BARR Dock Float Specifications

All BARR Floats are made to the exacting standards listed on this document. All units are made from virgin Linear Low Density Polyethylene resin. This resin contains UV inhibitors and Carbon black to protect from deterioration caused by U.V. light. The resin offers a balance of toughness, rigidity environmental stress crack resistance and low temperature impact performance. BARR floats meet the Corps of Engineers Regulation #36 CFR part 327. (See page 3).

Properties	Test Method	Units	Typical Results
Melt Index	ASTM D1238	g/10min	6.5-6.8
Density	ASTM D1505	g/cm^3	0.935-0.936
ESCR Condition A (100% Igepal)	ASTM D1693	Hours	>1000
Brittleness Temperature	ASTM D746	°F (°C)	-103 (-75)
Heat Deflection Temperature @ 66psi	ASTM D648	°F (°C)	122-137 (50-59)
Tensile Strength @ yield 2"/Min	ASTM D638	P.S.I.	2500
Flexural Modulus (1% secant)	ASTM D790	P.S.I.	100,000 - 102,000
Impact Strength 1/8" @-40°C [1]	ASSOCIATION OF ROTOMOLDERS	FtLb	45-60
Impact Strength 1/4" @-40°C [1]	ASSOCIATION OF ROTOMOLDERS	FtLb	160

[1] Impact Strength Test of material is at the lower -40°C temperature as recommended by the Association of Rotomolders and not the less stringent -20oF as used by some other manufacturers

All floats are rotationally molded for a seamless one piece construction. The encasement is resistant to damage by animals and will not sink nor contaminate the waters if punctured. Content of the encasement is Expanded Polystyrene foam (see sheet 2 for specifications) with a nominal density of 1 Lb/Cu.Ft. The nominal wall thickness of the encasement is 0.150" with a minimum wall thickness of 0.125". Custom thicknesses can be manufactured to specific requirements. The resin used in the encasement exhibits resilience against ice, bumping by watercraft and degradation caused by petroleum products. The encasement is recyclable.

All BARR's floats are filled with virgin expanded Polystyrene beads and then fused using steam. This increases the strength of the float as well as providing a back up flotation system in the unlikely event of catastrophic damage to the encasement. The flotation material used meets the higher UL94H and ASTM E84 requirement for flammability.

Inner Core

Properties	Test Method	Units	Typical Results
Density	ASTM C303	Lb/Cu.Ft.	1
Compressive Resistance @ Yield or 10% Deformation	ASTM D165	P.S.I.	10
Flexural Strength	ASTM C203	P.S.I.	25
Water Absorption	ASTM C272	% By Vol Max	4%

All Testing including the Water absorption testing is carried out in accordance with the American Society of Testing and Materials, (ASTM) the recognized accredited standard within the USA and in other countries around the world. Testing to other standards can be accommodated if required. Testing through an independent test house can be arranged at additional cost.

Certified Tank Testing

All floats are tank tested for buoyancy results, and both the equipment and the tank testing procedure is 3rd party validated (see attachment). All tank test figures are +0/-5%.

Army Corps of Engineers

The following is an abstract from the Corps of Engineers Regulation #36 CFR part 327, the full document can be found at the following link http://www.access.gpo.gov/nara/cfr/waisidx_04/36cfrv3_04.html

Corps of Engineers Regulation #36 CFR part 327. 30 appendix C sect. 14

14. Floats and the flotation material for all docks and boat mooring buoys shall be fabricated of materials manufactured for marine use. The float and its flotation material shall be 100% warranted for a minimum of 8 years against sinking, becoming waterlogged, cracking, peeling, fragmenting, or losing beads. All floats shall resist puncture and penetration and shall not be subject to damage by animals under normal condi-

tions for the area. All floats and the flotation material used in them shall be fire resistant. Any float which is within 40 feet of a line carrying fuel shall be 100% impervious to water and fuel. The use of new or recycled plastic or metal drums or non- compartmentalized air containers for encasement or floats is prohibited. Existing floats are authorized until it or its flotation material is no longer serviceable, at which time it shall be replaced with a float that meets the conditions listed above. For any floats installed after the effective date of this specification, repair or replacement shall be required when it or its flotation material no longer performs its designated function or it fails to meet the specifications for which it was originally warranted.