



EPS Navy Systems

THE MOST ADVANCED MILITARY VESSELS IN THE WORLD...









EPS Navy Systems



TO FIGHT SOPHISTICATED ENEMY AND CRIMINAL ACTIVITY



EPS Corporation



2016

Corporate Overview



- Incorporated in 1983
- Supports Federal Government Worldwide, Civilian and Military
- 300 Employees
- ISO 9001:2000 and AS 9100C Certified
- Service Disabled Veteran Owned Small Business



EPS Corporation

Providing Our Full Resources to All Customers

Since 1983, EPS has supported the U.S. Federal Government worldwide, including Military and Civilian agencies. EPS has proven capability building Mission Critical Infrastructures from project concept through closeout. Approximately 60 percent of EPS employees hold clearances at various levels.

EPS is a prime contractor on several multi-billion dollar Government contract vehicles under which the company provides diverse equipment, support, and solutions to various customers around the globe, including hostile environments.

EPS is a synergistic company comprised of various divisions with complimentary core competencies working together to provide comprehensive solutions and support.





EPS Navy Systems

EPS DELIVERS TWO EPS M10 HOVERCRAFT TO THE KINGDOM OF SAUDI ARABIA BORDER GUARD



In February 2011, EPS delivered two EPS M10 Hovercraft along with a comprehensive spare parts package and training program to the Border Guard of the Kingdom of Saudi Arabia.

The contract was awarded after an international tender process with submissions from all major hovercraft suppliers worldwide.

The two hovercraft were built at the EPS production shipyard in Titusville, Florida.



EPS Navy Systems

EPS PURCHASES DESIGN AND INTELLECTUAL PROPERTY RIGHTS FOR THE SAH-2200 HOVERCRAFT



In September 2008, EPS announced the purchase from Slingsby Aviation of the SAH-2200 Hovercraft and all rights associated with it.

The purchase of this vessel increases the portfolio of EPS available models and consolidates its place as a major hovercraft manufacturer.

As with the EPS-10 Hovercraft model, the new EPS-2.2 will be manufactured at our Titusville, Florida facilities.



EPS Titusville, FL Facility

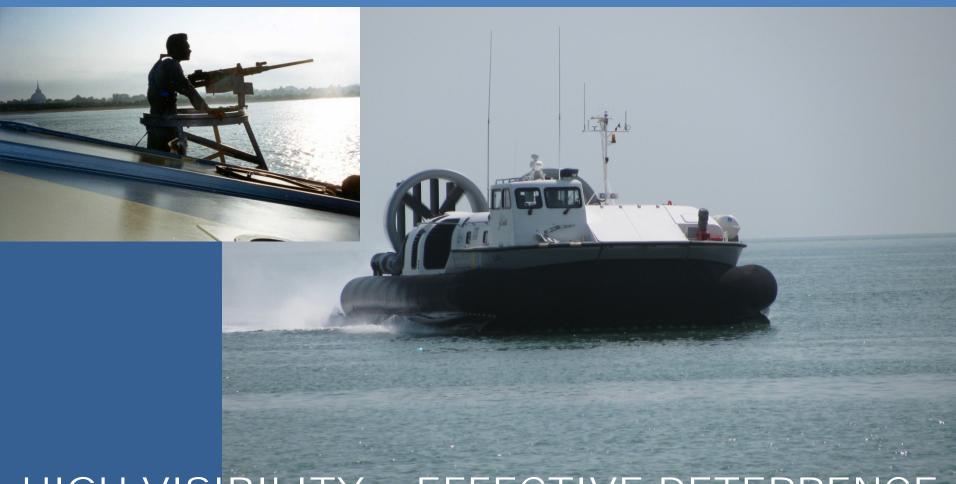
EPS TITUSVILLE, FLORIDA FACILITY

- Located on Intracoastal Waterway in Titusville, Florida
- State-of-the-art advanced composite manufacturer
- Government, commercial and private customer base





High Profile of Regular Patrols to All Areas



HIGH VISIBILITY = EFFECTIVE DETERRENCE



Provide the Element of Surprise



Ideal for transportation of troops to any area of coastline or riverine location – irrespective of local conditions or terrain.





