ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-5206, Impact Factor: 12,23
American Academic publishers, volume 05, issue 05,2025

Journal: https://www.academicpublishers.org/journals/index.php/ijai

RAILWAY WAGONS: TYPES AND FUNCTIONAL OBJECTIVES

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Annotation. This article analyzes the main types of wagons used in railway transport, their structure, and functional tasks. Each type of passenger and freight wagon is considered separately, and their operating principles and practical application areas are highlighted. The influence of modern technologies on the efficiency of wagons is also analyzed. The article will serve as a useful source of information for specialists in the field of railway transport and those interested in this topic.

Keywords: Railway wagons, passenger wagons, freight wagons, special wagons, transport, railway system, innovations.

Rail transport occupies an important place in the national economy and is one of the most efficient and reliable means of transporting goods and passengers. Railway wagons are specially designed for the transportation of various types of goods and passengers, each of which performs its own functional tasks.

A wagon is a unit of railway rolling stock intended for the carriage of passengers or cargo. The modern wagon fleet is distinguished by the diversity of their types and structure. This stems from the need to meet various requirements in transportation: ensuring domestic comfort for passengers, maintaining the quality of perishable cargo, protecting fragile cargo from collisions, protecting some cargo from atmospheric effects, universality, maximum utilization of load, and others. Taking these factors into account, the complexity of the wagon structure is determined, which is equipped with high speed, the necessary level, low resistance, automatic seals, and automatic brakes during movement. Based on designation, technical characteristics, and place of use, wagons are divided into two main types: passenger and freight wagons.

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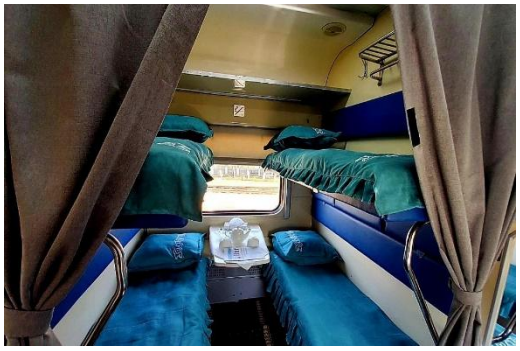
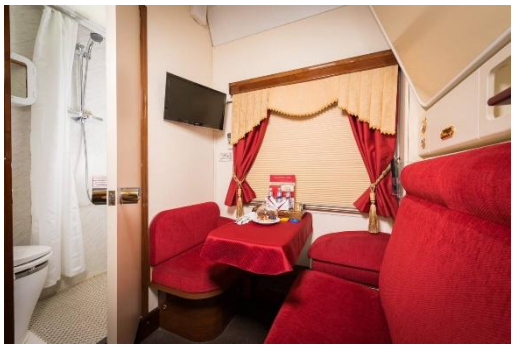
Passenger wagons, as a rule, must meet the requirements of comfort and safety. These include General Wagons, Coupe Wagons, SV (luxury) Wagons, Platskart Wagons, Restaurant Wagons, and Special Passenger Wagons.

Common wagons are the cheapest passenger cars and have a large capacity. They are often used on long-distance roads and local traffic. As an example, one can cite the wagons used for domestic flights in Uzbekistan.



Coupe wagons are wagons with more comfortable conditions, with 4 beds in each compartment. They are usually intended for long-distance travel.



SV (luxury) wagons are wagons that provide a high level of personal comfort, with two beds and modern services.

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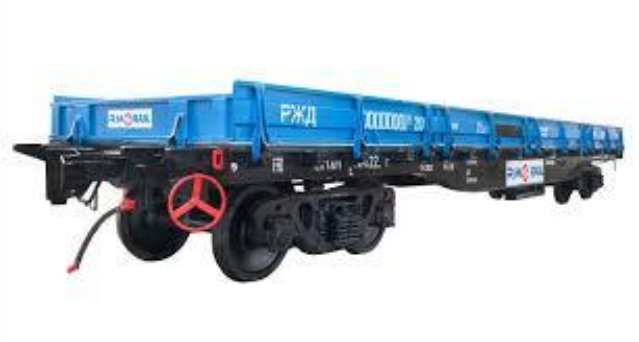
Platskart wagons are open coupe-shaped sleeping cars that have a relatively low price and serve as public transport.

Restaurant wagons - provide passengers with the opportunity to dine on long journeys. They have a kitchen and service staff.

Special passenger wagons - for example, special wagons adapted for people with disabilities or equipped for official delegations.



Freight wagons are designed to transport various goods and have different designs.

Platforms - used for transporting large and bulky cargo, including automobiles, agricultural machinery, and bulky containers. For example, container platforms are widely used in international cargo transportation.

Tankers - used for transporting special liquids, such as petroleum products, chemicals, or food products. For example, there are special isothermal tanks for gas, liquid fuels, and dairy products.

