuming Corporation supplied more than 650 modules for service in water 7,000 feet deep.

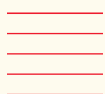


Cuming Corporation develops and manufactures high-performance, technically advanced syntactic foam materials for several markets. We demonstrate our leadership in this field by providing reliable, efficient and cost-effective products for our customers. Dedicated to promoting professionalism and personal development among our employees, we also strive to meet the highest standards of responsibility and service to our community.





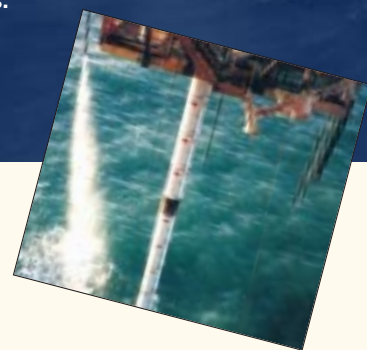
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Cuming Corporation was founded in 1980 by noted materials scientist Dr. William R. Cuming. After selling his earlier venture Emerson & Cuming to W.R. Grace in 1978, Dr. Cuming established Cuming Corporation to provide innovative materials solutions for demanding applications. For the last 20 years, we have manufactured quality syntactic foam products for the offshore oil and gas industry from our headquarters in Avon, Massachusetts, and more recently, from our new plant in New Iberia, Louisiana. As the offshore industry has moved into greater depths, Cuming Corporation has helped meet the technical challenges of deep sea exploration and production in increasingly difficult conditions, cost effectively. A separate division, Cuming Microwave Corporation, develops products for the electronics and aerospace industries.

Cuming Milestones

- Cuming Corporation engineers make the very first syntactic foam buoyancy modules for marine risers, helping to launch the worldwide deepwater exploration for oil and gas and contributing to every major offshore achievement since then.
- Cuming Corporation flotation modules become the products of choice on rigs setting drilling records around the world: Global Marine's *Glomar Explorer* and Noble Drilling's *Paul Wolff*.
- With rising sales of syntactic foam products to major oil companies and the oil services industry, Cuming Corporation achieves average compound sales growth rates of nearly 50 percent every year since its founding.
- Major expansion of Avon, Massachusetts plant for manufacture of buoyancy and insulation products enables doubling of output by 1999. With construction of an additional plant in New Iberia, Louisiana, Cuming enters the insulation products market. Six miles of insulated flowlines are delivered for Shell's *KING* project.
- A state-of-the-art research and development facility is built with staff and equipment dedicated to providing optimal technical solutions for deep-water operations.



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Dr. William R. Cuming, an internationally-recognized materials expert, pioneered many new technologies that have become industry standards.



Syntactic Foam Technology

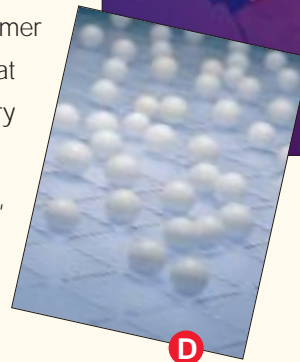
Syntactic foam is a composite with properties that make it ideal for use in offshore exploration and production. It is made up of hollow spherical glass fillers bound into a plastic matrix. The properties of these materials enable Cuming Corporation to develop products that meet a range of customer criteria for strength,

weight, temperature resistance and flexibility. Syntactic foam offers many advantages over competing materials and has the ability to withstand use at ocean depths of 10,000 feet and more for many years.

Cuming Corporation's research and development effort focuses on engineering these materials for use in extreme conditions. Our laboratory is devoted to improving our manufacturing process and quality control for syntactic foam products. Through experimental design based on long

experience with materials at various depth ratings, research and development formulates materials to customer requirements and to our own high quality standards. Our guarantee to customers is based on the confidence that Cuming Corporation materials will perform as designed.

Cuming Corporation strives for continuous improvement in its materials, formulations and product designs. We pride ourselves on quick development turnaround times to meet specific customer requests. But we also seek enhancements that address current trends as the offshore industry moves into greater depths, changes that will make products more water resistant, buoyant, thermally efficient, and more competitive in other ways.



B Holding tanks for epoxy resin or polymers that bind microspheres and macrospheres into syntactic foam.

C Differential Scanning Calorimeter measures thermal behavior of a test insulation sample as temperatures are raised. This is one tool used in developing syntactic foam to meet customer specifications for heat retention, flexibility and other properties.

D Microspheres, 150 microns in diameter and macrospheres (shown here), a half-inch in diameter, along with epoxy or polymer binders, are the building blocks of syntactic foam composites.

E Macrospheres are produced in our tumbler area. Polystyrene pellets are tumbled for up to 12 hours to achieve a spherical shape, while glass or graphite fibers are added with epoxy resin to strengthen their outer walls.



Safe, Environmentally Sound Operations

Cuming Corporation is committed to providing a safe working environment for its employees and has well-established processes for oversight, communication and coordination of safety issues. And, although we already comply with state and federal environmental guidelines for air and water emissions and solid waste, we are adding equipment to achieve a stricter standard. We also aggressively pursue ways to reduce waste through recycling and operational improvements, continually benchmarking and tracking our performance on all measures.

