

ALYONA LOVSKA

**SITUATIONAL ADAPTATION
OF FLAT WAGONS
FOR INTERNATIONAL TRAFFIC**

Monograph



2024

UDC [629.463.62:629.454]-044.332
Lo886

*Recommended for publication by the Academic Council
of Ukrainian State University of Railway Transport
(Minutes No. 5 dated the 31.05.2024)*

Reviewers:

G. L. Vatulia – Doctor of Technical Sciences, Professor, Deputy Director for Research, Educational and Scientific Institute of Construction and Civil Engineering, O. M. Beketov National University of Urban Economy in Kharkiv;

I. I. Stanovska – Doctor of Technical Sciences, Professor, Department of higher mathematics and modeling systems, Odessa National University “Odesa Polytechnic”

Lovska A.

Lo886 Situational adaptation of flat wagons for international traffic. Monograph / Alyona Lovska. Riga, Latvia : Baltija Publishing, 2024. 312 p.

ISBN 978-9934-26-467-2

DOI 10.30525/978-9934-26-467-2

This monograph presents the results obtained by the author and describes the research into the loads on the improved bearing structure concepts of flat wagons with higher operational efficiency used for international traffic.

It also presents a structural analysis of the flat wagons, including articulated ones, used for carrying containers, and a description of the main damages to the bearing structure components in operation.

The main forces acting on the flat wagon bearing structure in operation have been analysed and its stress-strain behaviour is investigated. Proposed are also measures of how to improve the bearing structures of the flat wagon used for carrying containers, timber bundles, steel coils, industrial woodchips, trailers, as well as how to use the flat wagon for military and strategic purposes, how to make up an articulated flat wagon using existing structures, etc.

The monograph is of interest to scientists and engineers who are concerned about designing and investigating the mechanics of bearing structures of wagons; it is also of interest to academics, designers, doctoral and postgraduate students.

The monograph can be used as a textbook for graduate students of relevant specialities.

UDC [629.463.62:629.454]-044.332

ISBN 978-9934-26-467-2

© Alyona Lovska, 2024