

SERBIAN WAGON INDUSTRY



CHAMBER OF
COMMERCE AND
INDUSTRY OF SERBIA



Fabrika vagona
Kraljevo Concern



MIN Niš
vagoni





About

The *Republic of Serbia* is located in the central part of the Balkan Peninsula in south-east Europe, on the most important routes linking Europe and Asia. It covers a territory of 88.361 km² and has a population of nearly 7,5 million. It borders Bulgaria, Romania, Hungary, Croatia, Bosnia and Herzegovina, Albania and Macedonia.

The capital of Serbia is Belgrade with about 1.6 million inhabitants and it is located at the confluence of rivers Sava and Danube. The Republic of Serbia is a member of key international organizations such as UN, OSCE, IMF, EBRD, WB, Council of Europe, CEFTA. In April 2008 The Stabilization and Association Agreement (SAA) was signed between Serbia and the European Union. Two most important obligations Serbia has arising from this agreement are the establishment of free trade and the harmonisation of legislation of the Republic of Serbia with the EU. On the other hand, the European Union with this agreement confirms free access to goods from Serbia to the EU market. Serbia was granted on March 1st, 2012 candidate status for EU membership.

A free trade agreement between Russia and Serbia was signed on 28 August 2000 with the intention of deepening and improving mutual economic and trade cooperation. Serbia is the only country in Europe, apart from some members of the Commonwealth of Independent States (CIS), which has signed a free trade agreement with Russia. The agreement stipulates that goods, for which proof can be provided to be of Serbian origin (which have prevailing value added in Serbia), are free of customs when intended for Russian market, unless not covered by the free trade regime.

For the third time the Organization for Economic Cooperation and Development (OEC) has marked the investments in Serbia as the best 'greenfield' investments in Southeast Europe. Increasing investments today are in the transportation sector and infrastructure. European Corridors 7 (Danube) and 10 (road and rail) transit through the territory of Serbia and meet in Belgrade. Today, railway network of Serbian Railways, with track width of 1435 mm, covers 4092 km, of which 1724 km electrified.



Serbia



**CHAMBER OF
COMMERCE AND
INDUSTRY OF SERBIA**



Serbian Chamber of Commerce is an independent, modern and responsible non-budgetary institution, the national association of Serbian businessmen, which puts its tradition, experience, knowledge and expertise in the service of the best interests of its members and Serbian economy.

One and a half century long tradition and a network of sixteen regional and two provincial chambers, city chambers and eight representative institutions abroad, guarantee effective application of supporting mechanisms to the economy and entrepreneurs through its activities. Serbian Chamber of Commerce has been and still is a responsible partner and support in business through: representation of members' interests before state agencies and institutions, exercising public authority by issuing different types of documents, improving economic relations, and promotion of the economy at home and abroad, offering business information to members, advisory services, business education, arbitration, fostering good business practices and business ethics.



Serbian Government, together with the Serbian Chamber of Commerce, helps the competitiveness of Serbian economy and wagon industry, particularly in the field of manufacture and repair of railway rolling stock. Serbian factories compete on the foreign markets as a joint partner in order to promote Serbian export.

FREE TRADE AGREEMENT WITH TURKEY

At the Economic Summit in Istanbul, Turkey and Serbia signed a Free Trade Agreement on June 1st 2009, which has been in use since September 1st 2010 in the form of an asymmetric trade liberalization model in favour of Serbia. This is a chance for Serbian exporters to export their goods to Turkey duty free. This Agreement allows Serbian companies to buy raw materials and semi-products, process them in Serbia and then sell them in the EU, Turkey and CEFTA countries without customs or with preferential customs tariffs. Implementation of this Agreement will provide conditions for a significant increase in the total volume of mutual trade, especially export of Serbian goods and contribute to greater involvement of Turkish investors in Serbia.

Chamber of Commerce of Serbia

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Rolling stock factory Želvoz a.d. was formed and put into operation in distant 1916, under the name of Radionica za popravku. After the Second World War the company operated under the name of Heroj Srba. In 1994, Railway Transportation Company Belgrade became the owner of the factory. Today, Želvoz is a joint stock company with the state as a majority owner.

The factory Želvoz is situated in the industrial zone of the city Smederevo, 50 km southeast from Belgrade and downstream the river Danube. The settlement was established in the 18th century. Today, Smederevo is the administrative seat and the largest city in the Danube region.

The core activities of the factory are repair and ongoing maintenance of all types of passenger and freight wagons, electric multiple-unit sets, diesel and electric locomotives, production of spare parts for its own needs and for third parties.

The factory Želvoz has all the necessary machinery, apparatus and equipment for production, overhaul, modification and modernization of all types of railway vehicles and trams. The manufacturing process is carried out in six production halls, three supporting workshops and with its own capacity for production and redistribution of energy as basic input for the work processes. As proof the factory has a reputation for being the most important repair workshop for passenger and freight cars in Serbia.



Furthermore, the factory processes monoblock wheels and assembles wheel sets, makes subassemblies and spare parts for repairs of passenger wagons and other railway vehicles (seats, windows, sides, front and compartment doors, luggage racks, bearings, and electrical distribution boards, two-channel air heaters), makes forging parts and springs, performs anticorrosion protection as well as various types of necessary tests (e.g. using ultrasound).

