

PRODUCT CATALOGUE

LLC "URAL CAR BUILDING
DESIGN BUREAU"





The Design Department was organized on May 10, 1935. It consisted of a design office, a development shop, a research team and a technical library. Dmitry Lorenzo, former deputy chief engineer of Uralvagonstroy, was appointed the first Chief Designer.

Over the decades The Design Department was the leader of the domestic car building.

Even after the collapse of the USSR The Design Department remained the sole developer of the most important products of the car-building industry in the former Union. None of the car-building plants of the CIS countries and The Ukraine were allowed to make any modifications to the

design of car trucks and couplers without the permission of The Design Department.

All the standard specifications, state and industry standards for freight car building were developed with the direct participation of The Design Department. Many times the design documentation was used by foreign car manufacturers on the license and contract basis.

On February 2, 1994 the Design Department was renamed the Ural Car Building Design Bureau (UKBV).

On April 1, 2013 UKBV was transformed into LLC "UKBV" (The Ural Car Building Design Bureau, LLC).

Limited Liability Company «Ural Car Building Design Bureau» is the designer of critical building items operational reliability of which drives the railway transportation safety: different designs of bogies and automatic couplers for all types of freight main-line cars and most of the industrial transportation cars, different types of gondola cars, some types of freight cars and tank cars, including tank cars for petroleum products and LPG, as well as tank cars for viscous oil and to transport aggressive fluids.

SERVICES

LLC "URAL CAR BUILDING DESIGN BUREAU" OFFERS THE FOLLOWING SERVICES:

- Development of design documentation of freight railway rolling stock for the network-wide use of 1520 mm gauge in Russian Federation and other countries, carrying out activities on launch into production with the subsequent certification;
- Development of design documentation for special freight cars with getting the admission to Russian and foreign railways;
- Development of design documentation and manufacturing of intraplant railway transport for technological needs of nuclear, mining, metallurgical, machine-building and chemical industries;
- Development of design documentation for repair of railway products;
- Carrying out a full range of bench tests of one or several car-building items or assembly units at the stage of development work and during the production (including climatic tests);
- The exploratory research, including scientific research works of railway industry objects;
- Testing of a railcar equipment for conformity to requirements of the Technical Regulations of the Customs Union TP TC 001/2011;
- Authorization (Certification) of service centers, repair facilities providing scheduled or off-scheduled types of repairs of the car building products, granting the right to carry out repairs of units and parts of freight cars produced in accordance with documentation of LLC "UKBV";
- The admission of suppliers to conveyor of JSC "Research and Production Corporation "Uralvagonzavod";
- The patent search and analysis of inventions, utility models, industrial patterns, trademarks, compilation of patent applications for inventions, utility models, industrial patterns, execution of license agreements, filing of patent applications with Rospatent, correspondence with patent authorities, preparation and filing of applications for trademarks with Rospatent, international patenting (execution and filing of patent applications with Eurasian and Ukrainian patent authorities), filing of applications under PCT system, patent researches, the assessment of patent clearance of products and services, filing with Chamber for Patent Disputes, Federal Antimonopoly Service, preparation of expert findings on the use of the invention and compliance with patentability requirements;
- Preparation of technical and economic feasibility study for the modification rail tank cars specifications with regard to entering into the register of freighted cargoes.

CONTENTS

GONDOLA CARS	07
TANK CARS	16
HOPPER WAGONS	30
INDUSTRIAL TRANSPORT WAGONS	35
BOXCARS	44
FLAT CARS	47
DUMPER CARS	53
BOGIES	56
COUPLER	62



GONDOLA CARS

12¹⁹⁶ 01

GONDOLA CAR

TO TRANSPORT NON-AGGRESSIVE MASS , NON-DUST-LIKE BULK CARGO,
TO BE NOT WEATHER PROTECTED



Max. carrying capacity, t	75
Body space m ³	88
Max. design static axleload, kN (tf)	245 (25)
Empty weight, t	24,3±0,7
Coupled length, mm	13920 ⁺²⁰ ₋₂₀
Bogie centers, mm	8650±5
Outside width over uprights to cantrail, mm	3142
Rail-to-cantrail distance, mm	3784
No. of bottom hatches, pc.	14
Design speed, km/h	120
Bogie	18-194-1
Coupler	CA-3 semi-hard
Clearance of body per GOST 9238	1-T
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	500/4
Service life, years	32

12¹⁹⁶ 02

GONDOLA CAR

TO TRANSPORT NON-AGGRESSIVE MASS, BULK, NON-DUST-LIKE BULK CARGO
TO BE NOT WEATHER PROTECTED



Max. carrying capacity, t	75
Body space m ³	94
Max. design static axleload, kN (tf)	245 (25)
Empty weight, t	24,5±0,5
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to cantrail, mm	3198
Rail-to-cantrail distance, mm	3866
Inside size of body, mm:	
-clear length	12972
-cantrail clear width	2958
-clear height	2446
No. of bottom hatches, pc.	14
Design speed, km/h	120
Bogie	18-194-1
Coupler	CA-3
Clearance of body per GOST 9238	1-T
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	500/4
Service life, years	32

12⁵¹⁹⁰

GONDOLA CAR
WITH DUMB BODY

TO TRANSPORT COAL AND OTHER NON-AGGRESSIVE TO BE NOT WEATHER
PROTECTED CARGOES



Max. carrying capacity, t	
Body space m ³	77
Max. design static axleload, kN (tf)	245 (25)
Empty weight, t	22,5
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to cantrail, mm	3198
Rail-to-cantrail distance,mm	3773
Inside size of body, mm:	
-clear length	12772
-cantrail clear width	2962
-clear height	2530
Design speed, km/h	120
Bogie	18-194-1
Coupler	CA-3
Clearance of body per GOST 9238	1-BM
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair , ths/years	500/6
Service life, years	32

I2^{I32}

GONDOLA CAR

11

TO TRANSPORT NON-AGGRESSIVE, NON-DUST-LIKE BULK CARGOES



Max. carrying capacity, t	69,5
Empty weight, t	24±0,5
Max. design static axleload, kN [tf]	230.5 (23.5)
Body space, m ³	88
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to cantrail, mm	3158
Rail-to-cantrail distance, mm	3784
Inside Parameters, mm:	
- Clear length	12750
- Clear width to upper binding	2911
- Clear height	2365
No. of bottom hatches, pc.	14
Max. design speed, km/h	120
Bogie	18-100
Coupler	CA-3
Clearance of body per GOST 9238	1-BM
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	22

