

ПРОЕКТИРОВАНИЕ СУДОВ

№ 3 2015 май-июнь **КОРАБЛЕСТРОЕНИЕ**

СУДОВОЕ ОБОРУДОВАНИЕ



SUDOSTROENIE 3 2015 /SHIPBUILDING/

(820) March–April Published since September 1898 r.

CONTENTS

AT THE SHIPBUILDING YARDS

CIVIL SHIPBUILDING

Ganichev A. V., Burmistrov E. G. New dock: innovative design and building solutions

The authors hereby describe experience of JSC «Shipbuilding-shiprepair company» (Gorodets) in design and building of steel self-docking repair dock, P.28140. Listed are some innovative solutions in dock design, outfitting, and afloat joining of large block-modules of the dock. The authors focus on involvement of modern shipyards from midland of Russia in building of large ships and onshore facilities with their subsequent assembly at outfitting yards.

Stankov B. N., Pechenyuk A. V. Ship contours optimization: new capabilities

This article describes new method for ship contours optimization, which is based on practical advantages of numerical simulation. This method provides variation of ship hull longitudinal completeness, thus principally changing ship's wave resistance. The achieved test results show substantial reduction of towing resistance due to redesign or modernization of ship bow contours.

Garmash D. E., Naumova T. B., Dolgov A. N. Concept of intermediate production-and-training fishing vessel outfitted with onboard training equipment for preparation of chiefs and specialists in industrial fishing area

This article describes concept-based solutions defining design and structure of intermediate production-and-training vessel purposed to train qualified specialists in industrial fishing area. Reviewed are organizational and technical support issues on simulator training.

NAVAL SHIPBUILDING

Vasilyev A. M. History of domestic shipbuilding: aircraft

carriers

This article reveals history of construction of domestic aircraft carriers.

Tikhomirov M. P., Neyolov A. A., Staroded S. S., Botov S. V., Germanenko D. V., Basin G. G. Preventing emergency situations in high voltage (6, 10 kV) power systems installed at advanced Russian ships and other offshore facilities

The authors hereby analyze safe operation of high voltage power systems for offshore facilities and heavy-duty production equipment.

SHIPBOARD SYSTEMS

Lesniak A. N., Pshenitsyn A. A., Spiridonov A. Yu. Application efficiency for vibration damping covers

This article reviews vibration damping covers efficiency in reduction of structure vibrations. Given are experimental characteristics of studied covers. The authors propose to use algorithm which considers dependence between cover thickness and final specifications of composite rods. The developed algorithm allows to estimate structure dynamic parameters depending on specifications of vibration damping materials, thus providing effective vibration protection of complex shipboard equipment.

Khabarov A. A., Kokotkov N. I., Alpin A. Ya., Alpin V. V. Fluid dynamic bearing with decreased heat emission

The authors hereby analyze the design of new fluid dynamic bearing and its test results, which show reduction of bearing working temperature by 4—5 °C in comparison with conventional bearings. Therefore, bearing reliability significantly increases.

Nekrasov V. A., Korunny P. V., Kalining V. N., Luzhansky D. A. Stand for acoustic and air dynamic tests for ventilation and air conditioning systems

This article describes specifications and design features of acoustic test stand purposed to define vibronoise parameters of fittings in ventilation and air conditioning systems.

Savchenkov A. A., Teplyashin M. V., Karpenko A. G. Numerical simulation of flow in flood valve longitudinal part and estimation of hydroacoustic field

This study analyzes flow in flood valve in one of operation modes. URANS-method was applied for numerical simulation and areas with intensive whirls were found. Pressure pulsations in flow part of valve wall were defined, large-scale pulsations spectrum was calculated. Noise generation areas were shown.

SHIPBUILDING ORGANIZATION AND TECHNOLOGY

Gerasimov N. I., Mikhailov A. O., Grachev I. V. Estimating influence of building-block approach to main and quxiliary equipment on duration of marine equipment assembly

This article studies influence of building-block approach to main and auxiliary equipment on duration of marine equipment assembly. It contains the explicit data used for analysis of assembly duration of nuclear power plants installed on various ships. Shown are dependencies between application of building-block approach and duration of shipboard equipment assembly.

Zhmurenkov A. G., Bukato V. K., Afanasiev N. A., Nosyrev N. A., Krivogubets S. K. High-effective technology for manufacturing of heat transfer equipment for ships and submarines

The authors narrate about domestic laser welding complex for heat transfer equipment. This complex is composed of ytterbium fiber-optic laser and state-of-the-art optical head of high efficiency and versatility.

Iva A. A., Grachev I. V., Fedorova O. E. Development of technology using of state-of-the-art compensators for installation of shipboard mechanisms, equipment and devices

The authors hereby analyze progress of JSC SSTC in development of new import-replacing technology using of state-of-the-art compensators for installation of ship mechanisms, equipment, shaft lines and devices. Results of the following activities are described: development of new two-component $3\Pi M$ polymeric material, studies of compensator's stress and strain state, technologies and production facilities, prospects of introduced technology and required activities.

Kolesnik A. M., Ryabenky L. M. Analysis of stress and strain state of bicurved covering structures made as per local plastic deforming method

This article describes production process modeling for cold plastic deforming of bicurved work pieces by local pressing and with use of solid finite elements method. Complex analysis of distribution of residual stresses and plastic deformations of metal work pieces after cold forming and considering spring action.

Gutkin Yu. M. Consideration of wind impact on ship hull when checking loads on building berth supports

This article analyzes wind impact on ship hull when checking loads of building berth supports.

ECONOMY AND FINANCE

Kravchishin V. N., Kabanov D. B., Shevyakhov V. N. Labor rate setting as estimation factor of technical, technological, professional and organizational capabilities for increasing of labor productivity in shipbuilding industry

The authors hereby narrate about current labor rate setting for building, maintenance, life time repair and disposal of domestic marine equipment.

INFORMATION SECTION

«Izhorets 8» is in service again! Afonin N. N. Russian fleet at Bizerta. The last moorage... . Khaustov A. N. Conference «Russian shipbuilding». Foreign information. State Marine Technical University of St Petersburg — 85 years anniversary! Decision of Russian government on domestic shipbuilding development. «Ilya Muromets» for Russian Navy

HISTORY OF SHIPBUILDING AND FLEET

Platonov A. V. Torpedo batteries of Soviet submarines during the Great Patriotic War

History of arming Soviet submarines with torpedoes and their application during Great Patriotic War.

Kondratenko R. V. Prior to design of first Russian combatant submarine «Delphin»

This article analyzes state of foreign submarine building industry in the end of 19th and beginning of 20th century and its influence on formation of domestic submarine fleet.

Kurnosova O. B. 130 years anniversary of opening the Seaway channel from Kronshtadt to Saint Petersburg

The author narrates about design and building history of seaway channel from Kronshtadt to Saint Petersburg.