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ИСТОРИЯ



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/SHIPBUILDING/

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CONTENTS

AT SHIPBUILDING YARDS

CIVIL SHIPBUILDING

Yu. A. Sitnikov, A. A. Ulyashev, G. A. Mutalipov. Trawler-seines. «Orion». Up to date.

This article describes modern project of medium refrigerating seiner-trawler developed for operation in Azov-Black sea basin and designed as storage and transportation vessel for refrigerated fish both in containers and in bulk. The project has been implemented on basis of 3D-model of the vessel made in CAD FORAN.

Keywords: refrigerating seiner--trawler, renovation of fishing fleet, catch transportation in bulk, CAD FORAN, 3D-modeling.

G. V. Yegorov, V. I. Toniuk. Innova five concept-purpose shallow-draft rescue and emergence tug vessel of "Bakhtemir".

Marine engineering bureau has developed series of multi-purpose shallow-draft rescue and emergency tugs, Pr.MPSV12, ice-class Arc5, and built first four units in a series. This article contains design features and main specifications of this vessel.

Keywords: emergency and rescue vessel, tug, design.

SHIP POWER PLANTS

O. O. Lebedev. Calculation algorithm for screw-shaped condenser of steam turbines.

The author hereby offers method and algorithm to calculate thermal and hydraulic parameters of screw-shaped condenser of steam turbines.

Keywords: steam turbines, screw-shaped condenser, thermal and hydraulic calculations, algorithm, methods.

SHIPBUILDING ORGANIZATION AND TECHNOLOGY

M. A. Dolmatov, N. B. Simonov, Iu.A. Galanin, A. A. Ulyashev. Fishing vessels: design and configuration trends based on VR-augmented software and hardware systems.

This article reviews application experience of VR-augmented software and hardware systems by JSC SSTC for creation of 3D-interactive models of fishing vessels.

Keywords: design, space arrangements, fishing vessel, 3D model, virtual reality (VR).

V. B. Solomatov, E. V. Osokin, I.N. Labutin. Automated production of biological protection units of nuclear-powered ice-breakers and offshore nuclear power plants

To ensure integrated automation of production of biological protection units for nuclear-powered vessels, JSC SSTC developed automated facility including stations for robotized welding, removal of weld reinforcement and article surface sensing by means of full-scale scanning. Corrected 3D-models of biological protection units are used for exercising in blocks layout. The obtained data may be used for production of critical and complex-shaped hull structures.

Keywords: biological protection units, robotized facility, 3D-modeling, full-scale scanning.

K. N. Morozov. Modern technologies and their practical application in alignment of heavy-duty shaft lines.

JSC SSTC has developed alignment procedure for heavy-duty shaft lines by three-point hang-out method which was tested by JSC "Baltic shipyard" during construction of nuclear-powered ice-breaker "Arktika".

Keywords: shaft line alignment, heat measurement, calculation.

A. A. Petrov, M. S. Shilkina. Application of computer-aided modelling upon modernization of sea vessels.

Practical application of physical processes modelling software by means of numerical methods, allows to solve wide range of issues arising during ship exploitation. This article describes practical application of finite elements method exemplified by three ships modernized during exploitation, i.e. alteration of ship specifications, exploitation conditions and conduction of one-time sea operation. These practical examples prove efficiency of finite elements method and can be taken as alternative of analytical calculations.

Keywords: finite elements method, computer-aided modelling, ship exploitation.

A. Z. Bagerman, I. P. Leonova, V.G. Horoshev, A.A. Kirshina, A. A. Livikhin. Modular approach to estimation and forecasting of heat exchange in heat-resistant nickel-based alloys.

Calculations of heat exchange in motor components often lack data regarding heat conductivity factors and thermal capacity of utilized metals either due to absence of reference information or in case of new alloys. Therefore, it would be feasible to develop technology which should be irrelevant to alloy testing but would contain elements (modules) for recovery of missing parameters. These modules include parameters of certain metals converted to values, which they acquire as part of alloys.

Keywords: heat-resistant alloys, heat exchange, factor, motors.

SHIPBOARD EQUIPMENT

S. A. Zhuravsky, E. A. Orlova, N. V. Rozov. Installation and cleaning procedure of pressure gauges and sensors of high-pressure air systems.

This article reviews procedure of installation and defatting of pressure gauges and sensors of high-pressure air systems utilized at shipyards and dockyards. The authors stipulate problematic issues revealed during adoption of this procedure and bring forward optional advancements for the same.

Keywords: defatting, high pressure air, pressure gauges, pressure sensors.

M. Yu. Litkevich, A. I. Rybalov, A. N. Bogolyubov. Test bench for shipboard fittings with use of liquid working medium.

This article reviews test bench for shipboard fittings with use of liquid working medium utilized at fittings production sites (both new and repaired) used in pipelines of various purpose. Each test bench is capable to perform various tests of fittings after production or repair.

Keywords: pumps, pressure regulator, pressure gauges, differential pressure gauge.

ECONOMY AND FINANCE

S. A. Ivanov, G. V. Fofanov, V. A. Zhuravlev, A. N. Vauchsky. Increase of ship repair efficiency at yards by enhancing labor intensity indexing system.

This article describes main types of shiprepair labor intensity and pays particular attention to "scheduled labor intensity" which is essential for production planning and pricing. The authors highlight and offer solutions for problematic issues in existing labor intensity and pricing determination system in shiprepair as this shall enhance shiprepair efficiency at the yard.

Keywords: shiprepair, labor intensity, scheduled labor intensity, pricing.

A. M. Khodzhayeva. Commercialization methods of intellectual property objects.

The author hereby analyses issues related to commercialization of intellectual property rights in the Russian Federation. One of essential issues is the development and implementation of methods for commercial use of intellectual property objects in the Russian Federation, such as establishment of consortiums, spin-outs, franchising, engineering centers development and conventional methods (tax advantages, financial stimulation, etc.).

Keywords: commercialization of intellectual property objects, consortium, spin-outs, tax advantages and financial stimulation, franchising, engineering centers.

INFORMATION SECTION

M. V. Alexandrov, V. N. Kireev, V. E. Nesterov, A. A. Nazarov. Cooperation between JSC SSTC and JSC «Zelenodolsky plant A. M. Gorky». V. I. Lyubimov. Anniversary of Volga State University. New capabilities in plate iron production. «Arctika» was opened in Murmansk. Foreign information. Conferences in JSC SSTC

HISTORY OF SHIPBUILDING AND FLEET

D. M. Vasilyev. First generation of screw propeller gun boats.

The author narrates about design and construction of first generation of screw propeller gun boats in the years of Eastern (Crimea) war for the Baltic fleet.

Keywords: history of shipbuilding, ship design, screw propeller gun boat.

V. V. Yarovoy. Shallow-draft armor-plated gunboat «Udarniy».

The author narrates about design, construction and modernization of shallow-draft armor-plated gunboat "Udarniy" and its combat activities in the beginning of the Great Patriotic War.

Keywords : history of shipbuilding, history of fleet, ship design, floating battery, shallow-draft armor-plated gunboat.