12^{I32}
03

GONDOLA CAR

TO TRANSPORT NON-AGGRESSIVE, NON-DUST-LIKE BULK CARGOES,
STACKED AND PIECE GOODS



Max. capacity, t	69,5
Empty weight, t	24±0,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Body capacity, m³	88
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to upper framing, mm	3158
Rail-to-upper framing distance, mm	3787
Inside Parameters, mm:	
- Clear length	12750
- Clear width to upper binding	2911
- Clear height	2365
No. of bottom hatches, pc.	14
Max. design speed, km/h	120
Bogie	18-555
Coupler	CA-3
Clearance of body per GOST 9238	1-BM
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	500/4
Service life, years	24

I2^{I46}

GONDOLA CAR WITH REMOVABLE ROOF

TO TRANSPORT CARGOES TO BE WEATHER PROTECTED



Max. carrying capacity, t	65,5
Body space m ³	88
Max. design static axleload, kN (tf)	230,5 (23,5)
Empty weight, t	28 ^{±0,5} _{±0,3}
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to cantrail, mm	3158
Height above top of rail, mm	
- to cantrail of body	3780
- to upper point of roof	4113
No. of roof sections, pc	2
Weight of roof section, t	1,81
No. of hatches, pc	4
- loading roof hatches	14
- unloading bottom hatches	
Inside size of hatches, mm	
- loading	Ø 688
- unloading	1327X1540
Max. design speed, km/h	120
Bogie	18-100
Coupler	CA-3 semi-hard
Clearance of body per GOST 9238	1-BM
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	22

12¹⁹⁷
02

GONDOLA CAR

TO TRANSPORT NON-AGGRESSIVE, NON –DUST-LIKE BULK CARGOES WITH UNLOADING ON THE CAR DUMPERS



Max. carrying capacity, t	76
Body space m³	90
Max. design static axleload, kN (tf)	245 (25)
Empty weight, t	23,5±0,5
Coupled length, mm	13920 ⁺¹⁰ ₋₂₀
Bogie centers, mm	8650±5
Outside width over uprights to cantrail, mm	3165
Rail-to-cantrail distance,mm	3810
Inside size of body, mm:	
-clear length	12442
-cantrail clear width	3013
-clear height	2573
Design speed, km/h	120
Bogie	18-194-1
Coupler	CA-3 semi-hard
Clearance of body per GOST 9238	1-BM
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair , ths/years	250/2
Service life, years	32

12581

01

GONDOLA CAR

FOR OPERATING ON THE RAILWAYS OF 1435 MM GAUGE ,TO TRANSPORT NON AGGRESSIVE, BULK CARGO TO BE NOT WEATHER PROTECTED



Max. carrying capacity, t	66,7
Body space m ³	22,8±0,5
Max. design static axleload, kN (tf)	220,5 (22,5)
Empty weight, t	68
Coupled length, mm	13920
Bogie centers, mm	8650
Outside width over uprights to cantrail, mm	2990
Rail-to-cantrail distance, mm	3209
Inside size of body, mm:	
-clear length	12768
-cantrail clear width	2774
-clear height	1943
Design speed, km/h	90
Clearance of body per GOST 9238	RIV Appendix 2, Table 1.17
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	26

TANK CARS

15⁵¹⁵⁷

TANK CARS

17

TO TRANSPORT OIL PRODUCTS



	15-5157-02	15-5157-03	15-5157-04	15-5157-05
Max. carrying capacity, t	68	68	73	73
Empty weight, t	25,70 ^{+0,3} _{-0,1}	25,70 ^{+0,3} _{-0,1}	26,2 ^{+0,8} _{-0,1}	26,2 ^{+0,8} _{-0,1}
Max.design static axleload, kN(tf)	230 (23,5)	230 (23,5)	245 (25)	245 (25)
Tankage, m ³	87,16	87,14	87,16	87,14
Tank length, mm	11284	11284	11284	11284
Coupled length, mm	12020 ⁺⁶⁷ ₋₄₅	12020 ⁺⁶⁷ ₋₄₅	12020 ⁺⁶⁷ ₋₄₅	12020 ⁺⁶⁷ ₋₄₅
Frame length, mm	10884 ⁺¹¹ ₋₁₈	10884 ⁺¹¹ ₋₁₈	10884 ⁺¹¹ ₋₁₈	10884 ⁺¹¹ ₋₁₈
Inside diameter, mm	3200	3200	3200	3200
Bogie centers, mm	7800±5	7800±5	7800±5	7800±5
Height above top of rail to coupler pulling face, mm	1040-1080	1040-1080	1040-1080	1040-1080
Design speed, km/h	120	120	120	120
Full discharge	pressure incline	incline of the end side-bars to be the middle	pressure incline	incline of the end side-bars to be the middle
Coupler	CA-3	CA-3	CA-3 semi-hard	CA-3 semi-hard
Clearance per GOST 9238	1-BM	1-BM	1-BM	1-BM
Overhaul period from building to the first depot repair, ths/years	3 years	3 years	500/4	500/4
Service life, years	32	32	32	32

15⁵¹⁸¹

TANK
CARS

TO TRANSPORT LIQUID COKE-CHEMICAL AND PETROCHEMICAL CARGOES



Max. carrying capacity, t	73,5
Empty weight, t	26,3
Max. design static axleload, kN (tf)	245 (25)
Tankage, m ³	76,3
Coupled length, mm	12020
Inside diameter, mm	3000
Bogie centers, mm	7800
Height above top of rail to coupler pulling face, mm	1040-1080
Design speed km/h	120
Bogie	18-194-1
Coupler	CA-3 with vertical movement limiters
Clearance per GOST 9238	1-T
Overhaul period from building to the first depot repair, ths/years	500/4
Service life, years	30

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TANK CARS

TO TRANSPORT CHEMICAL CARGOES



	15-157	15-157-01	15-157-02
Cargo	technical sulfuric acid	Oleum	sodium technical caustic
Max. carrying capacity, t	69	68	68
Empty weight, t	24,5 ^{+0,5} _{-0,4}	25,6 ^{+0,4} _{-0,9}	25,25±0,75
Max. design static axle, kN (tf)	230,5 [23,5]	230,5 [23,5]	230,5 [23,5]
Tankage, m ³	38,84	38,84	46
Payload, m ³	38,06	38,06	45,08
Tank length, mm	10550, 10608, 10600	10608	10808
Coupled length, mm	12020 ⁺⁶⁷ ₋₄₅	12020 ⁺⁶⁷ ₋₄₅	12020 ⁺⁶⁷ ₋₄₅
Bogie centers, mm	7800±5	7800±5	7800±5
Inside diameter, mm	2200	2200	2375
Height above top of rail to coupler pullingface, mm	1040-1080	1040-1080	1040-1080
Design speed km/h	120	120	120
Bogie	18-100	18-100	18-100
Coupler	CA-3 with vertical movement limiters		
Clearance per GOST 9238	02-BM	02-BM	02-BM
Overhaul period from building to the first depot repair, ths/years	210/2	210/2	210/2
Service life, years	20	20	24