EPS-10 Hovercraft



MODERN TECHNOLOGY FOR MODERN WARFARE AND DEFENSE



EPS-10 Details



Dimensions:

Length (Operational) - 20.6 m

Beam (Operational) - 8.8 m

Cushion Height – 1.0 m

Leading Particulars:

Disposable Load – 10 tons

Crew - Min. 2 in Wheelhouse

Bow Ramp – 2.5 m wide opening

Heads/WC - Standard on all craft

Performance:

Speed – 50 Kts (Calm Water)

Range – 500 Nm (Calm Water)

Sea State 4



EPS-2.2 Hovercraft





EPS-2.2 Details



Dimensions:

Length (operational) – 11.0 m

Beam (operational) - 4.8 m

Cushion height – 0.6 m

Features:

Disposable Load – 2,200 kg

Crew - min. 2 in Wheelhouse

Performance:

Speed – 40 Kts (Calm Water)

Range – 500 Nm (Calm Water)

Sea State 3



Designed for Versatile Applications

EPS Hovercraft are designed for a wide variety of applications:

- Amphibious Operations
- Special Forces Insertion & Recovery
- Border Patrol & Protection
- Port & Harbor Security
- Command, Control & Communications
- Ferry Operations
- Oil Spill Containment & Recovery
- Emergency Medical Services
- Rescue & Recovery from National Disasters
- Fire Suppression





Operational Envelope

The EPS Hovercraft Operational Envelope is Extremely Varied:

- Ability to traverse sea, land, ice and virtually any terrain
- Highly fuel efficient consumption
- Design cruise speed of 40 knots
- Highest thrust-to-weight ratio
- Manufactured of lightweight advanced composites
- Low noise signature
- Dynamic lift capacity

2016

 Light pressure footprint leaves no surface signature





Environmentally Friendly

The EPS Hovercraft was awarded the Homeland Security Today (2010) Green Award:

- Highly efficient advanced lightweight Fiber Reinforced Plastic (FRP) laminate design using glass, Kevlar and carbon fiber.
- Fully amphibious and aerodynamic design with air flotation; a weight signature so delicate that the downward pressure is less than a man's footprint.
- Due to elimination of propellers, shafts and rudders in the water, marine life remains undisturbed.
- No discharge of oil, petroleum or hot exhaust gasses into the water.
- EPS Hovercraft use less fuel than conventional shipping so pollution is kept to an absolute minimum.
- Minimal resulting wake, wash or beach erosion at any speed.
- Laminate design eliminates the need for poisonous anti-fouling paints.





Advantages of Composite Materials

- Established materials
- Individual characteristics
- Infinite combinations
- Flexible design
- Tailorable results
- Lightweight and resistant to impact
- Homogenous construction
- Non-corrosive and fatigue resistant
- Low through-life costs



With known and accepted materials and controlled construction techniques, composite design properties, which are verified by through-production testing, can be tailored to produce whatever material characteristics are required – flexible or stiff, high compressive or tensile strength, resistant to impact and even ballistic protection - but always lightweight.



Composite Materials are Non-Corrosive

Advance composites have many advantages over conventional aluminum marine structures:

Composites	Aluminum
Non-corrosive:	Corrosive:
Composites do not corrode under any circumstances and are not affected by any other environmental conditions.	All grades of aluminum corrode which weakens and destroys vessel structure.



Composites - Non-Corrosive and Fatigue Resistant

U.S. COAST GUARD

Extract from United States Coast Guard Marine Technical Note Number 02-96:

Section: 3 – Action

Paragraph: i (3)



Structural fatigue of marine vessels constructed of aluminum is an industry-wide concern, especially for high speed craft. Hovercraft, by the nature of their "flight" operations, must be built as light as possible. Thus, designers prefer to use high strength aluminum alloys and tend to create designs with narrower margins of structural safety than conventional displacement craft. The result is often a structure that is highly susceptible to fatigue cracking. The increased risk of fatigue is usually countered by frequent and strict inspections of the hull structure. The MSC recommends that a fatigue-life analysis be completed for all hovercraft constructed of aluminum. The analysis should include the projected service life of the vessel, identification of critical and susceptible components, and an owner's inspection schedule detailing inspection frequency and procedures.