Our Headquarters

Our headquarters facility in Avon, Massachusetts focuses on production of *C-FLOAT* syntactic foam flotation – riser modules, fairings, buoys, and other large flotation devices. We also produce vacuum-cast *C-THERM* modules for insulating both flowlines and production riser towers. In recent years we have doubled our factory floor space and more than doubled our production capacity for these product lines.

This \$8.5 million upgrade has resulted in more than 105,000 square feet for syntactic foam operations. Not only do we have state-of-the-art production equipment, we have the most sophisticated hydrostatic testing facility in the USA. We are capable of testing entire riser modules up to 21 feet in length, 60 inches in diameter, and to a water depth of 10,000 feet.

Our manufacturing process is flexible, accommodating a customer's specifications and enabling us to produce a wide array of products efficiently and with quick turnarounds. One recent customer had an urgent need for a 2,500 foot riser module extension. To accommodate this request, we shortened the usual two to three month production cycle, making delivery in just one month.



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F Cuming Corporation's headquarters in Avon, Massachusetts is the world's largest and most modern factory for the manufacture of flotation and insulation products.

G Workers apply a strong fiberglass outer layer to a riser module mold before filling it with syntactic foam.

H Syntactic foam buoys of almost any size may be assembled for a variety of deepwater purposes.

I Using the largest and most modern testing facility in the industry, Cuming Corporation measures performance of full size riser modules to 10,000 feet in its hydrostatic test chambers.



New Iberia, Louisiana Plant

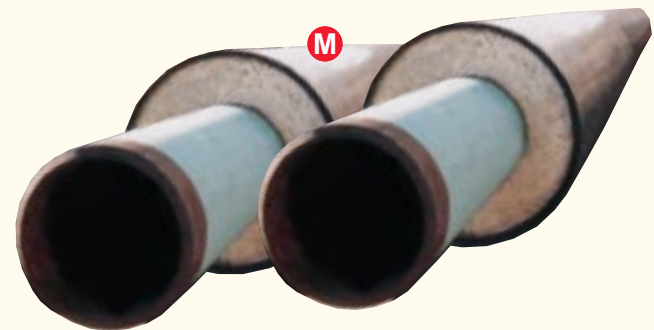
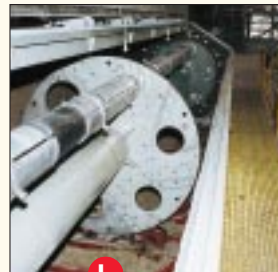


Our recently-opened New Iberia facility produces our patented *C-THERM* syntactic foam insulation, which helps ensure steady flow of deepwater petroleum products from the wellhead to their final destination. This new \$3.0 million 30,000 square foot facility features state-of-the-art manufacturing and test equipment, with the potential for quadrupling manufacturing capacity in the years to come.

From our New Iberia facility, related services are offered for the convenience of our customers. Bayou Pipe Coating, located adjacent to our site, is a major supplier of anticorrosion coatings and fabricator of offshore pipe with whom we collaborate. Our plant is at the Port of Iberia, offering barging facilities to access the Gulf of Mexico and the world beyond. New Iberia is also home base for service teams handling custom insulation and repair work throughout the Gulf.



Cuming Corporation is actively involved in an insulation testing program at Heriot-Watt University in Edinburgh, Scotland. Heriot-Watt's fitness for use test evaluates insulation samples at water temperatures and pressures simulating conditions expected over the typical 20-year operating lifetime of a sub-sea pipeline system. Rigorous testing also takes place in New Iberia to assure consistent quality of our products.



J *C-THERM* insulation comes in many forms – pack in place, flat and curved panels, collars and tapes – adapting readily to all surfaces and shapes. These can be used to insulate the entire subsea system – risers, connecting lines, trees and pipeline weld joints – forming a complete deepwater thermal barrier.

K Six miles of *C-THERM* insulated pipe for the Shell King project, installed from J.Ray McDermott's *Derrick Barge 50* in the Gulf of Mexico. Our New Iberia facility handles single, double, and quad joint lengths up to 160 feet, with longer lengths available on special order.

L The rotisserie oven in the New Iberia plant cures six 40-foot pipe joints at a time.

M *C-THERM* syntactic foam insulation helps ensure that oil and gas keep flowing for production in water depths of 3,000 feet and more.





We look forward to talking with you about the benefits of Cuming Corporation products in deepwater applications and how our experience can help your exploration or production project. Let us demonstrate our capabilities for producing durable, cost-effective flotation and insulation products. To learn more, please contact our representatives listed on the back cover.

Our Customers

ABB Vetco	Global Marine Drilling	R & B Falcon Drilling
Arco	Houma Industries	Santa Fe Drilling
Atwood Oceanics	Maersk Drilling	Sedco Forex
BP Exploration	Marathon Oil	Shaffer
British Gas	Marinor	Shell Deepwater Development Systems, Inc
Coflexip Stena International	Mentor Subsea	Shell Offshore, Inc.
Diamond Offshore Company	Mobil North Sea	Stena Offshore
Enserch Corporation	Noble Drilling	Stewart & Stevenson
Exxon	Oceaneering International, Inc.	U.S. Navy
Ferrosaal	Oryx Energy	



Pipe is inserted into the centralizer before application of insulation. Insulation is generally cast in a two- to four-inch layer around the pipe.



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