The factory Želvoz owns certificates for the management system according to EN ISO 9001:2008 and EN ISO 14001:2004 as well as certificate from UNIDO Cleaner Production Programme.

ŽELVOZ a.d. – Miloša Velikog 39, 11300 Smederevo, Republic of Serbia

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Passenger coaches



Želvoz states repair, reconstruction and modernization of all series and types of passenger coaches as one of its core activities. All reconstructed and modernized passenger coaches are in accordance with UIC, RIC and EC norms. Within its plants, Želvoz performs all interior furnishings according to customer's demands. Particular attention is given to maintenance and rebuilding of coaches intended for tourist line of narrow-gauge, the so called “Sargan eight”.

Multiple units



Želvoz is the biggest factory in Serbia in field of repair, reconstruction and modernization of electric and diesel multiple-unit sets. Mostly repaired and modernized electric multiple-unit sets are of series ŽS 412/416, manufactured in RVR-Latvia between 1980 and 1998. They consist of four cars, two power cars and two carriages. There is a possibility of linking three cars into a composition. Four-car electric sets of 412/416 series are intended for commuter traffic on tracks with gauge of 1435 mm and which are electrified with voltage of 25kV, 50Hz.

Diesel locomotives



Repair and re-motorization of all types of diesel locomotives are done in Želvoz plants as well. Beside the repair of diesel engines, all other works are performed in Želvoz workshops. Documentation for the modification is done by our technique bureau.

Electric locomotives



Repairs at Želvoz are mostly performed on six-axle mono-phase diode electro-locomotives for the voltage of 25kV, 50Hz. Beside the repairs, modifications and modernization of control and safety devices are also performed as well as air-conditioning of the driver's cabin.

Freight wagons



Repair and reconstruction of freight wagons play a very important role in the production program of the factory. Main and ongoing overhauls of all types of freight wagons are done at factory plants. Reconstruction of freight wagons is carried out depending on customer's demands. Reconstruction is performed with the aim of improving characteristics of certain wagon series or in order to change the purpose of the vehicle due to need for transport of goods with different features.



Products and spare parts



In addition to the regular program and basic activities of repairs and overhaul of wagons, Želvoz performs a range services related to production and repair of spare parts for railway rolling stock. Also, the factory does forging, scuffing/scraping works and springs for its own needs as well as for third parties and it makes products of metal structures, equipment for metallurgy, mining industry and civil engineering. Within Želvoz there is a specialized workshop authorized for repairing vital brake parts as well as a plant for processing monoblock wheels and assembling wheel sets.





Fabrika vagona Kraljevo Concern



Kraljevo is Serbian city, in Raska district. Kraljevo is located on three rivers: Ibar, Morava and Ribnica Zapad. Kraljevo is administrative, economic, sports and cultural centre of central part of Serbia and also an important intersection of major roads.

Located in the industrial area, territory of more than 60 ha, near one of the central railway and road intersections in Serbia, Fabrika vagona Kraljevo a.d. Concern was founded in 1936 as a repair workshop for wagons and locomotives. Subsequent development, training and experience of its own staff led to growth of the repair workshop into a factory producing all types of freight cars. In 1941 World War II interrupted the development of the factory, and in 1946 an independent company called Fabrika vagona was registered and started the intensive development.

The first export was achieved in 1952, when first quantity of wagons was produced and delivered for Turkish demand. So far over 35.000 freight cars have been produced and delivered to customers, over 45% of which were exported to various parts of the world - Germany, France, Netherlands, Poland, Czech Republic, Slovakia, Russia, India, Iraq, Turkey, Spain, Brazil, Burma, Austria, Albania, Egypt, Greece, Hungary and other countries worldwide. That year is also linked with the start of processing equipment production, and what followed is the first wagon made according to company's own documentation.



During 1960's a prototype department was established with the aim of researching modern wagon structures which were tested in cooperation with various institutes.

With further development, Test Centre and the Institute for Scientific Research were formed. In those years, a plant for manufacturing springs, with capacity of 12.000 tons per year, was established.

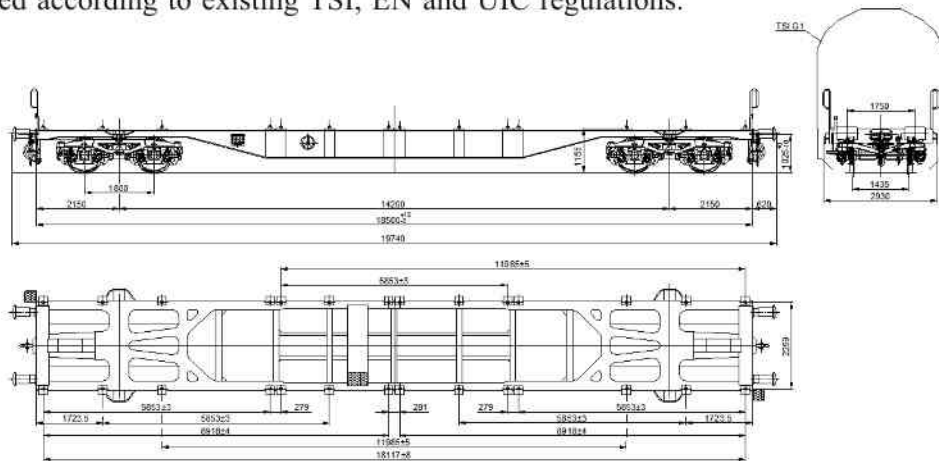
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Sgnss – Bogie wagon for container transport



Length over buffers	19740 mm
Loading length	18500 mm
Loading width	2259 mm
Loading height	1155 mm
Tare weight	20 t ± 3%
Payload	70 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	75 m
Ferry boat capability	2° 30'

The wagon is designed to transport containers and swap bodies of different sizes (10, 20, 30, 40 and 60 ft.), in various combinations. The wagon is fitted with the folding fixing elements. Its loading length and capacity is effectively used. The wagon is designed according to existing TSI, EN and UIC regulations.

