

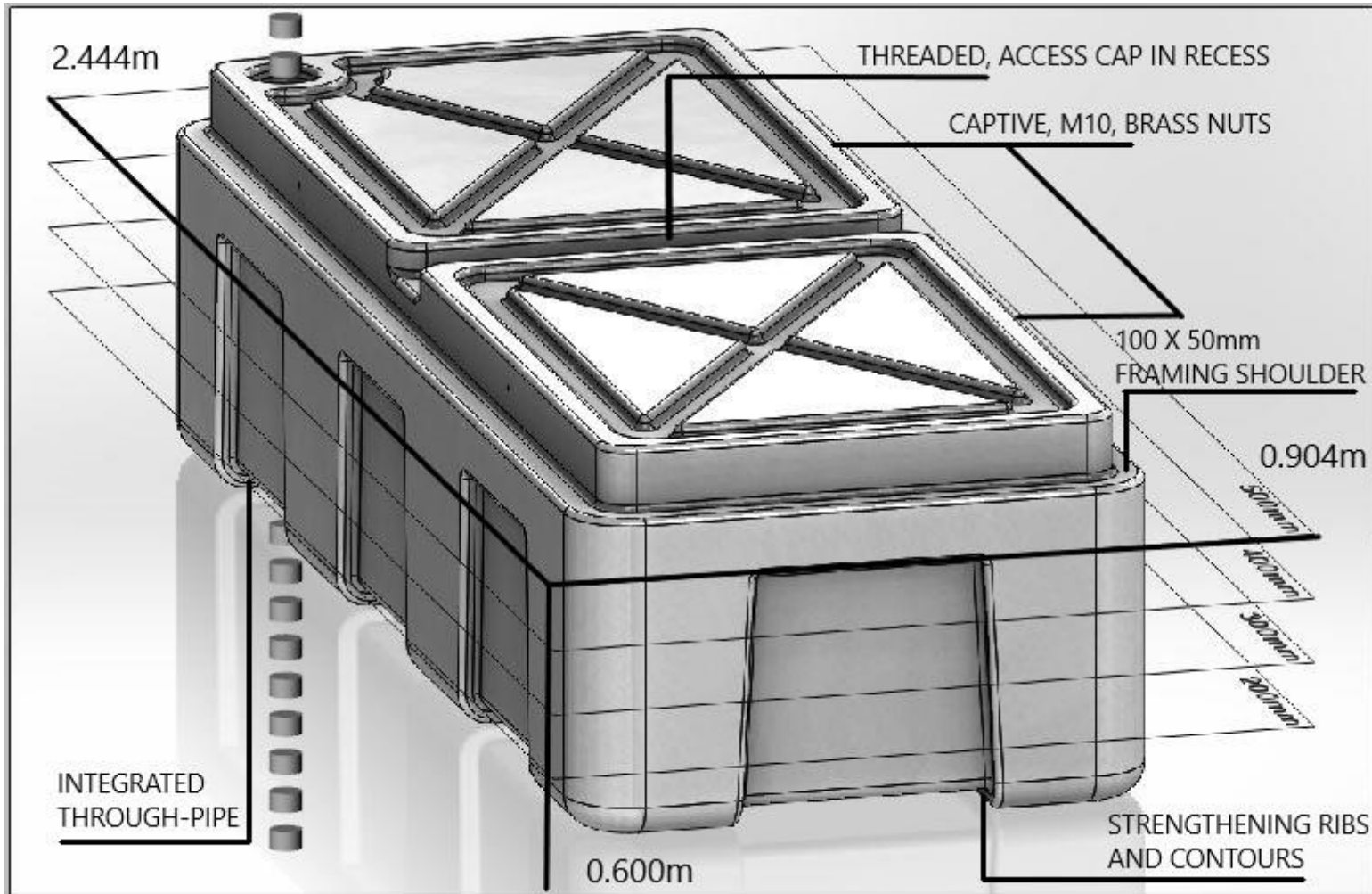
Floats and Frames Ltd.