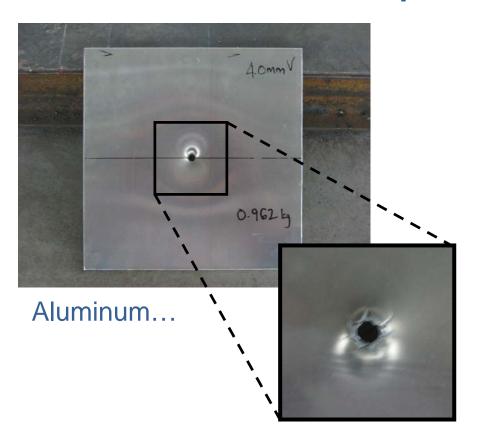
Composites Absorb Energy and Noise

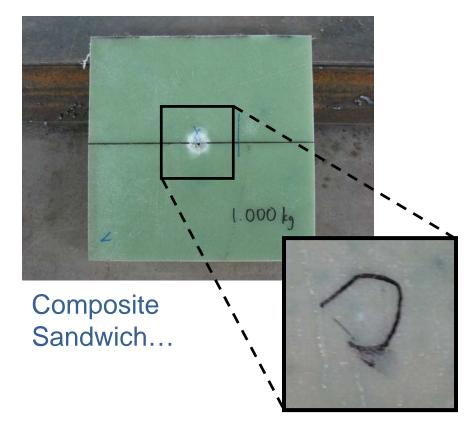
Composites	Aluminum
Energy absorbing:	Non-energy absorbing:
Composites are very flexible	Aluminum structures are rigid
and have high energy	and have a low tolerance for
absorbing properties. Impacts	absorbing energy which can
are absorbed locally without	lead to distortion or
any widespread structure	destruction of structure.
damage or distortion.	
Noise absorbing:	Noise transmitting:
A function of the energy	Due to the rigidity of aluminum
absorbing characteristics of	and other metal structures,
composites is that they also	generated noise is not
absorb noise which would	absorbed but transmitted
normally be transmitted	through the structure.
through the structure.	



Composites - Noise and Energy Absorbing

Identical Impact Resistance Tests





...results in a clear breach

...maintains integrity

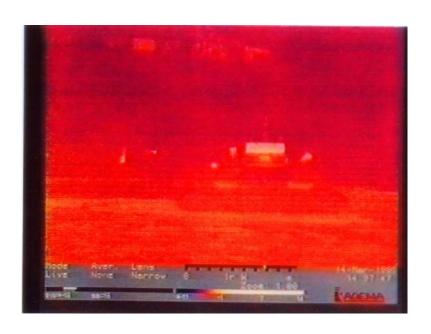


Composites Provide Insulation

Aluminum Composites Thermal insulator: Thermal conductor: Composite materials have a very All metal structures, including low coefficient of thermal aluminum, have a high coefficient of thermal transfer transfer which means that the inside of the craft is insulated meaning that they conduct heat very well. External high from extreme external temperatures and also from temperatures will be transferred outside, the hovercraft will have inside the craft and from outside a very low thermal image, the craft the structure will have a blending into the background. high thermal image.



Composites – Thermal Insulation





The M-10 blends into the background with only the wheelhouse windscreens and propellers visible.



Composites Provide Weight Advantage

Composites

Weight advantage:

Composite structures are extremely robust but are also lightweight even though material thicknesses are greater than those used in comparable aluminum structures. The hull of the EPS Hovercraft is approx. 7.0mm thick compared to a similar aluminum vessel where hull thickness is only 3.5mm thick.

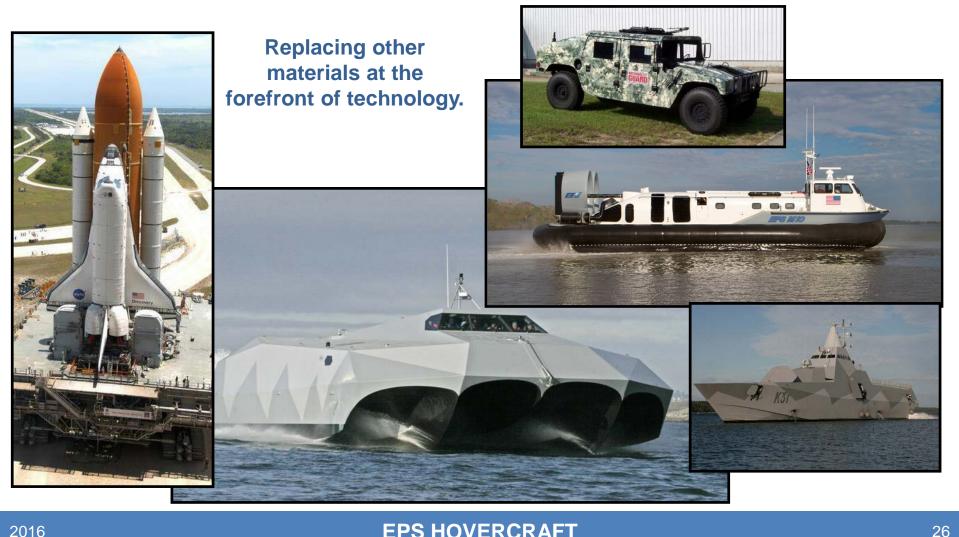
Aluminum

Weight disadvantage:

Aluminum structures are 10% to 20% heavier than comparable composite structures. Because a hovercraft needs a light structure to maximize payload, aluminum hovercraft structures tend to use very thin material which causes problems with fatigue, distortion, corrosion and premature failure.