15⁵¹⁸³

TANK
CARS

TO TRANSPORT LIQUID ANHYDROUS AMMONIA



Max. carrying capacity, t	52
Empty weight, t	37,5+3%
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	86
Coupled length, mm	12020 ⁺¹⁷ ₋₂₅
Inside diameter, mm	3200
Bogie centers, mm	7800±5
Height above top of rail to coupler pulling face, mm	1040-1080
Design speed km/h	120
Bogie	18-100
Coupler	CA-3 with vertical movement limiters
Clearance per GOST 9238	1-T
Overhaul period from building to the first depot repair, ths/years	210/2
Service life, years	40

15¹⁵⁰₀₅

TANK CARS

TO TRANSPORT METHANOL



Max. carrying capacity, t	65
Empty weight, t	28,5±0,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	85,6
Payload, m ³	83,9
Tank length, mm	11094
Coupled length, mm	12020 ¹⁰
Bogie centers, mm	7800±5
Inside diameter, mm	3200
Max. height above top of rail, mm	5270
Design speed, km/h	120
Bogie	18-100
Coupler	CA-3 With vertical movement limiters
Clearance per GOST 9238	1-T
Overhaul period from building to the first depot repair, ths/years	210/2
Service life, years	24

15588
01

TANK
CARS

TO TRANSPORT LIQUEFIED HYDROCARBON GASES



Max. carrying capacity, t	52
Empty weight, t	37,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	86
Coupled length, mm	12020
Inside diameter, mm	3200
Bogie centers, mm	7800
Height above top of rail to coupler pulling face, mm	1040-1080
Design speed km/h	120
Bogie	18-100
Coupler	CA-3 with vertical movement limiters
Clearance per GOST 9238	1-T
Overhaul period from building to the first depot repair, ths/years	210/2
Service life, years	40

15⁵¹⁰³ П

TANK CARS

TO TRANSPORT PENTANE



Max. carrying capacity, t	66
Empty weight, t	27,45
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	75,5
Payload, m ³	73,78
Tank length, mm	11153
Coupled length, mm	12020
Bogie centers, mm	7800
Inside diameter, mm	3000
Height above top of rail, mm:	
- maximum	4600
- to coupler pulling face	1040-1080
Design speed km/h	120
Bogie	18-100
Coupler	CA-3 with vertical movement limiters
Clearance per GOST 9238	02-BM
Service life, years	32

15⁵¹⁰³

TANK
CARS

TO TRANSPORT OIL PRODUCTS



	15-5103-06	15-5103-07
Max. carrying capacity, t	66	66
Empty weight, t	27,5	27,5
Max. design static axleload, kN (tf)	230,5 (23,5)	230,5 (23,5)
Tankage, m³	85,7	85,6
Payload, m³	84	83,9
Tank length, mm	11220	11106
Coupled length, mm	12020	12020
Inside diameter, mm	3200	3200
Bogie centers, mm	7800	7800
Max. height above top of rail, mm	4661	4661
Calibration type	105	106
Design speed km/h	120	120
Bogie	18-100	18-100
Coupler	CA-3 with vertical movement limiters	CA-3 with vertical movement limiters
Clearance per GOST 9238	1-BM	1-BM
Service life, years	32	32

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TANK CARS

TO TRANSPORT OIL AND OIL PRODUCTS



	15-150-03	15-150-04
Max. carrying capacity, t	66	66
Empty weight, t	27,5	27,5
Max. design static axleload, kN (tf)	230,5 (23,5)	230,5 (23,5)
Tankage, m ³	85,6	85,6
Payload, m ³	83,9	83,95
Tank length, mm	11194	11094
Coupled length, mm	12020	12020
Inside diameter, mm	3200	3200
Bogie centers, mm	7800	7800
Calibration type	66	90
Design speed, km/h	120	120
Bogie	18-100	18-100
Coupler	CA-3 With vertical movement limiters	CA-3 With vertical movement limiters
Clearance per GOST 9238	1-BM	1-BM
Overhaul period from building to the first depot repair, ths/years	3	3
Service life, years	32	32

15¹⁵⁶

TANK CARS

TO TRANSPORT VISCOUS OIL



	15-156-01	15-156-02	15-156-03	15-156-04
Max. carrying capacity, t	65	65	65	65
Empty weight, t	28,0 28,5	28,5	28,1 28,5	28,5
Max. design static axleload, kN (tf)	230,5 (23,5)	230,5 (23,5)	230,5 (23,5)	230,5 (23,5)
Tankage, m ³	73,5	75,5	74,0	76,3
Payload, m ³	69	69	69	69
Tank length, mm	10910	11245	10986	11321
Coupled length, mm	12020	12020	12020	12020
Bogie centers, mm	7800	7800	7800	7800
Inside diameter, mm	3000	3000	3000	3000
Calibration type	81	79	85	86
Design speed km/h	120	120	120	120
Bogie	18-100 type 2	18-100 type 2	18-100 type 2	18-100 type 2
Coupler	CA-3 with vertical movement limiters		CA-3 with vertical movement limiters	
Clearance per GOST 9238	02-BM	02-BM	02-BM	02-BM
Overhaul period from building to the first depot repair, ths/years	210/3	210/3	210/3	210/3
Service life, years	32	32	32	32

15¹⁵⁰ 04П

TANK CARS

TO TRANSPORT VEGETABLE OILS



Max. carrying capacity, t	66
Empty weight, t	27,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	85,6
Payload, m ³	83,9
Tank length, mm	11094
Coupled length, mm	12020
Bogie centers, mm	7800
Inside diameter, mm	3200
Max. height above top of rail, mm	4661
Design speed, km/h	120
Bogie	18-100
Coupler	CA-3 With vertical movement limiters
Clearance per GOST 9238	1-BM
Service life, years	32