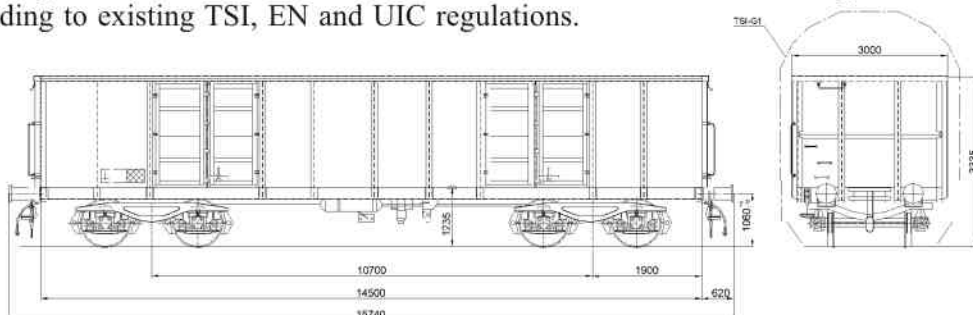


Eanos – High-sided open bogie wagon



Length over buffers	15740 mm
Loading length	14490 mm
Loading width	2720 mm
Loading height	2000 mm
Floor height	1235 mm
Height of the side walls	2100 mm
Loading area	39 m ²
Volume	82.5 m ³
Tare weight	24 t ± 3%
Payload	66 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	75 m
Ferry boat capability	2° 30'

High-sided open wagon is destined for transportation of all kinds of bulk goods (coal, wood, ore, waste, etc.), resistant to atmospheric influences. Loading of goods can be done by free fall (from the bunker), conveyor or wheel loader. Unloading is performed on both wagon sides, through four openings, two on each wagon side or by side-tippers. The wagon can be made with a wooden or metal floor. The wagon is designed according to existing TSI, EN and UIC regulations.





Fabrika vagona
Kraljevo Concern

Zans – Tank wagon 95 m³



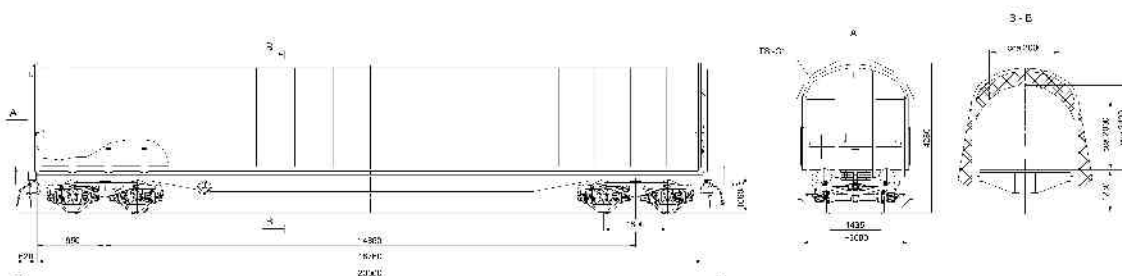
Tank wagon is intended and equipped for the transportation of white mineral oil, the group of non-poisonous and unetching materials from the class 3 according to RID (petrol, benzol, heptanes, alcohols, ethers, aldehydes and esters). Tank capacity is 95 m³, loading is effected through the tank dome DN500 and unloading through the bottom central valve DN150. The tank of wagon has inclination of 1,2° against central valve in the middle of the tank. This valve is connected with two side valves DN100. The bottom valve is activated from the ground, from both sides of the wagon. Maximum speed of unloaded wagon is 120 km/h. The wagon is built in compliance with AVV, RID and UIC standards.

Rilns – Covered bogie wagon



Length over buffers	20000 mm
Loading length	18500 mm
Loading width	2770 mm
Floor height	1230 mm
Loading surface	50 m ²
Tare weight	25 t ± 3%
Payload	65 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	35 m
Ferry boat capability	2° 30'

The wagon is designed for transportation of various packet loads, panel sheets, etc. The goods are protected from atmospheric influences. The wagon is equipped with a tarpaulin cover, placed on a frame. The cover can be moved to one or another wagon end releasing app. 2/3 of total loading length. Locking/unlocking and moving of a tarpaulin cover can be performed by one person. Loading and unloading can be done with a crane or a forklift truck. The wagon is designed according to existing EN and UIC regulations.



Uaais – 24-axle wagon for heavy loads transport



The 24-axle wagon is designed for transport of heavy loads, transformers, high pressure vessels, heavy parts, turbines, generators, in other words, for all loads with unusual dimensions or weights. The wagon is equipped with a hydraulic device for vertical and lateral movement of load, in tunnels and under bridges, of 400 mm. It is also supplied with aggregate and full hydraulic equipment for loading and unloading of parcels. The wagon is designed and equipped with the axles for the Russian gauge as well.