Composites - Lightweight and High Strength





Composites Provide Improved Performance

Composites	Aluminum
Homogeneous construction: Composites structures are designed exactly to suit the application and when manufactured form a single piece of material and effectively have no weak joints or welds.	Fabricated construction: Aluminum is supplied in standard size sheets and sections and has to be bent and welded into shape which causes high stress areas and points of structural weakness.
Low life-cycle costs: Because composite materials do not corrode and are flexible, robust and resistant to impact, fatigue failure and cracking, the through-life maintenance, inspection and repair procedures and costs are absolutely minimal.	High life-cycle costs: Marine aluminum structures require constant cleaning and maintenance due to the salt water atmosphere as well as extensive inspection and repair routines for fatigue failure and cracking of the structure due to high levels of vibration.



EPS-M10 Military Patrol





EPS-10 Hydrographic Operations

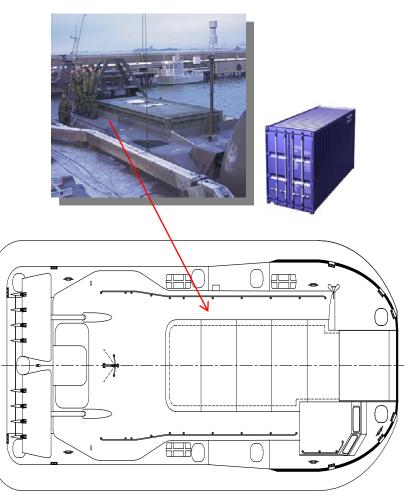




2016

EPS-2.2 Humanitarian Missions







EPS-10 Coastal Patrol





EPS-10 Troop Transport





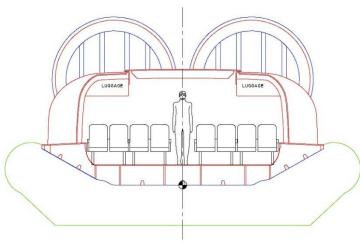
EPS 2.2 Riverine Patrol

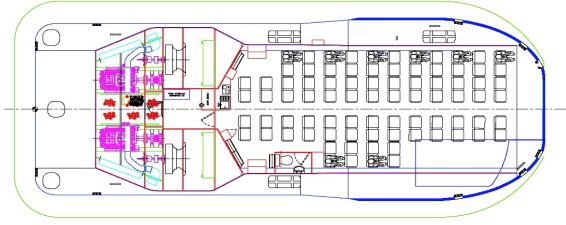




EPS: Designing for the Future

Various new designs already under consideration



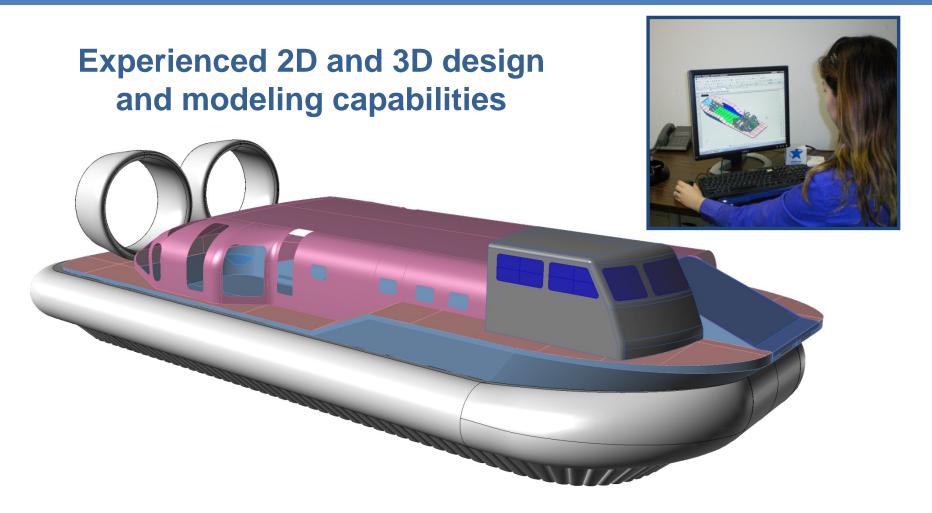


SECTION LOOKING AFT



2016

EPS Capabilities





EPS Current Hovercraft Production

- Glass, Kevlar and carbon fibers used
- Powered by two standard diesel engines
- Single skin and sandwich construction where required
- Structure and systems designed for extreme high ambient Middle East temperatures and conditions



- Currently using vinylester resin but can use epoxy or others
- Plan approved and manufactured under survey by Lloyd's Register of Shipping to their Special Service Craft Rules



EPS Current Hovercraft Production

Two EPS M-10 Military Hovercraft for Middle East Ambient Temperatures





EPS Commitment

On Behalf of EPS Executive Management:

EPS integrity is built upon solid customer and product support.

EPS is teaming with independent, dynamic and forward-looking companies and organizations to assist in the exploitation of territorial demand and to offer full warranty and through-life product support.

EPS is committed to being a long-term partner to any and all customers and partners.

EPS extends an invitation from our Chairman/CEO for a personal tour of our operations.



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