15¹⁵⁰ 04Б

TANK CARS

TO TRANSPORT PETROLEUM

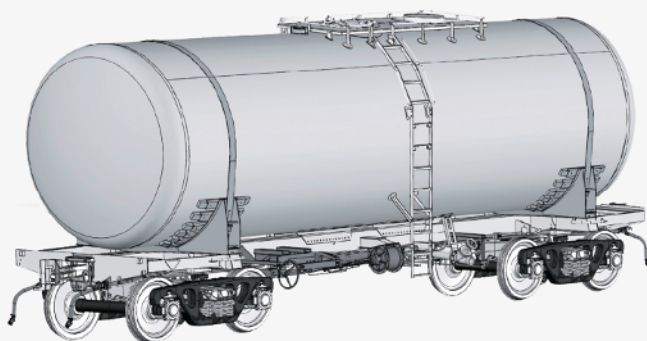


Max. carrying capacity, t	66
Empty weight, t	27,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Tankage, m ³	85,6
Payload, m ³	83,9
Tank length, mm	11094
Coupled length, mm	12020
Bogie centers, mm	7800
Inside diameter, mm	3200
Max. height above top of rail, mm	4661
Design speed, km/h	120
Bogie	18-100
Coupler	CA-3 With vertical movement limiters
Clearance per GOST 9238	1-BM
Overhaul period from building to the first depot repair, ths/years	210/2
Service life, years	24

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TANK CARS

TO TRANSPORT OIL PRODUCTS



Max. carrying capacity, t	65
Empty weight, t	25,0
Max. design static axleload, kN (tf)	220,7 (22,5)
Tankage, m ³	68
Payload, m ³	66,64
Tank length, mm	10800
Coupled length, mm	12020
Bogie centers, mm	7800
Inside diameter, mm	2900
Height above top of rail, mm	4385
Height above top of rail head to coupler pulling face, mm	1040-1080
Design speed km/h	120
-empty km/h	100
-load km/h	
Bogie	18-100
Coupler	CA-3 No hard
Clearance	RIV Appendix2/Table1/17
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	32

HOPPER WAGONS

195153

HOPPER

FOR BULK TRANSPORTATION OF THE MAIN, UNCONSOLIDATED GRANULATED OR BULK POWDER CARGOES

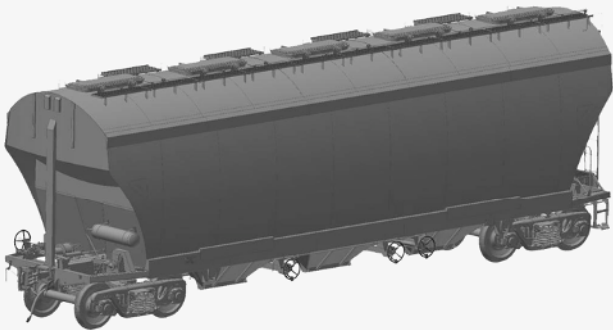


	19-5153	19-5153-01	19-5153-02
Max. carrying capacity, t	70	71	76
Empty weight, t	23,5	22,5	24,5
Max. design static axleload, kN (tf)	230,5 (23,5)	230,5 (23,5)	245 (25,0)
Tankage, m³	85	86	85
Car width, mm	3242	3242	3242
Coupled length, mm	13200	13200	13200
Frame length to end beams, mm	11980	11980	11980
Bogie centers, mm	8980	8980	8980
Height above top of rail to coupler pulling face, mm	1040-1080	1040-1080	1040-1080
Design speed km/h	120	120	120
Number of hatches, pc			
- loading	4	4	4
- unloading	4	4	4
Total area of hatches, m²:			
- loading	3,83	3,83	3,83
- unloading	2,9	2,9	2,9
Max. height of hopper, mm	5165	5164	5157
Removable roof	Metal structure	Composite	Metal structure
Bogie	18-100	18-100	18-194-1
Clearance of bogie per GOST 9238	02-BM	02-BM	02-BM
Clearance of body per GOST 9238	1-BM	1-BM	1-BM
Overhaul period from building to the first depot repair, ths/years	210/3	210/3	210/3
Service life, years	26	26	26

19⁶⁸⁷⁰

HOPPER

TO TRANSPORT GRAIN AND OTHER BULK FOOD CARGO



Max. carrying capacity, t	76.2
Empty weight, t	23.8
Max. design static axleload, kN [tf]	245 (25)
Tankage, m³	120
Coupled length, mm	14720
Bogie centers, mm	10500
Hopper width, mm	3252
Height above top of rail to coupler pulling face, mm	1060
Number of hatches, pc	5
- loading	6
- unloading	
Design speed km/h	120
Bogie	18-194-1
Clearance of bogie per GOST 9238	02-BM
Clearance of body per GOST 9238	1-T
Service life, years	32
Overhaul period from building to the first depot repair, ths/years	500/6

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HOPPER

FOR BULK TRANSPORTATION OF CEMENT OR OTHER BULK CARGOES OF SMALL FRACTIONS TO BE WEATHER PROTECTED



Max. carrying capacity, t	73
Empty weight, t	20,5
Max. design static axleload, kN [tf]	230,5 (23,5)
Tankage, m ³	65
Coupled length, mm	12020
Bogie centers, mm	7800
Hopper width, mm	3212
Height above top of rail to coupler pulling face, mm	1040-1080
Lever type unloading device drive	pendulons flipper
Number of hatches, pc	
- loading	3
- unloading	4
Total area of hatches, m ² :	
- loading	3,24
- unloading	0,51
Design speed km/h	120
Bogie	18-100
Clearance of bogie per GOST 9238	02-BM
Clearance of body per GOST 9238	1-BM
Service life, years	26
Overhaul period from building to the first depot repair, ths/years	210/3

20⁵¹⁹⁷

HOPPER

TO TRANSPORT IRON ORE SINTER AND IRON ORE PELLETS



Max. carrying capacity, t	75,5
Empty weight, t	23,9
Max. design static axleload, tf	24,87
Tankage, m ³	48
Coupled length, mm	11000
Bogie centers, mm	6780
Hopper width, mm	3200
Rail-to-central distance, mm	3686
Number of hatches, pc - unloading	2
The size of the unloading hatches, mm	3100x900
Coupler	CA-3
Design speed km/h	120
Bogie	18-194-1
Clearance of bogie per GOST 9238	02-BM
Clearance of body per GOST 9238	1-BM
Service life, years	24
Overhaul period from building to the first depot repair, ths/years	500/4