Bogie Y25 Lsd1-K



Bogie Y25 Lsd1-K corresponds to TSI, EN, UIC, RIV/AVV, TE regulations. It is designed for maximum running speed of 120 km/h at axle load of 20 t and 100 km/h at axle load of 22,5 t. Wheel sets are with mono-block wheels Ø920 mm, fully according to EN 12060 and EN 13979-1. Brake blocks are made of composite (2 x 250 mm) COSID 810, fulfilling the requests of V-BKS(K) norm for the installation of composite brake blocks. Brake rigging is in accordance with UIC 542 leaflet for "S" regime.



MIN Niš
VAGONKA

Niš is the largest city of southern Serbia and third largest city in Serbia (after Belgrade and Novi Sad). Niš is the administrative centre of Nišava District. It is one of the oldest cities in the Balkans and Europe, and from ancient times has been considered a gateway between the East and the West.



Factory MIN Vagonka Niš a.d. is a company with a tradition of over 120 years. It grew from railway workshop founded in 1884, and today it represents strong business, capable and well-organized staff, with new business and production philosophy.

A large number of references, solid business relationship, quality, knowledge and experience provide guarantee for further successful development and cooperation with all partners in the country and abroad.

Products and program:

- building new freight wagons (standard, special, tanks),
- building new wagons and tippers for mining and industry,
- reconstruction of wagons with improvements,
- maintenance and repair of all types of wagons,
- manufacturing parts of railway wagons and brake equipment,
- production of equipment for metallurgy, steel structures and other special purpose equipment.



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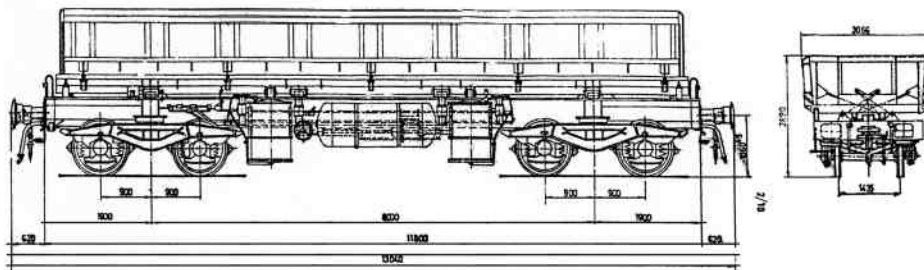
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Eamos – Open tipping bogie wagon

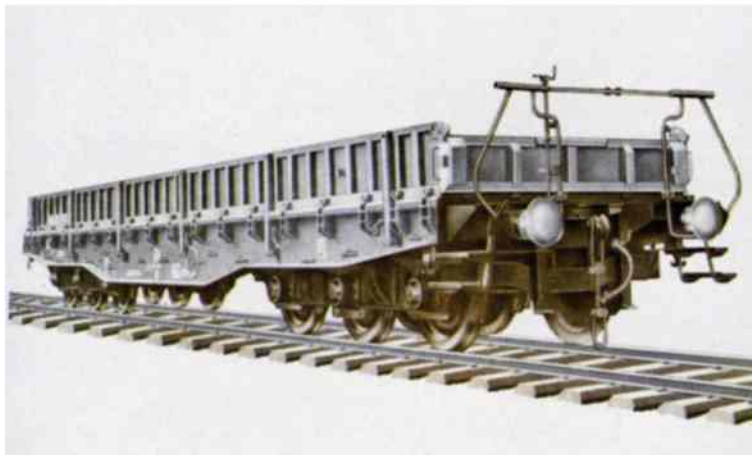


Length over buffers	13040 mm
Pivots distance	8000 mm
Length over headstocks	11800 mm
Wagon width	3066 mm
Volume	32 m ³
Tare weight	31 t
Payload	49 t
Axle load	20 t
Maximum speed	120 km/h

The wagon is intended for transportation of gravel, crushed stone and other kinds of loose and bulk material of specific mass up to 1,7 t/m³. Wagon unloading is carried out by means of compressed air, through the pneumatic cylinders. Handling could be done separately or for the whole composition of same wagons. When the wagon box tips on one or the other side, a special mechanism locks the lateral side opposite to the tipping side and opens the lateral side on the side of tipping. This enables material unloading at the distance of 2100 mm from the middle of the track.

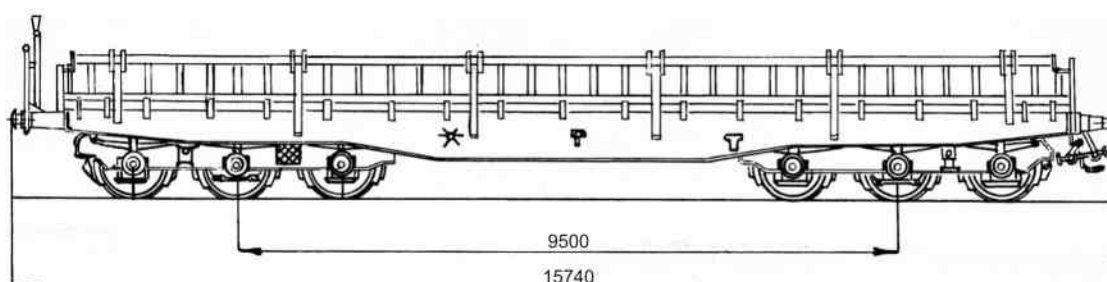


Samms – Flat wagon with two 3-axle bogies



Length over buffers	15740 mm
Pivots distance	9500 mm
Loading length	14280 mm
Loading width	2700 mm
Loading area	38,5 m ²
Tare weight	31 t
Payload	89 t
Axle load	20 t
Maximum speed	120 km/h

This type of wagon is intended, primarily, for transportation of heavy bulk goods, machines, vehicles and heavy loose goods. The wagon is equipped with foldable lateral and front sides. The wagon satisfies the requirements of UIC and AVV regulations.



