

CATALOG 150

C-FLOAT

BUOYANCY MODULES FOR DRILLING RISERS

**Strength
through
Innovation**

**CUMING
CORPORATION**

C-FLOAT Syntactic Foam Buoyancy Modules for Marine Drilling Risers

OVER THIRTY YEARS OF EXPERIENCE

Cuming Corporation has been the leader in high performance syntactic foam buoyancy for over thirty years. Our engineers are the most experienced offshore specialists in the industry. All major deepwater

RECORD-SETTING DEPTH CAPABILITY

4,000 ft (1220m)
6,000 ft (1830m)
8,000 ft (2440m)
10,000 ft (3050m)
12,000 ft (3660m)
14,000 ft (4270m)

1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012



drilling records in the past thirty years were made using C-FLOAT buoyancy. You can trust our long experience and record of success to provide the rugged and reliable products you need.

Ready for the Deepest Challenges

Cuming Corporation has supplied more ultradeep drilling riser buoyancy modules than any other manufacturer. We were the first to break the 10,000 ft depth barrier and went on to 12,000 ft and beyond. Our unique and proprietary materials allow drilling at great depth while minimizing weight. With the capability of testing full-size modules as deep as 14,500 ft, we're ready for the next round of deepwater drilling records.

Buoyancy Options for Every Purpose

The C-FLOAT product line provides a choice of the best buoyancy options. Our engineers are skilled in arranging the buoyancy depth increments along the length of the riser string for maximum efficiency. Materials options can be mixed and matched to place the lift where it is most needed. By working closely with riser suppliers, we can recommend an optimized solution for any marine drilling system.



C-FLOAT DENSITY vs. DEPTH RATING

	2,000 ft (610m) lbs/ft ³ (kg/m ³)	4,000 ft (1220m) lbs/ft ³ (kg/m ³)	6,000 ft (1830m) lbs/ft ³ (kg/m ³)	8,000 ft (2440m) lbs/ft ³ (kg/m ³)	10,000 ft (3050m) lbs/ft ³ (kg/m ³)	12,000 ft (3660m) lbs/ft ³ (kg/m ³)
C-FLOAT SDF "Standard Density" Syntactic Foam This epoxy/glass composite material has become the standard of the industry. Developed and refined for more than thirty years, C-FLOAT SDF continues to provide the best in versatile and cost-effective riser buoyancy.	23-24 (369-385)	26-27 (417-433)	29-31 (465-497)	33-35 (529-561)	36-38 (577-609)	40-42 (641-673)
C-FLOAT LDF "Low Density" Syntactic Foam This option combines all the best features of proven standard construction with reduced density, providing more buoyancy in a smaller package. The result is a significant boost in efficiency with the reliability of conventional materials.	22-23 (353-369)	24-26 (385-417)	27-29 (433-465)	30-32 (481-513)	34-36 (545-577)	38-39 (609-625)
C-FLOAT ULF "Ultra Low Density" Syntactic Foam This is the choice when conditions demand the lowest possible density at the greatest depth. Special processing and advanced aerospace-grade materials combine great strength with light weight, making these modules the highest performance buoyancy available.	21-22 (336-353)	23-24 (369-385)	26-27 (417-433)	29-30 (465-481)	32-33 (513-529)	35-37 (561-593)

Note: Densities and depth ratings are nominal and approximate only, subject to change with service conditions. Customers are invited to consult our engineering staff for recommendations in selecting the material best suited for their specific application.



CROSS-SECTION OF SYNTACTIC FOAM



Ruggedized Features

Fiberglass Skin

Stop Collar

Color Coded Depth Rating

Buoyancy Module

Serial Number

Choice of Fasteners

Custom Designed to Fit Riser

High Integrity System

Construction Options

C-FLOAT riser buoyancy modules are built to take the daily wear and tear of shipboard storage and handling. All standard *C-FLOAT* modules include our proprietary High Integrity "HIT" construction with internal reinforcement for extra safety despite damage. Additional strength, impact resistance, and longevity can be provided by Ruggedized "RGD" options that incorporate Kevlar™ and/or metal reinforcements engineered into the module structure.