Modular Pontoon Systems

**Cutlass Pontoon Float
Datasheet 2022**



Our Floats



Introduction

UK manufactured Cutlass Marine Float Units (exclusively available from Floats and Frames Ltd.) are specifically designed to concurrently solve the intersecting marine market spheres of floating home hulls, industrial/work/social rafts/stages, as well as decks, docks, jetties, and finger mooring networks. Engineered with versatility in mind, almost any shape, size and specific buoyancy can be arranged in simple to assemble, modular sections when twinned with an appropriate framing array. Rotationally moulded from HDPE linear polyethylene, each unit comes with a market leading 6mm of wall thickness and multiple enhancement features unique to our range.

Advantages

Pontoon hulled vessels, rafts and docking solutions offer an elegant and budget alternative to traditional monohull, steel, deep-displacement craft. With no ferrous part submerged, slipway fees, blacking and expensive hull maintenance can be eliminated; galvanic corrosion is of no concern and a hull made of multiple, air-sealed buoyancy tanks without a bilge mean massive mitigation against accumulation from internal or external water/LPG leaks and puncture. Additional benefits include insulation against thermal bridging, the ability to replace float cells if ever damaged, to retrospectively add full modules if you ever desire to increase your pontoon's length, the ability to manually handle, assemble and launch modular sections, as well as the versatility of choice available.

Scope

Capable of solving use cases; in freshwater and saltwater, for commercial and residential pontoons, able to be arranged in multiple formations, and framed with multiple ferrous and non-ferrous media. Talk to us to discuss your sizing, launching, siting, and loading intentions for a bespoke proposal of floats only, or a full pontoon.

Applications

Floating Homes

A Floats and Frames Ltd. pontoon makes for an industrial quality and extraordinarily adaptable 'hull' for a vast range of floating home superstructures. By choosing to use Cutlass Marine Float Units set in a modular framing array appropriate to your circumstances, you will moor secure in the knowledge that your houseboat for life, Airbnb pod, marina office, lake house, floating studio or workshop, has the market leading marine foundation system between you and danger. Able to be matched to your unique requirements of size, loading and use case, almost any pontoon solution can be extrapolated from simple to assemble modular rafts.