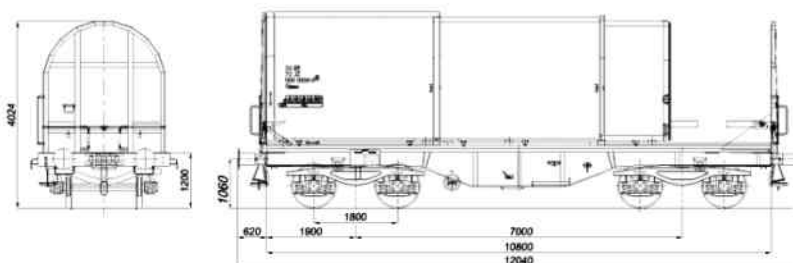
Shimms – Bogie wagon for coiled metal transportation



Length over buffers	12040 mm
Loading length	10800 mm
Tare weight	23 t
Payload	57 t
Axle load	20 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	35 m

Covered wagon is intended for transportation of coils, placed in the special cradles. The coils are protected from atmospheric influences by the telescopic hoods (made

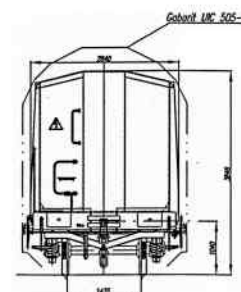
of steel frame and aluminium cover) that can be moved to one or another wagon end, releasing app. 2/3 of total loading length. Loading and unloading can be done from top of the wagon by a crane or from both sides by a forklift truck and a special crane. The wagon is designed according to existing UIC and AVV regulations.



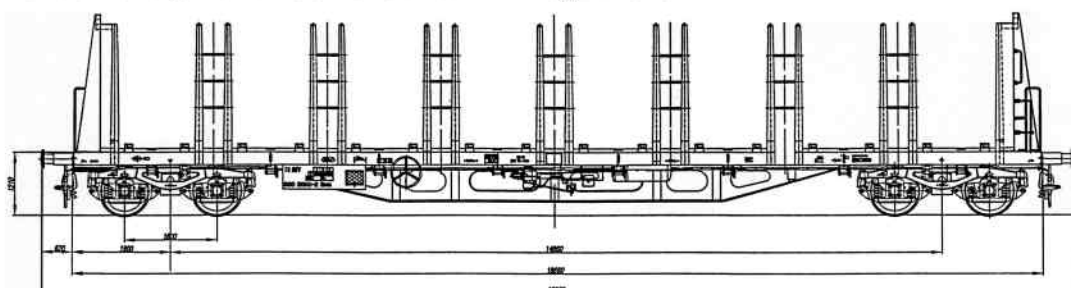
Roos – Open bogie wagon for timber transportation



Length over buffers	19900 mm
Pivots distance	14860 mm
Loading area	43 m ²
Tare weight	25,6 t
Payload	54,4 t
Axle load	20 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	75 m



The wagon is produced by reconstruction of Regs type of wagon. The wagon with high sides and fixed pillars is intended for transportation of logs, timbers, pipes and similar. The wagon is equipped with binding hooks and tightening mechanism on lateral sides. The wagon satisfies the requirements of UIC and AVV regulations.

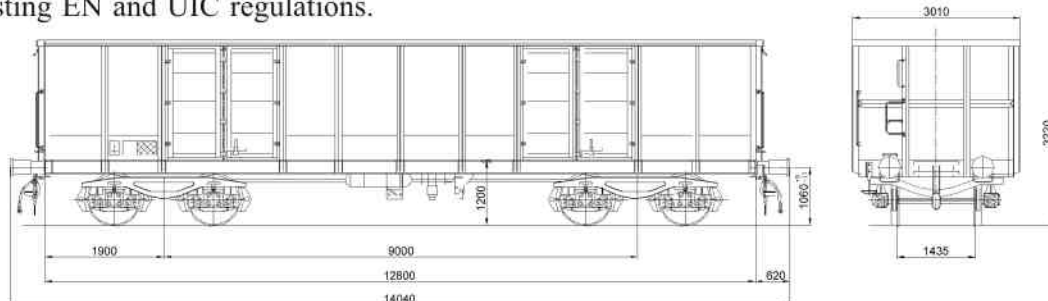


Eaos – High-sided open bogie wagon



Length over buffers	14040 mm
Loading length	12790 mm
Loading width	2760 mm
Loading height	2000 mm
Floor height	1200 mm
Loading surface	35 m ²
Volume	71 m ³
Tare weight	22 t ± 3%
Payload	58 t
Axle load	20 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	35 m
Ferry boat capability	2° 30'

The wagon is produced by reconstruction of Gas type of wagon. High-sided open wagon is destined for transportation of all kinds of bulk goods (coal, wood, ore, waste, etc.), resistant to atmospheric influences. Loading of goods can be done by free fall (from the bunker), conveyor or wheel loader. Unloading is performed on both wagon sides, through four openings, two on each wagon side or by side-tippers. The wagon can be made with a wooden or a metal floor. The wagon is designed according to existing EN and UIC regulations.



