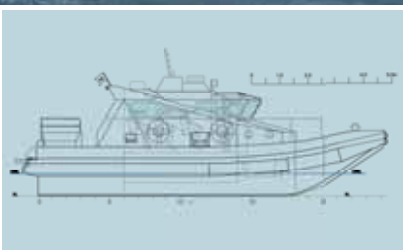




Corrosion resistant Work Boats made of SIMONA®PE-HWU and SIMONA®PE-UV



Top: pilot boat in service; bottom left: boats moored in harbour;
bottom right: design drawing

Nekton Bot. A.Ş. specialises in building boats made of PE-HD. With various models of boats in its portfolio (Seadog, Dolphin, Shark and Whale), the company is able to design and manufacture vessels used in the field of transport, rescue and security – whether for port operations or on the high seas. The new pilot boats deployed at the port of Gemport A.Ş. were built using various SIMONA®products.

Project at a glance

Project

Boats made of PE-HD up to a length of 20 m

Requirements

- Chemical resistance and high corrosion resistance
- No water absorption
- Low adhesion
- Light weight
- UV-stabilised and weather-resistant
- High rigidity and strength
- Easy to process
- Durable

Manufacturer

Nekton Bot. A.Ş. Industry and Trade Inc., Istanbul, Turkey
www.nektonbot.com
Phone: +90 216 593 90-45/-46/-47

Customer

Gemport A.Ş., Gemlik – Bursa, Turkey

Technical consultancy

SIMONA AG, Technical Service Center

Products used

- SIMONA®PE-HWU sheets
- SIMONA®PE-UV sheets
(colours: red, yellow, grey)

Duration of project

2011
Duration 12 weeks



From left to right: superstructure in the workshop; lowering the boat into the water; boat ready for service

SIMONA®PE-HWU – Perfect for innovative boatbuilding

Initial situation

The port of Gempport A.Ş. commenced operations in 1987. It was designed to meet the needs of local industry for logistics services in the Bursa region. The ever-increasing volume of cargo being handled prompted a surge in demand for pilot boats deployed with the express purpose of ensuring maximum efficiency in shipping traffic. In the past, the boats chiefly used were made of steel and aluminium. However, these vessels had material-specific disadvantages, e.g. heavy weight, corrosion, fouling and, as a result, higher maintenance and service costs.

Task

For port operations, Gempport A.Ş. was looking for boats made of a material with the following properties: light weight, high corrosion resistance, low maintenance, non-toxic and easy to clean, non-sinkable and safe, low fuel consumption, environment friendly, fast and stable material combining performance and cost effectiveness.

Solution

For Gempport A.Ş. the ideal design for pilot boats turned out to be the SHARK-PSO-013. In the first stage of construction with this model a carcass made of PE pipes was joined together by heated-tool butt welding to make it watertight; the cavities filled by polystyrene. Then the carcass was reinforced with PE sheets by means of hot-gas welding and extrusion welding and joined together to make a hull with a deck and superstructure. With technical support from SIMONA AG, the vessel became the world's first PE-HD boat to be certified by RINA (Registro Italiano Navale), thus underlining the quality of the material used, the production process and the boat design. The boat is entirely made of SIMONA®PE-HWU and coloured SIMONA®PE-UV, without any metal reinforcement whatsoever.

SIMONA®PE-HWU

Properties

- Service temperature range from -50 to +80 °C
- Weather resistant
- Physiologically safe
- Excellent processing parameters
- High toughness and rigidity
- High corrosion resistance

Range of products

- Extruded and pressed sheets
- Solid rods
- Welding rods

Example of a boat

- Model: SHARK-PSO-013
- Length: 13.4 m
- Width: 3.85 m
- Draft: 0.65 m
- Weight: 10.3 tonnes
- Capacity: 7 people
+ 2 tonnes of load
- Engine power: 2 x 300 HP,
2600 rpm
- Max. speed: 26 knots ≈ 48 kph
- Range: 350 nautical miles ≈ 647.5 km

Further information

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