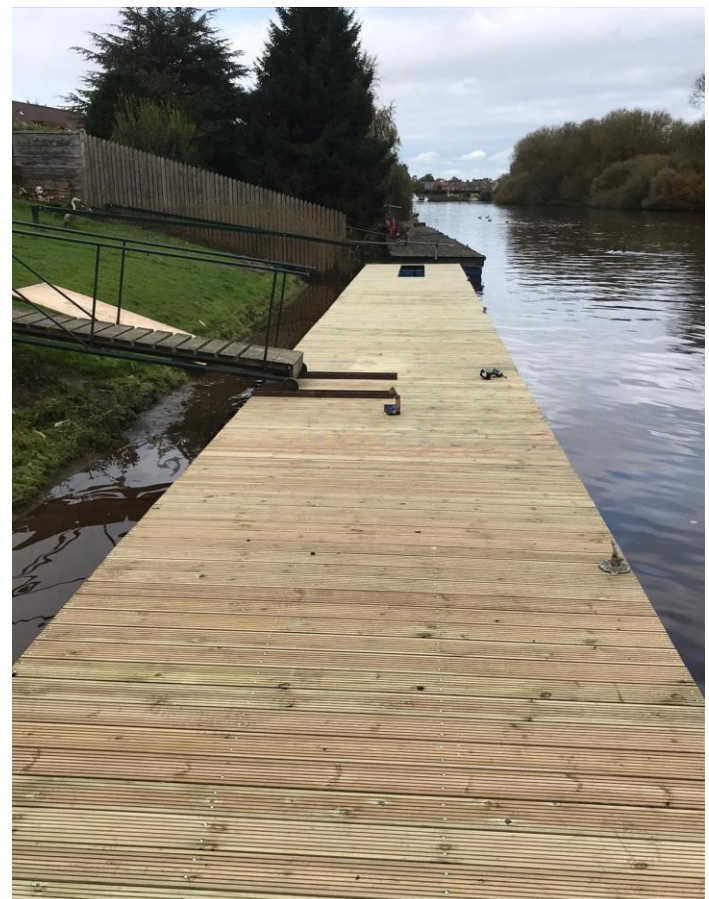
Industrial/Commercial Rafts

By virtue of only bolt-together assemblies, permanently floated or site transportable rafts and stages can be individually supplied as single modules, or as connect-in-the-water multi module pontoons to suit your requirements. Capable of providing static or powered platforms for site machinery, working teams, vehicles, raft gardens, dredging equipment, pump out kit, environmental research stations, bridging, as well as performance and event stages, a Floats and Frames Ltd. raft utilizing Cutlass Marine Float Units can be tailored to be an industrial quality, hard wearing and versatile floating solution for any likely floating commercial commission.

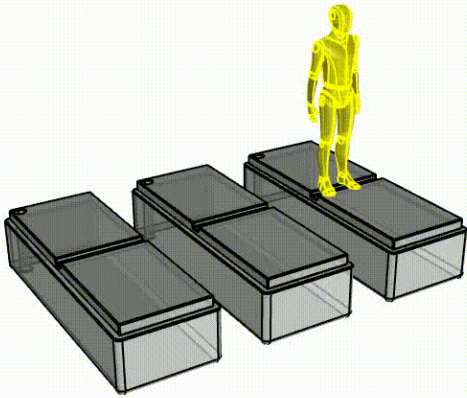


Decks, Docks, and Jetties

As discussed, Cutlass Marine Float Units from Floats and Frames Ltd. can be arranged in a massive variety of formations dependent on the pontoon circumstances trying to be solved. As well as the standard multi-float modules best suited to houseboat hulls and standard rafts and stages, for end of garden jetties and moorings, marina finger mooring networks, narrow bridging across water bodies, unusual requirements and pontoons needing to be regularly broken down and reassembled; we offer a separate modular them that works upon the premise that the largest component is a single, individually framed float. With each frame coming with a universal bolt set, individually framed floats can be connected in multiple different patterns and array, as well as accepting plug-and-play spud leg attachments, articulated hinges, spacer frames, gangplanks, and many more useful additions. Ask us about our UNIMOD system for further details.



Technical

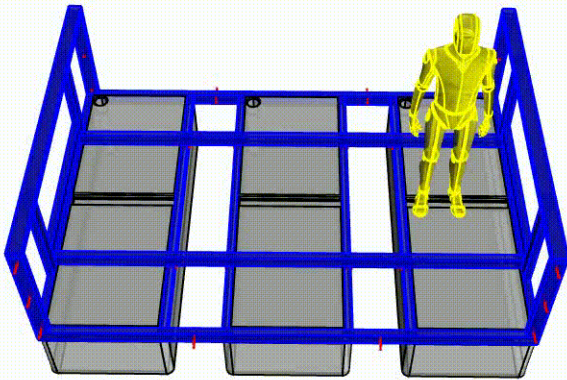


Specifics

A Cutlass Marine Float Unit measures 2444mm (l) x 904mm (w) x 600mm (h) and weighs 60kg. Each rotationally molded, HDPE tank comes with 6mm wall thickness, a corner 'through pipe' (to pass drains, spud legs or piles), a peripheral shoulder channel optimised to accept 100 x 50mm framing media, and four M10 bushings to secure your floats to your pontoon framework.