Bogie Y25 Lsd1



Bogie Y25 Lsd1 corresponds to UIC and RIV/AVV regulations. It is designed for maximum running speed of 120 km/h at axle load of 20 t and 100 km/h at axle load of 22,5 t. Wheel sets are with mono-block wheels Ø920 mm, fully according to EN 12060 and EN 13979-1. Brake rigging is in accordance with UIC 542 leaflet for "S" regime.



DESIGN, ENGINEERING AND CONSULTING

The city of Subotica is located at the northern part of Serbia, along the border to Hungary. The international freeway E75 passes alongside Subotica. Subotica is the administrative center of the North Backa District. The city is linked to Palić, the old summer resort and lake.



Pro Rail is a private company, established in Subotica, in 2004. The main activities of the company are:

- designing, engineering and consulting in the field of maintenance, overhauling and production of new and reconstructed railway vehicles, with the specialization in the field of freight wagons,
- consulting, project management and logistic support services for businesses related to purchasing of railway vehicles and their equipment.

Pro Rail company is the exclusive representative and distributor for Serbia of following companies:

- MINER USA (TecsPak® springs for buffers and draw gears for railway vehicles),
- LANGEN & SONDERMANN GERMANY (helical, parabolic and leaf springs of different characteristics).

References:

1. Designing and technical support

- Designing technical documentation for different types of freight wagons for companies Đuro Đaković Specijalna vozila (Facens, Falns, Shimmns, Tamns) and TŽV Gredelj Croatia (Falns, reconstructions Gas into Eas, Gas into Rgms, Gbs into Es), Nik Kioleides Greece (Falns), Dunavagon Hungary (Shimmns), Railways of Republic of Srpska Bosnia and Herzegovina (reconstruction Gas into Eaos), Šinvoz (reconstructions Galms into Eaos, Gas into Sgmns) and International CG Serbia (reconstruction Laekks into Hccrs);
- Technical support in the business of maintaining 300 wagons for the company CRL GmbH Austria;

2. Sales of freight wagons and spare parts

- Delivery of 50 Eas wagons for the Railways of Republic of Srpska and 10 car transportation wagons for the company Dunavagon Kft. Hungary;
- Delivery of spare parts for wagons for the companies Cobelfret Belgium, Railion Deutschland AG and LIDU Germany, Serbian Railways, International CG, FŽV Želvoz and Fabrika vagona Kraljevo Serbia.

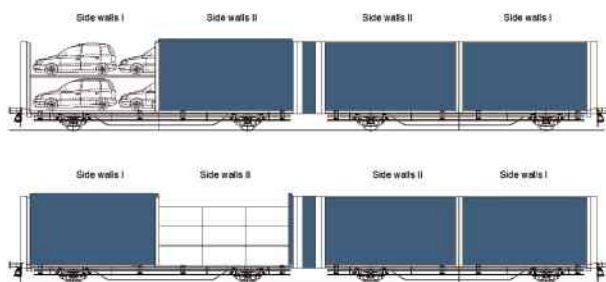
Pro Rail has implemented and maintains a management system which meets the requirements of the standard ISO 9001:2008.

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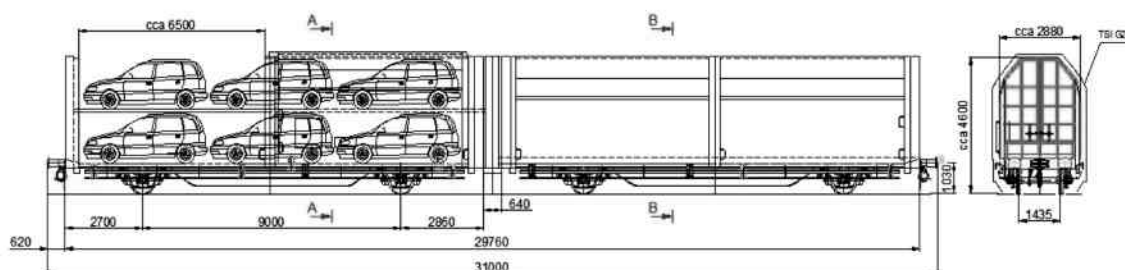
General Manager: +381 65 566 01 72

Laaeirs – 2x2-axle multipurpose covered wagon



Length over buffers	31000 mm
Loading length	app 2 x 14750 mm
Loading width	app 2750 mm
Loading height:	
- when loading the cars	app 2 x 1725 mm
- when loading the packet goods	app 3200 mm
Floor height	1020 mm
Loading surface	80 m ²
Volume (useful)	200 m ³
Tare weight	38 t ± 3%
Payload	52 t
Axle load	22,5 t
Maximum speed	120 km/h

Covered 2x2-axle double-deck multipurpose wagon is intended, primarily, for the transportation of passenger cars, palletized and packet goods, car parts, etc. Loading of cars is performed through the front doors, on two loading platforms. Loading of pallets and other packet goods is done from the lateral side by opening the hoods that release app. 50% of loading length of one wagon half. During opening and closing, the hoods rise and move along the longitudinal guides. When loading pallets and other packet goods, the upper platform is lowered into the lower driving position.