INDUSTRIAL TRANSPORT WAGONS

23⁵¹⁶⁵

SPECIALIZED THERMOS-CAR

TO TRANSPORT AS-CAST STOCK



	23-5165	23-5165-01
Max. carrying capacity, t	95	95
Empty weight, t	44,5±0,5	44,5±0,5
Max. design static axleload, kN (tf)	343 (35,0)	343 (35,0)
Bogie centers, mm	9700	9700
Coupled length, mm	13920	13920
Frame length to end beams, mm	12700	12700
Gauge, mm	1520	1520
Car width, mm	3080	3080
Max loading width, mm	2300	2300
Height above top of rail, mm:		
- to the top of the cap	4229	4229
- to the top of the support surface for the round stock	1900	1900
- to the top of the support surface for the bloom	1990	1990
The number of simultaneously transported workpieces with a diameter of 430 mm, pc	5	4
Min. curve to be negotiated, m	60	60
Max. design speed km/h	15	15
Bogie	18-194-1	18-194-1
Clearance per GOST 9238 :		
- Body	1-T	1-T
- Bogie	02-BM	02-BM
Overhaul period from building to the first depot repair, years	1	1
Service life, years	15	15

23⁵⁹²

FLATCAR

TO TRANSPORT HOT INGOTS ON INTRAPLANT TRACKAGES



	23-592	23-592-01	23-592-02
Max. carrying capacity, t	110	70	90
Empty weight, t	30	30	30
Bogie centers, mm	8800	8800	8800
Min. curve to be negotiated by single flat car, m	60	60	60
Coupled length, mm	13920	13920	13920
Max. design static axleload, kN (tf)	343 (35)	245 (25)	294 (30)
The height above top of rail, mm: - to coupler pulling face - maximum	1040-1080 1826	1040-1080 2179	1040-1080 1979
Design speed km/h	15	15	15
Bogie	18-593	18-100	18-5151
Overhaul period from building to the first depot repair, years	3	1	1
Service life, years	15	15	15

23⁵⁹⁹

FLATCAR

FOR THE SCARPE SHOVEL



Max. carrying capacity, t	130
Empty weight, t	31
Max. design static axleload, kN (tf)	265 (27)
Base platform, mm	6750
Coupled length, mm	13240
Length on the contact surfaces of front darft lugs, mm	12050
Gauge, mm	1520
Frame width , mm	2850
Height above top of rail to coupler pulling face, mm	1040-1080
Design speed km/h	35
Bogie	18-100, 18-5150
Clearance per GOST 9238: - flatcar - bogie (model 18-100) - bogie (model 18-5150)	1-T 02-BM 02-BM
Overhaul period from building to the first depot repair , years	2
Service life, years	15

23⁵¹⁶²

FLATCAR

TO TRANSPORT HOT SLAB BILLETS



Max. carrying capacity, t	105
Empty weight, t	34,5±0,5
Max. design static axleload, kN (tf)	343 (35)
Bogie centers, mm	9000
Coupled length, mm	13920
Loading length, mm	12350
Loading width, mm	2920
Gauge, mm	1520
Width of the car frame, mm	3100
Height above top of rail to coupler pulling face, mm	1040-1080
Min. curve to be negotiated, m	60
Design speed km/h	15
Bogie	18-194-1
Clearance per GOST 9238 :	
- Body	1-T
- Bogie	02-BM
Overhaul period from building to the first depot repair, years	1
Service life, years	15

23⁵¹⁶³

FLATCAR

TO TRANSPORT LONG SECTIONS FROM ALLUMINIUM ALLOYS

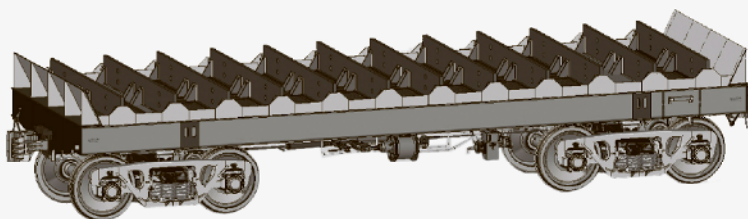


Max. carrying capacity, t	10
Empty weight, t	47±0,5
Max. design static axleload, kN (tf)	70,44 (7,19)
Bogie centers, mm	9090
Coupled length, mm	28720
Max. flat car width, mm	2900
Gauge, mm	1520
Width of the car frame, mm	2120
Height above top of rail, mm: - to the top of the equipment - to the top frame deck	3348 2027
Min. curve to be negotiated, m	80
Design speed km/h	15
Bogie	18-100
Clearance per GOST 9238 : - Body - Bogie	1-T 02-BM
Overhaul period from building to the first depot repair , years	1
Service life, years	15

23⁵¹⁶⁴

FLATCAR

TO TRANSPORT HOT INGOTS

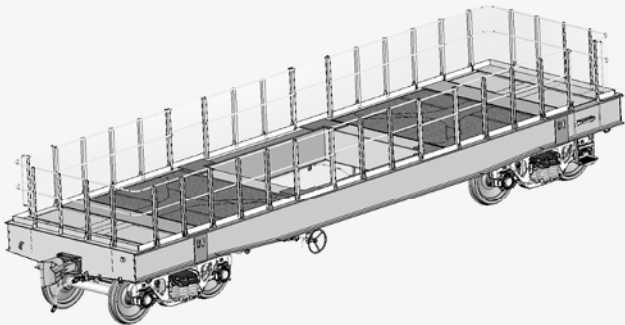


Max. carrying capacity, t	90
Empty weight, t	30
Max. design static axleload, kN (tf)	294,3 (30)
Bogie centers, mm	7000
Coupled length, mm	11220
Frame length to end beams, mm	10000
Gauge, mm	1520
Frame width, mm	3150
Height above top of rail, mm:	
- to the top of the car	2040
- to the top of the bearing	1916
- to the level of the floor	1530
- to coupler pulling face	1040-1080
Min. curve to be negotiated, m	60
Max. design speed km/h	15
Bogie	18-100
Clearance per GOST 9238 :	
- Body	1-T
- Bogie	02-BM
Overhaul period from building to the first depot repair, years	1
Service life, years	15

23⁵¹⁶⁶

SPECIALIZED
FLATCAR

FOR PROCESS TRAFFIC OF TRANSPORTATION AND HERMETIC CASING COVERS



Max. carrying capacity, t	54
Empty weight, t	22
Max. design static axleload, kN (tf)	188 (19,13)
Bogie centers, mm	8650
Coupled length, mm	12870
Frame length to end beams, mm	11650
Gauge, mm	1520
Frame width , mm	3100
Height above top of rail, mm: - to the level of the floor - to the top of the supports - to coupler pulling face - to the top of the flat car	1526 1540 1040-1080 2630
Min. curve to be negotiated, m	150
Max. design speed km/h	10
Bogie	18-194-1
Clearance per GOST 9238 : - Body - Bogie	T 02-BM
Overhaul period from building to the first depot repair , years	210/3
Service life, years	35