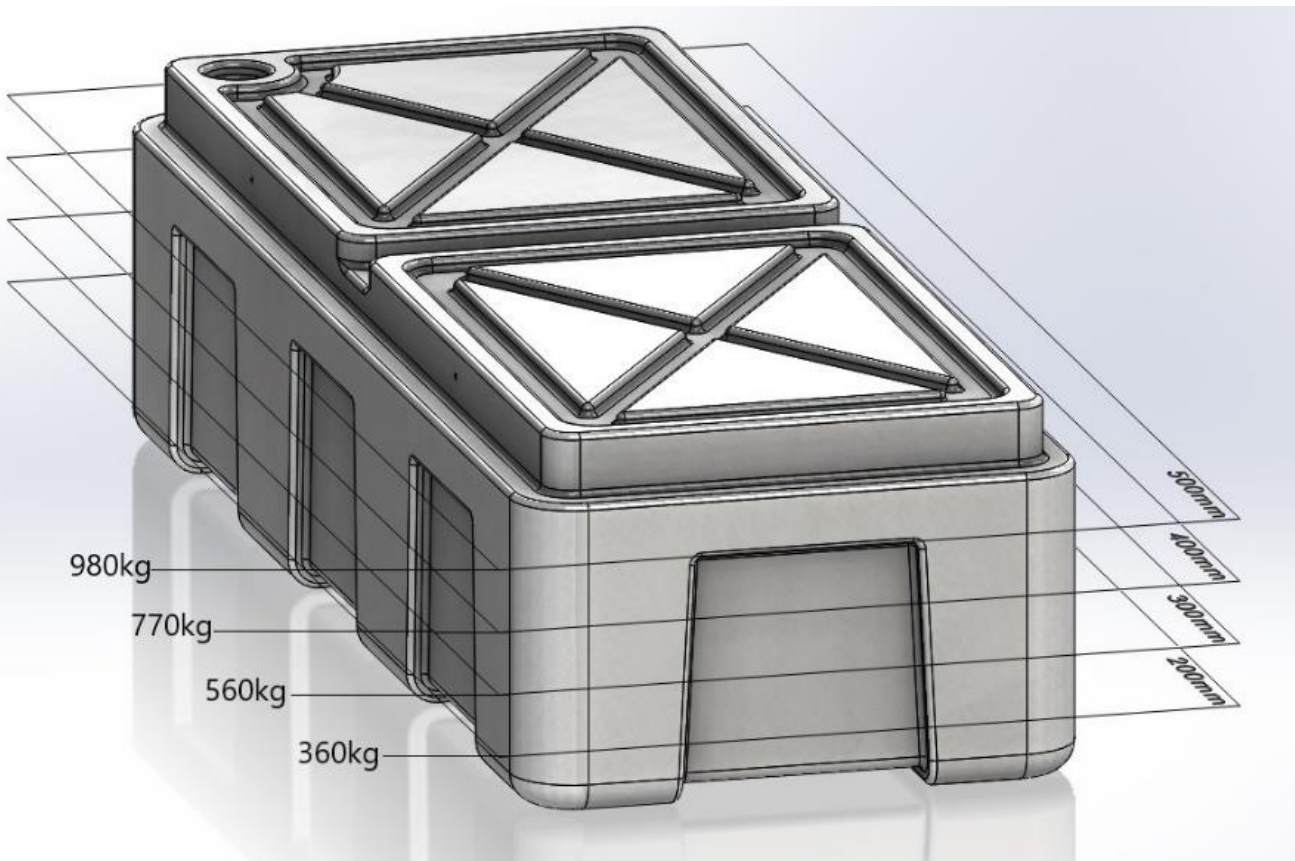
Pontoon Assembly

By pairing an appropriate quantity of floats (to meet your loading requirements) with a modular framing solution tailored to your circumstances; a Floats and Frames Ltd. pontoon can be elegantly assembled and launched by simply dropping a framing module over its designated floats, bolting in place, launching, and repeating, before connecting each floating module together in the water to achieve your desired length.



