# yachtwerft meyer 000

yachtwerft-meyer.com



#### Yachtwerft Meyer GmbH

Our family business has been our passion for more than 25 years. With a lot of personal commitment and strength, it has grown into one of the world's leading companies for the construction of tender boats in the mega yacht sector. We have been a reliable partner for authorities and the navy for many years and are valued for our extensive expertise in special boat building.

The personal bond with our customers is important to us, as well as delivering the best possible product.

Our cosmopolitan, international team is together with us the engine for innovation and the motivation to go new ways and to cross borders every day.

#### Superyachting

MALINIA

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Navy and Authorities

BUNDESPOL

# yachtwerft meyer 000

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- One of the world leading companies for megayacht tenders
- Expert for engineering and construction of **complex composite parts**
- Specialist in developement and construction of **special crafts**









# 40 x Expertise!





3 Engineers

2 Industrial Designer







#### Accounting

#### 30 Boatbuilders

**3** Trainees









Sales



#### Purchasing



















heated production hall with

- 9m x 3m x 1.5m 5-axis milling machine
- 6.5m x 3m 3-axis milling machine

Office for possible construction supervision

Office with its own engineering and design department

dian in 1

Measurement laboratory

#### 15.000 square meters of indoor and outdoor space



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### Design

Our clients make a large profit of our experienced inhouse design team...

In close collaboration with our engineering team many outstanding, individual designs are developed for our products.











### Design

#### With attention to detail...

Individual products need sophisticated solutions in detail.

To meet even the most extraordinary expectations of our clients is our daily challenge.









yachtwerf meyer

 $\bigcirc\bigcirc\bigcirc\bigcirc$ 

000 *lignature* -

to product



From idea



to product



Trust is good - control is better...

#### Engineering

#### Shipbuilding and composite engineering

Static and dynamic strength calculations.

Constructions of hangar doors, masts, sonar covers, furniture and much more.

FEM analysis in cooperation with our partner company Fibretech Composites.

Parametric 3D models and 3D scanning.

- Solidworks Professional
- Autocad
- Maxsurf advanced suite
- Rhino 3D modeler
- Abakus (FEA)



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#### Sound Engineering

#### The sound of silence...

Maximum noise reduction based on automotive values.

- Cabin decoupling
- Optimized engine alignment and ventilation
- Maximum optimized processing of insulation and vibration inhibiting materials

#### Noise reduction:

up to 66dBA at 40Kn





#### Tenders

Elegance is excellence in performance...



#### CUSTOM

000 Jugnature

000 PERFORMANCE

000 SILVERLINE















15.30

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000 PERFORMANCE





#### 000 PERFORMANCE

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Safety first...







#### SOLAS Design Studies

Exklusive, stylish SOLAS tenders. More than just safety...





sophisticated and suitable for daily use...

### Equipment

Well thought out, suitable for everyday usage on board.

- Entry aids
- Carbon flagpoles
- Showers but cool
- Bathing islands
- Whirlpools
- Tender chocks











### Refit

#### Facelift for tender boats:

- Engine service
- Electrics
- Paintwork
- Conversions
- Repair



### Referenzen

OCEAN YCP Yacht & Cruise Projects



LÜRSSEN

Y.CO





HILL ROBINSON

YACHT MANAGEMEN

İMPERIAL

BURGESS

FEADSHIP







ABEKING & RASMUSSEN







NOBISKRUG





- MY A
- MY Adora
- MY Alfa Nero
- MY Amaryllis
- MY Ancallia
- MY Areti
- MY Aurora
- MY Aviva
- MY Baton Rouge
- MY Bel Abri
- MY C<sup>2</sup>
- MY Coral Island
- MY Diamond A
- MY Dream Seaker
- MY Eclipse
- MY Elandess
- MY Eminence
- MY Engelberg
- SY Eos
- MY Escape
- MY Event
- MY Grace E
- MY Graceful

- SY Hetairos
- MY Here come
- MY Ice
- MY Imagine
- MY Issue
- MY Jamaica B
- MY Jems
- MY Kaiser
- MY Kamalaya
- MY Kogo
- MY Kwikumat
- MY Lady Britt
- MY Lady Chris
- MY Le Grand
- MY Linda Lou
- MY Manifiq
- MY Maria
- MY Mayan Qu
- MY Mogambo
- MY New Secret
- MY Oasis
- MY Ocean Vic
- MY Pacific

	<ul> <li>MY Palladium</li> </ul>
es the Sun	• MY Pamela V
	<ul> <li>MY Pelorus</li> </ul>
	<ul> <li>MY Predator</li> </ul>
	<ul> <li>MY Princess Olga</li> </ul>
ау	<ul> <li>MY Radiant</li> </ul>
	• MY Romea
	• MY Sea Rhapsody
	<ul> <li>MY Secret</li> </ul>
	<ul> <li>MY Silver Cloud</li> </ul>
	• MY Sky
	<ul> <li>MY Spirit</li> </ul>
stina	<ul> <li>MY Step One</li> </ul>
Bleu	• MY Titan
	• MY Topaz
	<ul> <li>MY Triple Seven</li> </ul>
	• MY Trust
ieen	<ul> <li>MY Universe</li> </ul>
	• MY Vega
et	<ul> <li>MY Venus</li> </ul>
	<ul> <li>MY Vibrant Curiosity</li> </ul>
tory	<ul> <li>MY Zenobia</li> </ul>



### Composite

The future is lightweight

























# The future is light!

Lightness and strength characterize modern composite components - not only in yacht construction.

