

# Bondstrand composite products for Floating Offshore Wind Turbines



Floating offshore wind turbines operate further from shore in deeper water under the most severe and enhanced environmental conditions, including wave loads, wind, salt/chemical, and snow/ice. Our corrosion resistant lightweight class approved Bondstrand™ products offer value engineered cost-effective solutions with reduced maintenance, proven structural and operational integrity, and significant overall reduction in CO2 footprint.

We design and manufacture a wide range of composite products from piping systems to structural products which provide the optimum solution and improved safety to the asset. Engineered to endure hogging and sagging of the hull and any vibration from the wind turbine generator, our composites provide quality, longevity, and efficiency throughout the project life cycle. Manufactured from high quality resins, our glass reinforced epoxy (GRE) piping systems and fiber reinforced polymer (FRP) structures provide assurance backed by over 40 years in service.

We bring decades of experience supplying to offshore oil and gas projects, as well as offshore wind projects, applying leading technology know-how and engineering expertise for proven long-term performance, ensuring safety and durability with lower lifetime cost over metallics.

Our versatile Bondstrand composite range includes:

## Structural FRP products and services

- MARRS™ offshore handrails
- Ladders and gates
- Grating and flooring
- Platforms, stairs and walkways
- Protection panels
- Engineering and design

## Piping GRE products and services

- Ballast water
- Vent systems
- Drains
- Engineering and design

## CapEx Benefits

- Low weight, typically 66% - 75% weight saving
- No additional steel support required
- Durable and field proven (TRL Level 9)
- Faster installation with reduced mechanical handling
- High strength / High pressure
- Meets offshore requirements and IMO standards
- Reduced CO2 footprints

## OpEx Benefits

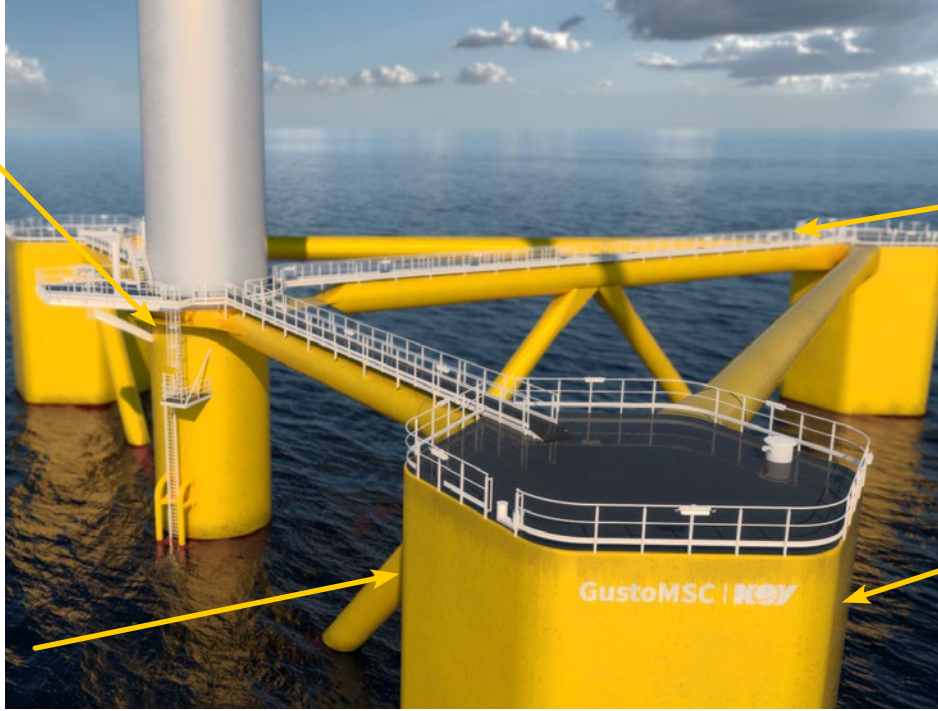
- Excellent corrosion resistance, 20-30 years to first major maintenance
- Non-sparking, no earthing, no cathodic protection, no contamination from rust
- Proven durability
- Enhanced safety
- Energy saving

High-quality Bondstrand composite products:

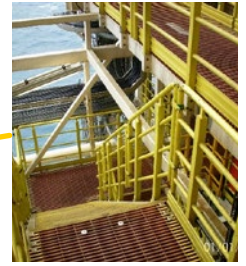
FRP platforms and stairs



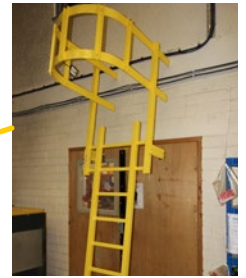
Bondstrand GRE piping systems inside the hull



MARRS FRP handrail



FRP ladders inside the hull



Engineered to endure, versatile by design:

