

# WINTER™ Solid buoyancy materials

**WAYNE INTERNATIONAL** solid buoyancy materials are outstanding buoyancy equipment for different kinds of offshore, commercial, science, and other oceanographic applications.

Our products are widely used in various underwater robots, submersible systems, diving bells, underwater collectors, offshore gas and oil exploration, and the development of water insulation pipes, deep-water pipelines, mooring floats, and other fields, meeting the needs of deep-sea exploration.

**The main products** are ROV/AUV floats, umbilical cord cables (cable floats), water insulation floats, navigation buoys, platform floats, etc. These products are reliable and can provide stable buoyancy to ensure the safe operation of the submersible underwater.

We offer **easy-to-use and cost-effective solutions** for subsurface moorings and offshore applications. We provide many standard sizes and also can customize them to meet the specific needs of the client.



## Mooring Buoys Main Information

### DIAMETER IN INCHES

20      25      31      36      40      44      49      51      56      62

DEPTH  
in meters

### UPLIFT IN LBS/KG

	20	25	31	36	40	44	49	51	56	62
<b>750</b>	77.0/34.5	152/68.5	312/141	498/225	663/300	911/413	1246/565	1397/633	1834/831	2475/1122
<b>1500</b>	65.0/29.0	129/58.5	264/119	422/191	563/255	773/350	1059/480	1186/537	1558/706	2104/954
<b>3500</b>	53.5/24.2	107/48.5	218/98.5	350/158	466/211	642/291	879/398	983/445	1292/586	1746/791
<b>6000</b>	48.5/21.9	97.5/44.0	199/90.0	319/144	425/192	585/265	801/363	896/406	1178/534	1592/722

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## Custom Solutions Available

*Application water depth: 0-6000 meters*

*Shape: Sphere or ellipsoid, with a through hole in the center of the seabed foundation*

*Advantages: Low maintenance cost; customizable size; strong fatigue resistance*

*Application areas: Marine mooring system; acoustic Doppler flow rate profiler; fixed equipment, etc.*

*Buoyancy material surface treatment method: Glass fiber reinforced plastic coating, polyurethane, paint.*

*Available colors: Yellow, orange, red, and other required colors.*

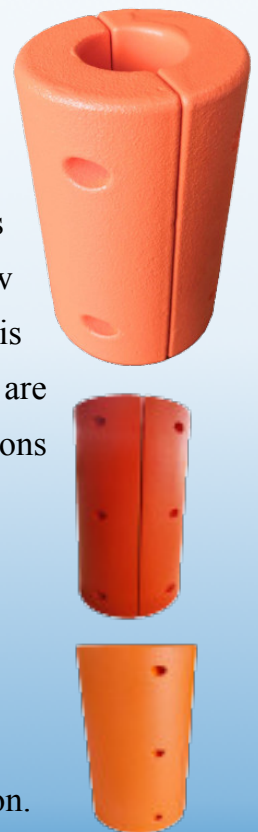
*Fast, efficient, and safe installation.*

*Materials and shapes that meet industry national and international standards.*

### AUV floating body ocean observation submersible buoy system

Choosing the right buoyancy material is essential for the design and production of autonomous underwater vehicles (AUV). In order to operate successfully, AUV needs to have a buoyancy that runs for a long time within a certain depth range with low power consumption. In addition, considering the fashionable design of most AUVs, it is as compact as possible while still providing great lift. Solid buoyancy materials are designed to meet the strict buoyancy and performance requirements of AUV applications in today's industry.

The structure of solid buoyancy materials is designed to withstand long-term cyclic exposure and hydrostatic pressure, especially in the deep sea, optimize buoyancy and energy consumption, and provide long-term operational reliability. AUV buoyancy components can be fully processed according to customer specifications and include protective layers and coatings to improve impact resistance and reduce water absorption.



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## Buoyancy materials for deep-sea exploration and investigation

Solid buoyancy materials are lightweight, pressure-resistant, and processable composite materials with high strength, low density, low water absorption, and easy processing.

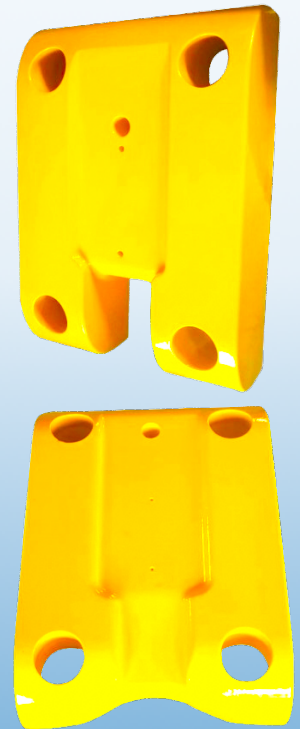
The finished product and manufacturing process are clean and environmentally friendly, harmless and tasteless. At present, the product covers the sea surface, shallow sea, semi-deep sea, and deep sea area, and its performance and function are enough to meet the application needs of different deep sea levels.



## Deepwater solid buoyancy materials customization for ROV

Underwater exploration and inspection usually involve challenging and harsh conditions. ROV can withstand these conditions, ensuring performance and reliability. They use sturdy components, protective housings, and corrosion-resistant materials so that they can play a good role in both freshwater and saltwater environments. These powerful features minimize downtime and maintenance costs and improve overall operational efficiency.

Solid buoyancy materials play a vital role in the design of ROV floats. Its main function is to provide buoyancy, enabling the robot to move and operate stably underwater. Compared with traditional foamed buoyancy materials, solid buoyancy materials have higher stability and reliability.



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## Cable floats



The low-density characteristics of solid buoyancy materials can provide sufficient static buoyancy for counterweight objects, so they are also widely used in other applications such as marine cables and ROV umbilical cord cables.

The cable floats made of solid buoyancy materials are mainly used in various marine ropes that require counterweight and provide buoyancy, such as marine cables. According to the need to provide buoyancy, multiple cable floats can be installed at intervals on the cables to meet the buoyancy requirements. The buckle design of this floating body is very convenient for the removal, unloading, and installation of cables. At the same time, the floating body can be increased or decreased at will, which is very convenient to use.