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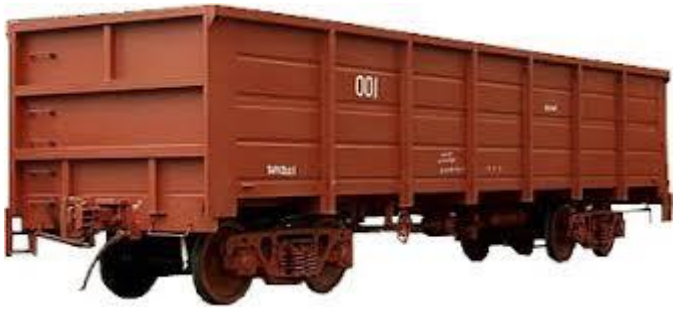
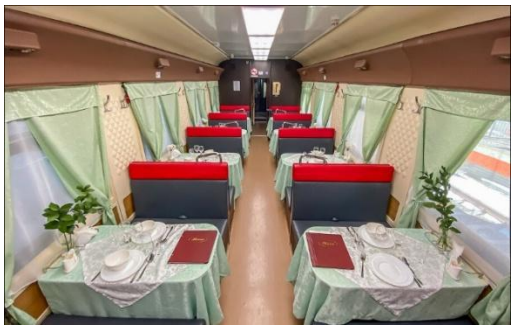




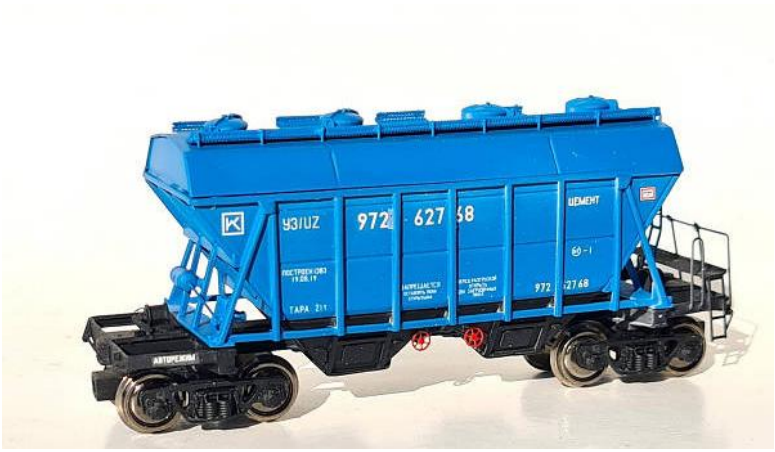
Covered wagons are designed for transporting various types of dry cargo, such as food products, furniture, and industrial equipment. They have a closed structure to protect cargo from weather conditions, and their doors comply with safety requirements. For example, covered wagons are used for transporting grain products.

Open-top wagons are mainly used for transporting large-volume cargo such as coal, ore, and gravel. Their side walls are relatively low, facilitating loading and unloading. For example, coal extracted from mines or gravel for construction is delivered using these wagons.

Carriage wagons - used by large car manufacturers or dealerships for the delivery of cars. For example, cars produced by "Avtozavod" are transported in these wagons.

Special wagons are designed for the transportation of special cargo and are divided into the following types:

Refrigerated wagons are used for transporting meat, dairy products, and other perishable food products. For example, seafood or frozen vegetables are delivered in these wagons.



Temperature-retaining wagons are designed for transporting heat-sensitive products, and the internal temperature is constantly monitored. For

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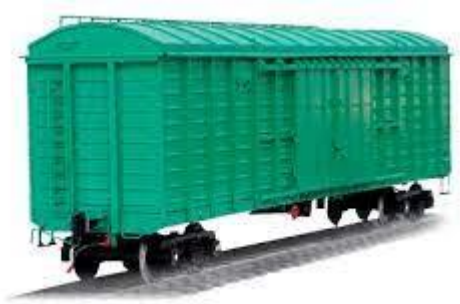
example, pharmaceutical products or heat-sensitive food products are transported in such wagons.

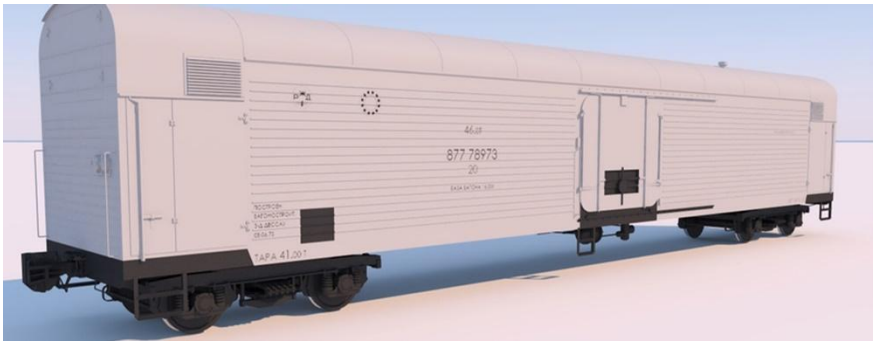


Animal wagons are specially equipped for livestock or poultry farmers, ensuring their safe and convenient transportation. These wagons have a special ventilation system and feeding capabilities.

Wagons for forest products are intended for transporting timber, timber, and other forest products. They are usually equipped with special holding devices.

There are also other special types of freight wagons - high-security wagons designed for the transportation of valuable goods, military equipment, and radiation-sensitive materials.

With the development of modern technologies, new innovations are also being applied in railway wagons. For example, the use of lightweight and durable materials reduces the weight of wagons and saves fuel consumption. Also, with the help of automated control systems, it is possible to monitor the technical condition of wagons in real time.



In conclusion, railway wagons are an integral part of the freight and passenger transportation system, each of which has its own characteristics and functions. The correct selection and operation of various types of wagons contributes to increasing the overall efficiency of railway transport. In the future, as a result of new technologies and innovations, it is expected that the comfort, safety, and environmental efficiency of wagons will increase even more.

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