23⁵¹⁷⁶

FLATCAR

FOR PROCESS TOOLS TRANSPORTATION



Max. carrying capacity, t	110
Empty weight, t	26±0,5
Max. design static axleload, kN (tf)	343 (35)
Bogie centers, mm	8800
Coupled length, mm	13920
Car width relative to the under frame, mm	3000
Height above top of rail, mm:	
- to the level of the floor	1300
- to coupler pulling face	1040-1080
Min. curve to be negotiated, m	60
Max. design speed km/h	15
Bogie	18-194-1
Clearance per GOST 9238 :	
- Body	1-T
- Bogie	02-BM
Overhaul period from building to the first depot repair , years	1
Service life, years	15

BOXCARS

ВПВ¹³⁵_K

SCALE TEST CAR

FOR CALIBRATION OF TRACK SCALES



Max. carrying capacity, t	89,1
Empty weight, t	40,5
Max. design static axleload, kN (tf)	216 (22,0)
Coupled length, mm	15720
Bogie centers, mm	8900±5
length of the bracket arm relative to the front sheets	2800
Frame length to end beams, mm	14500
Car width, mm	2990
Height above top of rail, mm:	
- to the top of the support surface for the round stock	5060
- to the top of the support surface for the bloom	1040-1080
Design speed km/h, no more	120
Clearance per GOST 9238 :	
- Body	1-T
- Bogie	02-BM
Overhaul period from building to the first depot repair , years	3
Service life, years	32



9962

UNIVERSAL BOXCAR

TO TRANSPORT PIECE, PACKAGED CARGOES TO BE WEATHER PROTECTED



Max. carrying capacity, t	67,2
Empty weight, t	26,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Body space m³	156,5
Inside size of body, mm:	
-clear length	17087
-cantrail clear width	2747
-clear height	2820
The size of the aperture in the light	3910 x 2720
Coupled length, mm	18325
Bogie	18-100 (18-555)
Coupler	CA-3
Clearance of body per GOST 9238	1-BM
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	32

FLAT CARS

13¹⁴⁹

FLAT CAR

DESIGNED FOR MOUNTING TANK-CAR



Empty weight, t	15,6
Max. design static axleload, kN (tf)	230 (23,5)
Coupled length, mm	12020
Bogie centers, mm	7800
Max. width, mm	3091
Frame width,mm	2870±5
No. of axes, pc	4
Availability of parking brake	yes
Possibility of installation of buffers	no
Design speed, km/h	120
Bogie	18-100 type 2
Clearance of bogie per GOST 9238	02-BM
Overhaul period from building to the first depot repair	should not be less than the indicators at the appropriate wagon-tank

I3^{I92}

FLAT CAR

TO TRANSPORT TANK-CONTAINERS AND CONTAINERS
WITH CLEARANCE 1AA, 1A, 1AX, 1CC, 1C, 1CX GOST 18477



Max. carrying capacity, t	60
Empty weight, t	20,4
Max. design static axleload, kN (tf)	198,4 (20,23)
Coupled length, mm	13920
Bogie centers, mm	8800
Frame width , mm	2870
Height above top of rail to coupler pulling face, mm	1040-1080
Bracket arm, mm	1950
Min. curve to be negotiated, m	60
Design speed km/h	120
Bogie	18-100
Coupler	CA-3
Clearance of bogie per GOST 9238	02-BM
Clearance of body per GOST 9238	02-BM
Overhaul period from building to the first depot repair , ths/years	210/3
Service life, years	16

I3^{I92} 01

UNIVERSAL FLAT CAR

TO TRANSPORT LONG LOADS, PIECE GOODS, TIMBER, METALWORKS, WHEELED AND CATERPILLAR VEHICLES, PACKAGED AND BULK CARGOES TO BE NOT WEATHER PROTECTED



Max. carrying capacity, t	72
Empty weight, t	21,5
Max. design static axleload, kN (tf)	230,5 (23,5)
Coupled length, mm	14620
Bogie centers, mm	9720
Frame width , mm	2870
Flat car width over clamps of timber pillars, mm	3141
Floor area, m ³	38,4
Flat car high to floor lever, mm	1310
Flat car high with raised boards, mm	1809
Design speed km/h	120
Bogie	18-100 type 2
Coupler	CA-3
Clearance of bogie per GOST 9238	02-BM
Clearance of body per GOST 9238	0-BM
Overhaul period from building to the first depot repair , ths/years	210/3
Service life, years	32

13¹⁹⁸

FLAT CAR

TO TRANSPORT TIMBER, MACHINERY WHEELED,
OTHER CARGOES NOT TO BE WEATHER PROTECTED



	13-198	13-198-01
Max. carrying capacity, t	65	65
Empty weight, t	25	23,7
Max. design static axleload, kN (tf)	223 (22,63)	220 (22,3)
Body space, m ³	100	100
Coupled length, mm	13920	13920
Clear length of body to removable end walls, mm	12692	-
Length of the bracked arm relative to the frontal sheets, mm	2025	2025
Bogie centers, mm	8650	8650
Width of the outside racks, mm	3158	3158
Height above top of rail, mm:		
- to the top of rack, mm	4265	4265
- to coupler pulling face, mm	1040-1080	1040-1080
- to the level of the floor	1240	1240
Design speed, km/h	120	120
Clearance per GOST 9238:		
- Body	1-BM	1-BM
- Bogie	02-BM	02-BM
Overhaul period from building to the first depot repair, ths/years	210/3	210/3
Service life, years	32	32

13¹⁹⁸
02

FLAT CAR

TO TRANSPORT TIMBER, MACHINERY WHEELED,
OTHER CARGOS NOT TO BE WEATHER PROTECTED



Max. carrying capacity, t	65
Empty weight, t	25,7±0,5
Max. design static axleload, kN (tf)	224 (22,8)
Body space, m3	100
Coupled length , mm	13920
Clear length of body to removable end walls, mm	12692
Length of the bracked arm relative to the frontal sheets, mm	2025
Bogie centers, mm	8650±5
Width of the outside racks, mm	3158
Height above top of rail , mm: - to the top of rack, mm - to coupler pulling face, mm - to the level of the floor	4265 1040-1080 1240
Design speed, km/h	120
Clearance per GOST 9238: - Body - Bogie	1-BM 02-BM
Overhaul period from building to the first depot repair , ths/years	210/3
Service life, years	32