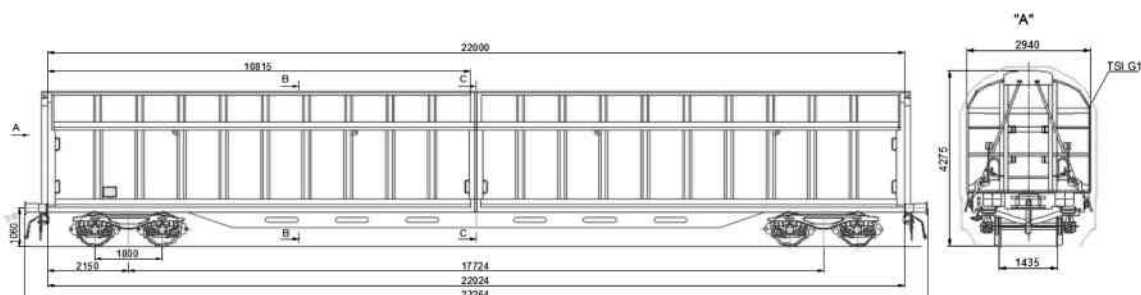


Habbi(II)ns – Covered bogie wagon



Length over buffers	23264 mm
Loading length	22000 mm
Loading width	2845 mm
Loading height	2800 mm
Floor height	1200 mm
Opening width	10815 mm
Loading surface	62,6 m ²
Volume	167,4 m ³
Tare weight	26,5 t ± 2%
Payload	63,5 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	60 m
Ferry boat capability	2° 30'

Covered multi-purpose wagon is designed for transport of palletized loads, paper, home appliances, automobile parts, etc. The goods are protected from atmospheric influences. Opening of the lateral sliding doors releases app. 50% of wagon loading length. Lateral sliding doors can be easily handled by one person. Wagons labelled (II) are equipped with 4 partition walls. Loading and unloading can be done with a forklift truck or a special crane from the top as the roof is designed like a narrow beam. The wagon is designed according to existing TSI, EN and UIC regulations.

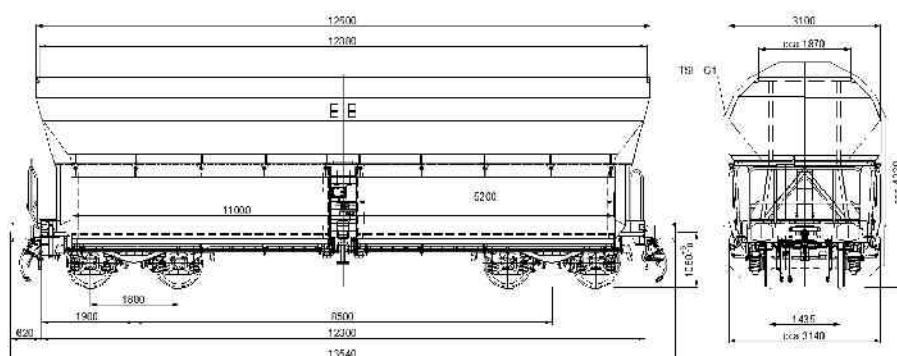


Falns – Hopper bogie wagon



Length over buffers	13540 mm
Loading length	12380 mm
Loading width	1870 mm
Loading height	app 4020 mm
Volume	83 m ³
Tare weight	25 t ± 2%
Payload	65 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	75 m
Ferry boat capability	2° 30'

Opened wagon is destined for transportation of loose goods, resistant to atmospheric influences. Loading is performed from above, through the loading hatch. Unloading is done on both wagon sides, through the side doors that open in pair (2x2) or all four doors simultaneously (1x4). Device for opening and closing the doors is pneumatic and the same is being handled from both wagon sides or from the front platform. The wagon is designed according to existing TSI, EN and UIC regulations.

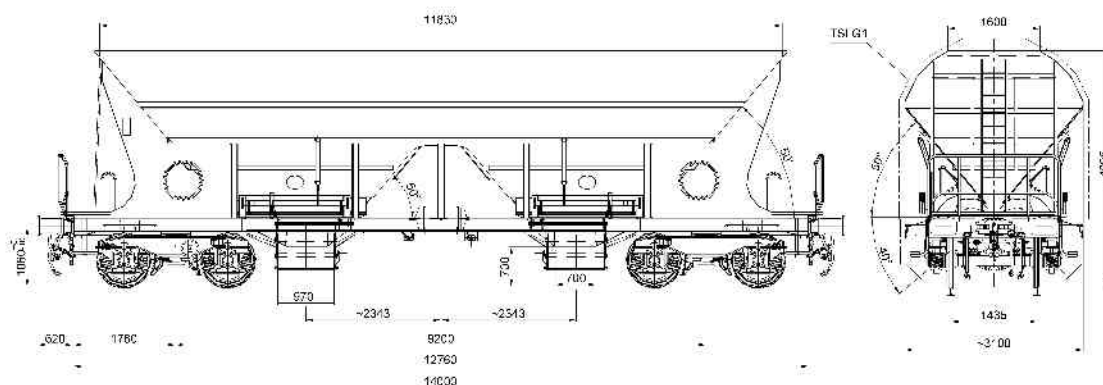


Faccns – Hopper bogie wagon



Length over buffers	14000 mm
Loading length	11830 mm
Loading width	1600 mm
Loading height	app 4095 mm
Volume	53 m ³
Tare weight	21 t ± 2%
Payload	69 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	75 m
Ferry boat capability	2° 30'

