



DELIVERING THE FUTURE OF COMPOSITE SOLUTIONS

OCEAN ENERGY

Composites provide many advantages for manufacturing under-water structures such as tidal turbine blades, and wave devices. Composites offer strength, fatigue-resistance, corrosion resistance, buoyancy, and cost effectiveness. The needs of a young industry demand more than just a product or service provider. A wide variety of designs, many engineering and materials options, the unpredictable environment of sub-sea and the pressures of bringing new technology to market, require a partner who can see beyond the initial specification.

Gurit has over 30 years experience in innovative composite engineering and materials. From engineering the early advanced composites sailing boats, to patented material technology such as SPRINT®, to wind turbine blade tooling capability for moulds up to 70m and Class A carbon fibre

body panel manufacture for the automotive industry, Gurit has a proven capability to partner new composite applications.

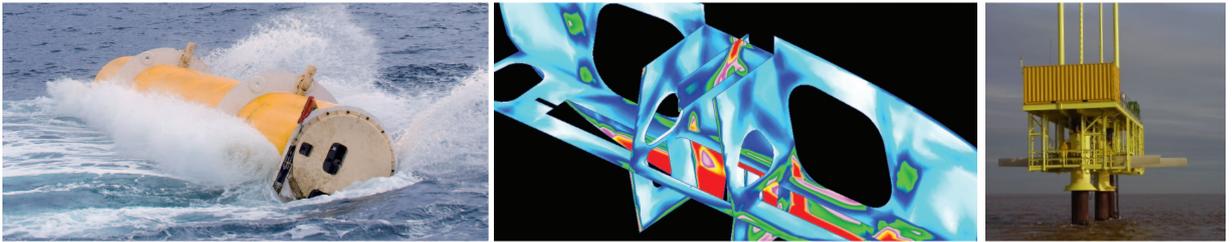
Gurit has a commitment to develop new markets through the application of engineering, materials science, prototyping and manufacture ensuring a coordinated and seamless approach. Gurit's size, breadth of experience, entrepreneurial attitude and technical capability make for a trustworthy and credible partner for ocean energy machine developers and investors.



Gurit can draw on a broad range of expertise to deliver an engineering design that is optimised towards customer needs. Gurit focuses on exceeding customer expectations whether the brief is a component proving a unique design concept, a need for highest specific properties, or designed-for-manufacture, with cost being the driving factor.

STRUCTURAL ENGINEERING

Gurit's engineering team was established in 1988 to provide a structural composites engineering service. Gurit's heritage lies in engineering high performance marine projects such as America's Cup, Open 60's and Volvo 70's. Today Gurit maintains its marine business, but has broader engineering experience in wind turbine blades, civil and architectural applications and ocean energy devices.



Services Gurit offer include:

- Conceptual design
- Laminate design and optimisation
- Analysis using in-house tools
- FEA
- CAD
- On-site engineering support
- Proof tests
- Data acquisition
- Classification Society / Certification Authority Liaison

MATERIAL AND PROCESSING TECHNOLOGY

Gurit combines a deep fundamental understanding of composite technology with one of the broadest ranges of composite materials available from one manufacturer.

Gurit offers the materials needed for producing an ocean energy device. With underwater pressure on a blade 30 times that on a wind turbine blade, understanding and controlling materials properties becomes a key enabler to producing reliable components in the short-term, and reliable and cost-effective components in the long-term.

Gurit's materials range includes:

- Glass and carbon prepregs
- SPRINT®

- Core materials - Corecell™ (SAN), PVC, PET and Balsa
- Formulated Products - Infusion Resins, Laminating Systems, Adhesives, Gelcoats
- Tooling

PROTOTYPING

Projects at the cutting edge of composite design often require proof of concept. Gurit has combined all of its experience with engineering, materials and processing development to offer a prototyping capability. Successful projects in ocean energy, wind energy, marine and civil markets have given Gurit a wealth of experience and the ability to prototype virtually any structure imaginable.

MANUFACTURING

Challenging designs often mean new markets or applications for composites where a lack of an established supply chain can be a limiting factor to further adoption. Gurit's experience with Tier 1 supply to automotive OEMs, 20 years of composite process advice to wind energy customers and building on experience gained in prototyping, provide the foundation to offer manufacturing of composite structures where a mature supply chain does not yet exist. Facilities in China, Europe and North America provide a basis for global support and low cost or local manufacture, depending on customer needs.

FROM CONCEPT TO COMMERCIALISATION

The ocean energy sector is in a demanding phase with developers needing external support to prove their technology. Gurit can not only turn concepts into full production-ready designs, but can also manufacture finished components with the financial strength to grow with the industry.