Appropriate Use

When considering a pontoon, siting, loading and use case variables will all affect the viability and optimization of your float/framing array. Tidally beaching moorings, salt water, waves, and winds, floods, and droughts, as well as collision danger and underwater/bank substrate should all be investigated and factored in. See image below for load-to-draught figures of a single float, we do not advise exceeding 500kg of (balanced) load per unit, leaving circa 200mm of freeboard beneath your framing.



Test Data

Icorene 1314

High Density Polyethylene
LyondellBasell Industries
Rotomolding

Product Description

ICORENE® 1314 is a high performance hexene high density polyethylene specifically developed for use in rotational moulding.

This grade has been designed for applications requiring good stiffness and toughness.
This material can be used in many different rotomoulding applications and for food contact applications.

ICORENE® 1314 Black 9001 is TÜV approved, protocolnr 175XS0122-00.

ICORENE® 1314 Natural and Black are DiBt approved Z40-25-519 and WRAS approved: 1507503 & 1202543

General

Material Status	• Commercial: Active		
Availability	• Europe	• Latin America	
Additive	• UV Stabilizer		
Features	• Food Contact Acceptable • Good Impact Resistance • Good Stiffness	• Good Toughness • Hexene Comonomer • High ESCR (Stress Crack Resist.)	• UV Resistant
Uses	• Fuel Tanks • Industrial Tanks	• Septic Tanks • Tanks	
Appearance	• Black	• Natural Color	• Unspecified Color
Forms	• Powder		
Processing Method	• Rotational Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.939 g/cm ³	0.939 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.0 g/10 min	3.0 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693B
122°F (50°C), 10% Igepal, F50	> 300 hr	> 300 hr	
122°F (50°C), 100% Igepal, F50	> 1000 hr	> 1000 hr	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ¹ (Yield, 73°F (23°C))	2900 psi	20.0 MPa	ISO 527
Tensile Elongation (Break, 73°F (23°C))	> 1000 %	> 1000 %	ISO 527
Flexural Modulus (73°F (23°C))	116000 psi	800 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Drop Impact Resistance			
-40°F (-40°C), Rotomoulding	> 4.72 in-lb/mil	> 210 J/cm	ARM
-4°F (-20°C), Rotomoulding ²	> 4.50 in-lb/mil	> 200 J/cm	Internal Method
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	62	62	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ISO 75-2/B
66 psi (0.45 MPa), Unannealed	153 °F	67.0 °C	
Vicat Softening Temperature	243 °F	117 °C	ISO 306/A
Melting Temperature	261 °F	127 °C	ISO 11357-3

Notes

¹ Type I

² based on ISO 6603

Notes

These are typical property values not to be construed as specification limits.

Ancillary

Product Handling

When handling or siting a pontoon utilizing Cutlass Marine Float units, take care to avoid scraping, scratching, or going on sharp objects. Also note that temperature variations within a sealed float unit can lead to the blowing out or sucking in of the less contorted faces from internal pressure changes. This can be remedied by breaking the silicone seal on the threaded access cap, venting and resealing in place.

Be aware that at 60kg per float, provision for lifting, handling, and the launch of assembled pontoon modules should be considered before purchase. Slipway and marina launching services will likely be required for larger modules, while even smaller assembly benefit from an appropriate bank to float from.

Disclaimer

Information in this document is accurate to the best of our knowledge at the date of publication. The document is designed to provide users with general information for safe use, handling, assembly, siting and loading and does not constitute any warranty or quality specification, either express or implied, including any warranty or merchantability or fitness for any other particular purpose. Users shall determine whether the product is suitable for their use case and can be used safely and legally.

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Company Information

Floats and Frames Ltd. trade internationally from our base in Leicestershire, England. With an experienced team of marine design engineers, fabricators and installers, We welcome custom commissions and invite potential clients to call for advice and a personal consultation.

For further information regarding Floats and Frames Ltd. please visit www.floatsandframes.com or contact us on +447867 800458

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