Open wagon is intended for transportation of loose goods (sand, gravel, rubble, etc.), resistant to atmospheric influences. Loading is done from above, through the loading hatch. Unloading is performed by gravity, through the discharging funnels (fixed and auxiliary). Unloading speed can be regulated and unloading can be completely stopped. The wagon is designed according to existing TSI, EN and UIC regulations.

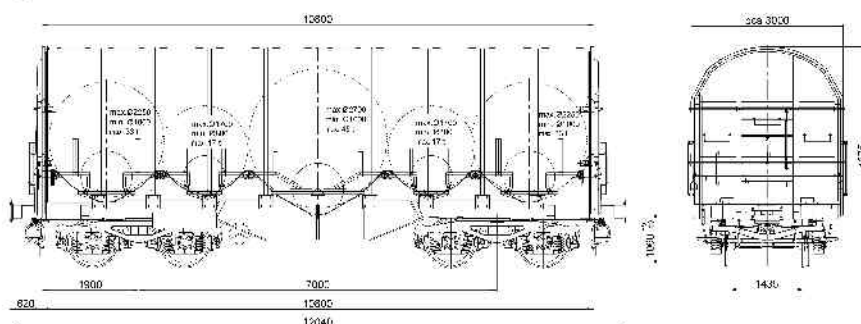


Shimmns – Bogie wagon for coiled metal transport



Length over buffers	12040 mm
Loading length	10800 mm
Tare weight	22,5 t ± 3%
Payload	67,5 t
Axle load	22,5 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	35 m
Ferry boat capability	2°30'

Covered wagon is intended for transportation of coils, placed in the special cradles. The coils are protected from atmospheric influences by a tarpaulin cover that can be moved to one or another wagon end, releasing app. 2/3 of total loading length. Loading and unloading can be done from top of the wagon by a crane or from both sides by a forklift truck and a special crane. The wagon is designed according to existing TSI, EN and UIC regulations.

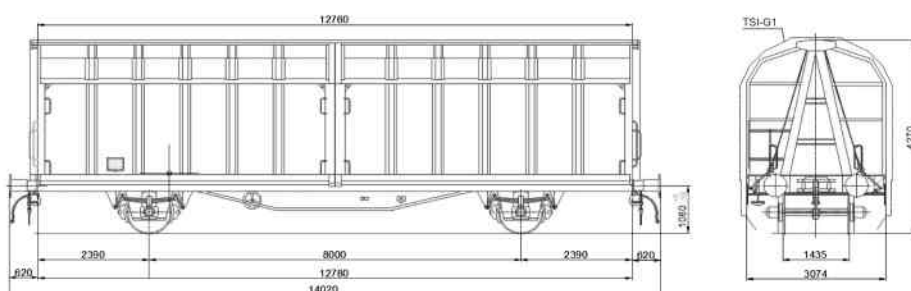


Hbi(II)s – 2-axle covered wagon



Length over buffers	14020 mm
Loading length	12760 mm
Loading width	2900 mm
Loading height	2760 mm
Floor height	1235 mm
Opening width	6280 mm
Loading surface	37 m ²
Volume	93 m ³
Tare weight	14 t ± 2%
Payload	26 t
Axle load	20 t
Maximum speed	120 km/h
Min. curve radius (in train)	150 m
Min. curve radius (single)	60 m

The wagon is produced by reconstruction of Gbs type of wagon. Covered multi-purpose wagon is designed for transport of palletized loads, paper, home appliances, automobile parts, etc. The goods are protected from atmospheric influences. Opening of the lateral sliding doors releases app. 50% of wagon loading length. Lateral sliding doors can be easily handled by one person. Wagons labelled (II) are equipped with 2 partition walls. Loading and unloading can be done from top of the wagon, with a forklift truck or a crane. The wagon is designed according to existing EN and UIC regulations.



Feel the breath of old times!

The Sargan 8

Sargan eight railway section represents one of the biggest Serbian tourist attractions. In the past, this section was used to link Europe with the Adriatic Sea. In the period from 1925 to 1974, the famous train called *Cira* ran from Belgrade to Dubrovnik and Zelenika, on 760 mm narrow-gauge track, through tunnels, over bridges and through mountain gorges, leaving behind itself a remarkable smell of steam locomotive smoke.

Today, this part of railway, representing an unique construction work, is saved from oblivion. Once again the sound of the train and cheerful murmur of tourists riding on the train named *Nostalgia* can be heard. From the station *Mokra gora* to station *Sargan Vitas* you will pass through 22 tunnels, over five bridges and overcome the altitude difference of 300 meters, and all that on a total distance of 15.440 meters.

During your ride you will have an opportunity to see, from one of five observation platforms, all the beauty and natural wealth of this region and Serbia.



Booking Sargan eight

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