13⁹⁹⁷⁵

FLAT CAR

TO TRANSPORT LARGE-CAPACITY CONTAINERS



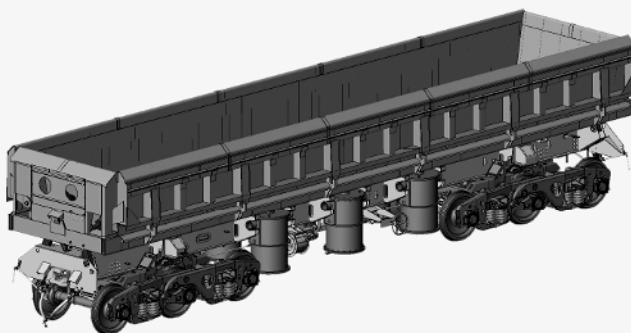
Max. carrying capacity, t	70
Empty weight, t	23,7±0,3
Max. design static axleload, kN (tf)	230,5 [23,5]
Coefficient of tare	0,348
Type of transport containers, of 11SO series	1AAA, 1AA, 1A, 1AX, 1BBB, 1BB, 1B, 1BX, 1CC, 1C, 1CX
Design speed, km/h	120
Clearance of body per GOST 9238	1-T
Overhaul period from building to the first depot repair, ths/years	210/3
Service life, years	32

DUMPER CARS

33⁵¹⁷⁰

DUMPER CAR

FOR MECHANIZED LOADING, UNLOADING AND TRANSPORTING OF BULK CARGOES AND PIECE CARGOES BY THE MAIN RAILWAY LINES AND INDUSTRIAL FACTORIES RAILS

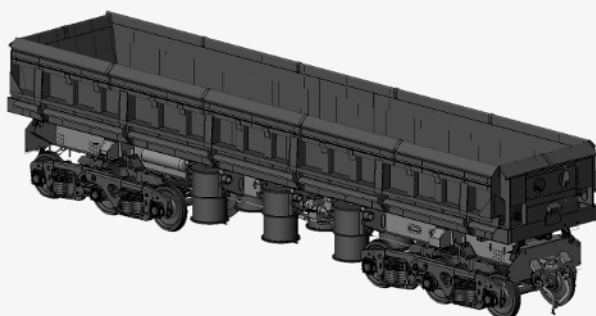


Max. carrying capacity, t	80
Empty weight, t	51±1,0
Tankage, m ³	44
Max. design static axleload, kN (tf)	216 (22)
Bogie centers, mm	9340
Gauge, mm	1520
Inside body width, mm	2600
Inside body length, mm	12960
Height abovetop of rail, mm:	
- to the top cord	3304
- to coupler pulling face	1040-1080
Coupled length, mm	15036
Min. curve to be negotiated, m	80
Design speed km/h:	
- by main railwayslines as loaded	70
- by industrial factories rails as loaded	40
Bogie	18-522A per TY 3183-021-07518941
Clearance per GOST 9238 :	
- Body	1-T
- Bogie	02-BM
Overhaul period from building to the first depot repair , ths/years	3
Service life, years	22

33⁹⁹⁸⁵

DUMPER CAR

FOR MECHANIZED LOADING, UNLOADING AND TRANSPORTING OF BULK CARGOES
AND PIESE CARGOES BY THE INDUSTRIAL RAILWAYS OF GOK



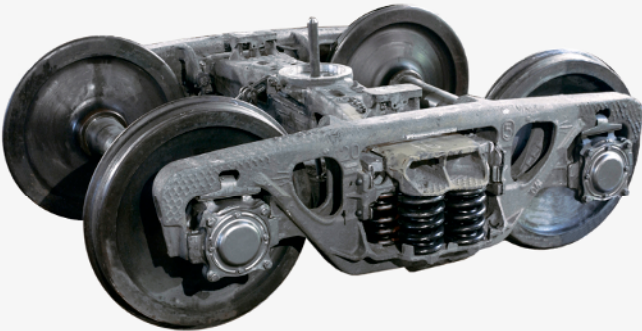
	33-9985	33-9985-01
Max. carrying capacity, t	105	105
Empty weight, t	51±1	53±1
Tankage, m³	50	50
Max. design static axleload, kN [tf]	256,72 [26,17]	259,87 [26,5]
Bogie centers, mm	9340±5	9340±5
Gauge, mm	1520	1520
Height abovetop of rail to coupler pulling face, mm	1060±20	1060±20
Coupled length, mm	15036±25	15036±25
Min. curve negotiation radius for coupled cars, m	80	80
Design speed km/h: - by main railwayslines as loaded - by industrial factories rails as loaded	90 40	90 40
No.of discharge cylinder	6	6
Clearance per GOST 9238 on the main industrial track	T	T
Clearance per GOST 9238 on the main track	1-T	1-T
Overhaul period from building to the first depot repair , ths/years	3	3
Service life, years	22	22

BOGIES

18¹⁰⁰

TWO-AXLE
BOGIE

FOR USE IN FREIGHT WAGONS ON MAIN RAILWAYS OF 1520/1435 MM GAUGE



Bogie

2-axle with center
spring suspension

Max. design static axleload, kN (tf)

230,5(23,5)

Wheel base, mm

1850

Gauge, mm

1520/1435

Type of side bearing

hard side with clearance

The distance between the axes of the bearing, mm

1524

Height above top of rail to center plate bearing
surface at empty weight, mm

806

Diameter of center plate, mm

300

Vertical springing flexibility, m/MH (mm/t)

0,114 (1,12)

Estimated ratio of the relative friction of bogie swing suspension in car:

- with maximum design weight
- with minimum design weight

0,085...0,095
0,106...0,160

Design speed km/h

120

Weight, t

4,8

Clearance per GOST 9238

02-BM

18¹⁹⁴

2-AXLE BOGIE

FOR USE IN FREIGHT WAGONS ON MAIN RAILWAYS OF 1520/1435 MM GAUGE

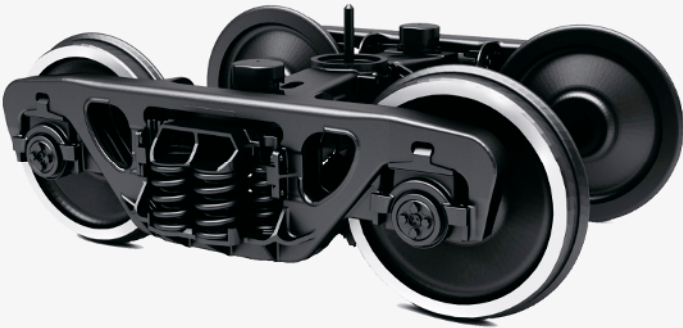


Bogie	2-axle with center spring suspension
Max. design static axleload, kN (tf)	245 (25)
Wheel base, mm	1850
Gauge, mm	1520
Type of side bearing	side elastic constant contact
The distance between side radial blocks axles, mm	1524
Height above top of rail to center plate bearing surface at empty weight, mm	818
Diameter of center plate, mm	350
Relative friction coefficient of spring suspension bogie wagon: - with maximum design weight - with minimum design weight	0,132 (1,29) 0,243 (2,38)
Design speed km/h	120
Weight, t	4,9
Clearance per GOST 9238	02-BM