Attachment Methods

C-FLOAT modules may be attached to the riser in any one of several ways. Simple straps around the outer diameter are tightened by tensioners fitted into molded pockets. Internal bolted fasteners can be used to join modules together. Kevlar™ or similar high-strength fiber is normally recommended for straps, while Type 316 stainless steel is usually the metal alloy of choice for bolting.

Hardware and Accessories

Cuming Corporation supplies a complete line of hardware and accessories for *C-FLOAT* modules. Stop collars are normally required at both ends of

each riser joint to prevent slippage and movement. Riser guards may be desirable to avoid damage to bare riser joints. Fairings or other VIV-reduction devices are often required in high current areas.

Reference Materials

Cuming Corporation publishes the most complete library of reference literature in the industry. Important advice on long-term performance, hydrostatic test data, proper installation, repair and maintenance, and other topics are readily available.

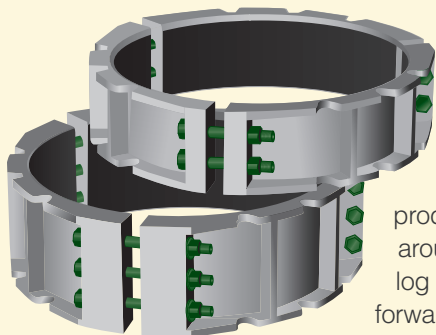
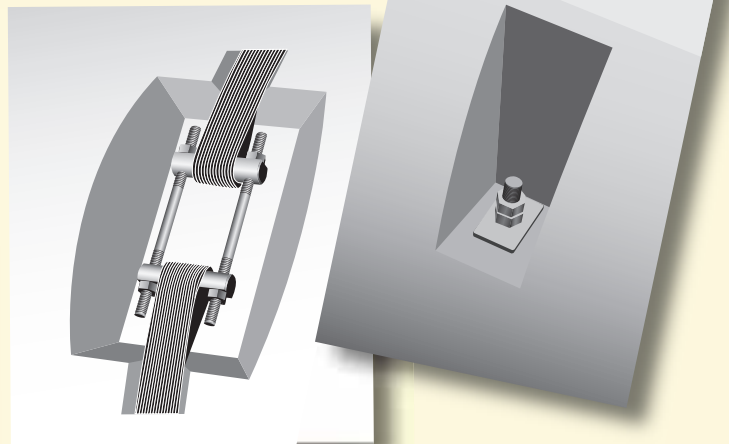
Ask our customer service agents or go directly to our website www.cumingcorp.com.

Fiberglass or Carbon Fiber Macrospheres

Glass Microspheres

Fiberglass Skin

Epoxy Binder



Customers and Projects

Cuming Corporation has been selected as the first choice for drilling riser buoyancy modules by many of the largest and most prominent offshore companies, and our products have played a key role in major projects around the world. See the back cover of this catalog for a partial listing of our references. We look forward to adding your project to our long list of successful partnerships.

Strength through Innovation

Contact Information:

▶ www.cumingcorp.com

See the website for a complete listing of our worldwide network of sales representatives.

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Partial List of Customers

(Alphabetical Order)

Acergy-France	Global Industries	Oil States
Aker Solutions	Great Eastern Shipping	Omega
Amerada Hess	Halliburton	Porter Services
Anadarko Petroleum	Houma Industries	Risers International
Atwood Oceanics	Hydrotech	Saipem
BP America	Hyundai Heavy Industries	Schahin-Brazil
Cameron	IFP/Ifremer	Shaffer
Cross Logistics	Kellog Brown & Root	Shell Oil Company
Daewoo Shipbuilding	Kerr McGee	Smedvig Navion
Diamond Offshore	Maersk Drilling	Stena Offshore
Dolphin Services	Marathon Oil	Stress Engineering
ENI	Mentor Subsea	Technip
ExxonMobil	Neptune	TotalFinaElf
FMC	New Offshore	Transocean
	Noble Drilling Company	U.S. Navy
	Oceanering	Vetco Gray
		Wellstream



Sales Offices Worldwide

See our website www.cumingcorp.com for the office nearest you.