FEM analyzes in cooperation with Fibretech-Composites.





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#### High-tech on large scale

Design and construction of composite structures from a single source.

Hangar doors, roofs, masts, sonar covers, furniture.

Image: 7 x 10m hangar door for new frigates





### High-tech on large scale

#### Modern construction methods:

- Vacuum technology
- Resin infusion
- Use of heatable construction forms patented fibretemp system







#### Composite Solutions for Minehunters

- Sonar tracks
- Covers
- Storing boxes









#### Operation Consoles

Feasibilty studies, new developement, design, engineering and construction as well as FEM analysis and Prototyping of operation consoles in CFK sandwich construction.

Leightweight and shock proofed construction.





#### Yacht structures

#### in composite construction

Perfect solutions for extraordinary concepts!







minimum bending rockus for the fibre is 2mmi

#### Yacht components built in composite technology

#### Doors M/Y Eclipse

Design, engineering and construction of exterior composite doors

Substantual weight reduction compared to planed aluminium doors

LRS Certified



#### Testing Laboratory

#### If we want to know for sure...

- DSC analysis according to ISO 11357-1
- Determination of the glass transition temperature of thermosetting plastics
- Quality assurance dielectric measurement
- In situ measurement of the degree of hardening of thermoset matrix materials tensile, compression and shear tests
- Target / is comparison of laminates
- Construction parameters





#### Fibretemp®

#### The integrated temperature control

The fibretemp® system is an innovative, energy efficient temperature control system for molds in fiber composite production.

fibretemp® in cooperation with Fibretech-Composites.

A worldwide patented system. Winner of JEC Award in Paris.







### Fibretemp®

- Integration of heating element into the mold structure
- Very even temperature distribution
- Integration of the carbon resistance heating into the mold structure
- Energy savings of up to 90% compared to external heating
- Temperatures up to 200°C
- Realization of heating zones of different temperatures





# Balistic



#### Protecore Fire protection

Composite solutions in the field of fire protection. Certified flame resistance according to IMO.

In cooperation with Fibretech Composites.



#### References

- Aljo Aluminium- Bau Jonuscheit GmbH
- Astrium GmbH
- AST Security Equipment GmbH
- Atlas Elektronik GmbH
- Autoflug GmbH
- Benteler Automobiltechnik GmbH
- BMW AG
- Deharde Maschinenbau H.Hoffmann GmbH
- Deutsches Zentrum für Luft-und Raumfahrt e.V.
- Diehl Aircabin GmbH
- Enercon GmbH
- Eurocopter Deutschland GmbH
- Faserinstitut Bremen e.V.
- Fa. Ilsemann automation
- Fr. Fassmer GmbH & Co. KG
- Haindl Kunstoffverarbeitung GmbH
- MFH Marine-und Faserverbundtechnik GmbH & Co. KG
- Harms & Wende GmbH & Co. KG

- Howaldtswerke-Deutsche Werft GmbH
- VeroMetal Deutschland GmbH
- KBN Konstruktionsbüro
- Knierim Yachtbau GmbH
- Lloyd's Register EMEA
- Lufthansa Technik AG
- Nordex Energy GmbH
- PowerBlade GmbH
- Premium Aerotec GmbH
- Repower System AG
- Rheinmetall Defence Electronics GmbH
- Roding Automobile GmbH
- Safran Aircelle
- Sinoi GmbH
- SPIRIT Aerosystems Ltd.
- University of Patras
- Yacht concepts & design

INASCO INTEGRATED Aerospace science corporation



## Special crafts

Crafts to rely on...


Authorities

BUNDES

## Commercial





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# German Navy

Design and construction of 6 x 9m RIB combat swimmer training and safety boats for the German Navy.







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# German Navy

#### Refit

- Repairs
- Engine Service
- Modifications
- Long term maintenance contract for quick operation crafts







# Authorities

#### 8.3m High Speed Operation Craft

- 40kn 315hp Turbo-Diesel
- Carbon hull built in vacuum technology
- Built according to Germanischer Lloyd High Speed Rules
- Weight only 2400kg!
- Reduced radar visibility

Optional among others Ballistic protection CRP electromagnetic protection









## Commercial Crafts

- Newbuilds and Refits for Water and Shipping Authorities
- Harbour working vessels
- Certified serial acceptance





## Concept Studies

Navy & Authorities

#### Electro RIB

Design and concept development for navy applications, among others





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## Concept Studies

Navy & Authorities

Concept development for 10.5m operational boats for manned and unmanned use.

Can be transported in a 40' standard container.





# **Research and Developement**

#### Frequent research and developement projects among others in the fields of

- Materials research
- New propulsion technologies
- Developement of new concepts for crafts
- Sustainability

# Sustainable propulsion

Electric and hybrid solutions







#### Electric propulsion Catamaran

- Electric
- 100 + miles
- Long range
- Speed up to 12kn.





#### Electric propulsion Catamaran

#### Hull optimization

Optimizing the efficiency of the hull for a long-range electric catamaran by running CFD analysis.





#### Electric propulsion CCLine Open Tender 6.8m

- Powerful motor
- Zero pollution
- Quiet planing
- Access to restricted waters
- Fast charging
- Easy manoeuvring
- Low maintenance





#### Electric propulsion CCLine Open Tender 6.8m

- Powerful motor
- Zero pollution
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- Access to restricted waters
- Fast charging
- Easy manoeuvring
- Low maintenance





#### Hybrid propulsion Silverline Open Tender 8.12m

- 220hp IC Engine
- 27hp Hybrid module fully integrated in drivetrain
- Electric driving up to 8kn
- Average 1hr drive time @6kn (electric)
- DNV-GL certified batteries





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# Hybrid propulsion Silverline Open Tender 8.12m

#### Benefits

- No emissions and noise at low speeds
- Reduced fuel costs
- Access to restricted waters
- Easier manoeuvring
- No fear of empty batteries
- Smaller engine can achieve the same acceleration



## Renewable materials

Research: Flax-fibre sandwich panels







#### Renewable materials Research

### Testing of innovative materials in our laboratory

- Examining new materials
- Verifying their properties
- DSC thermal analysis to ISO 11357-1
- Dielectric measurement
- Tensile, compression and shear tests
- Setting quality standards
- Improving material quality



## Our research project

Building with flax-fibre sandwich panels

## Designing the panels

- Assessing different types of flax fibre.
- Using natural cork as core material.
- Achieving comparable properties to conventional E-glass with PVC foam core.







#### Renewable materials Flax-fibre sandwich panels

#### Why flax-fibres?

- best sustainable alternative.
- very good mechanical properties.
- low or even negative carbon footprint.
- available on the market today.
- good vibration absorbance and strong noise insulation.
- ideal for high levels of comfort required in top-end products.





#### Renewable materials Flax-fibre sandwich panels

#### Bend, stretch and sheer testing of flaxfibres in a bio-based epoxy matrix

- Flax showed greater stability than standard lay-up
- Tension test in accordance with DIN EN ISO 527





#### Renewable materials

#### Why cork core?

- explored as an organic core material for interior sandwich panels
- very low environmental impact
- alternative to current foam cores
- naturally regrows in 7 to 10 years
- highly water-repellent
- no rot from water absorption
- superior shock and impact protection
- excellent sound insulation due to high density and granulate structure



## Flax-fibre sandwich panels

The renewable alternative

- Near identical mechanical properties to conventional panels
- Only slightly heavier
- Better fire resistance / retardance
- Flax fibres are hollow, giving more stability on impact
- Cork core has better acoustic properties than conventional panels
- Ultimate sustainability cork regrows without harming the tree

# Sustainability Across our shipyard



## Sustainability

at yachtwerft meyer

- Geothermal heating system at our office building for more than 10 years
- Environmentally integrated wash-down area for boats, protecting the river and surroundings from contamination
- Workshops thermally insulated beyond the norm, heating with the latest technology
- All lights within the yard are LEDs
- Paint shop equipped with air filters to minimise particulate pollution

- well as paint
- contaimination.
- Electric crane, not diesel
- digitally

• Responsible disposal of oil and bilge water, as

• Use of bio-based oil in all hydraulic machinery and lifting appliances minimizes the risk of

• YWM's office is going paperless and the company is testing new ways to perform tasks



# Awards

- Winner of JEC Award in Paris fibretemp heating system
- Winner of the Seifriz Prize Technology transfer into handcraft
- Enterprise Award Bremen Nord job creation and protection of local jobs
- Boat and Design Innovation Award 2021

heating system ransfer into handcraft ation and protection of local jobs



# What people say

"Dear Jan, Michaela and Jonas, I hope all is well and that work is not too hectic! I wanted to let you know that I visited the owner and was able to see the Limo tender nestling in her garage, I hope to see her in the water next month... She looked really first class and I wanted to thank you for all your hard work, the end result is a superb Limo echoing the mother ship perfectly! I hope we will have some very impressive pictures next month. Many thanks for all your efforts."

Tim Heywood, Tim Heywood Designs Ltd.



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