18⁵⁵⁵

2-AXLE
BOGIE

FOR USE IN FREIGHT WAGONS ON MAIN RAILWAYS OF 1520/1435 MM GAUGE

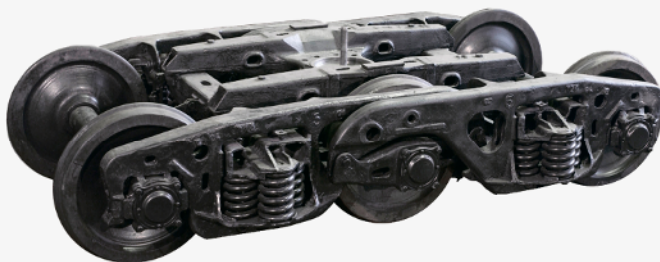


	18-555	18-555-1
Bogie	2-axle with center spring suspension	
Max. design static axleload, kN (tf)	230,5 [23,5]	230,5 [23,5]
Wheel base, mm	1850	1850
Gauge, mm	1520/1435	1520/1435
Type of side bearing	side elastic constant contact	
The distance between the axes of the bearing, mm	1524	1524
Height above top of rail to center plate bearing surface at empty weight, mm	811	811
Diameter of center plate, mm	300	300
Design flexibility of spring suspension in a vertical plane without taking into account the forces of friction	1,42	1,42
Relative friction coefficient of spring suspension bogie wagon: - with maximum design weight - with minimum design weight	0,084 ... 0,092 0,107 ... 0,160	0,084 ... 0,092 0,107 ... 0,160
Design speed km/h	120	120
Weight, t	4,68	4,8
Clearance per GOST 9238	02-BM	02-BM

18⁵²²

3-AXLE BOGIE

FOR USE IN DUMPER CARS

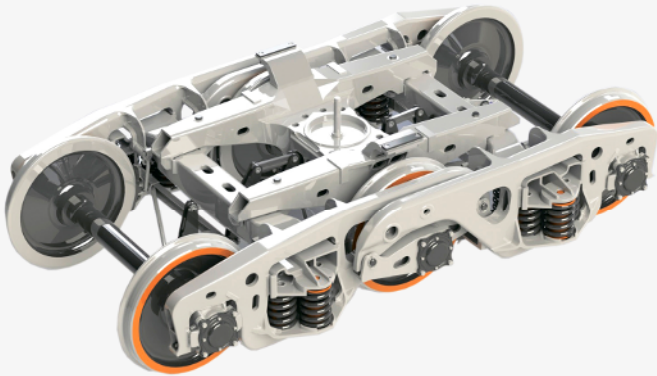


Bogie	3-axle
Max. design static axleload, kN [tf]	245 (25)
Wheel base, mm	3400
Gauge, mm	1520
Type of side bearing	hard side with clearance
Distance between side bearing axes, mm	1210
Height above top of rail to center plate bearing surface at empty weight, mm	824
Diameter of center plate, mm	402
Vertical springing flexibility, m/MH (mm/t)	0,045 (0,44)
Relative friction coefficient of spring suspension bogie wagon	0,1188
Design speed km/h	120
Weight, t	9,577
Clearance per GOST 9238	02-BM

18⁵²²
A

3-AXLE
BOGIE

TO BE USED IN SNOW-REMOVERS AND SCALE TEST CARS.



Bogie	3-axle
Max. design static axleload, kN (tf)	216 (22)
Wheel base, mm	3400
Gauge, mm	1520
Type of side bearing	hard side with clearance
Distance between side bearing axes, mm	1524
Height above top of rail to center plate bearing surface at empty weight, mm	824
Diameter of center plate, mm	402
Vertical springing flexibility, m/MH (mm/t)	0,077 (0,76)
Relative friction coefficient of spring suspension bogie wagon	0,1276
Design speed km/h	120
Weight, t	9,618
Clearance per GOST 9238	02-BM

COUPLER

CA³

COUPLER

Automatic coupler with draft gears T0 is installed on some freight cars operated on mainlines of the 1520 mm, gauge not plying by common distance rails of the Russian Federation and cross-burder communication of CIS countries and Baltic



Weight, t

211

Connection of lower vertical travels restrainer of coupled automatic couplers, mm

100

Automatic coupler lateral catch-lock size:
- the big coupling lug, mm
- the small coupling lug, mm

175

175

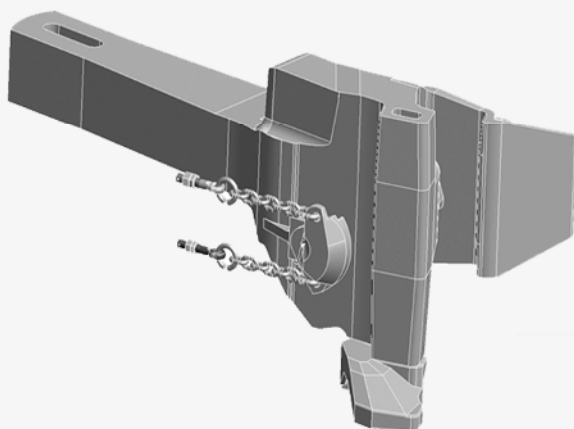
Automatic coupler coupling pattern

ГОСТ 21447-75

CA³

COUPLER SEMI-HARD

Automatic coupler is designed for automatic coupling of rolling stock units as well as for transmission and reduction of the axial forces level



Weight, t

213

Connection of lower vertical travels restrainer of coupled automatic couplers, mm

100

Automatic coupler lateral catch-lock size:

- the big coupling lug, mm
- the small coupling lug, mm

175

220

Automatic coupler coupling pattern

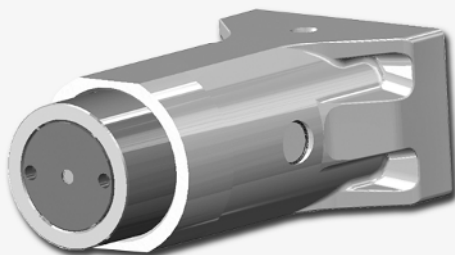
ГОСТ 21447-75

Wearproof welding is applied on the coupler housing and its lock

АПЭ⁹⁵ УВЗ

DRAFT GEAR ELASTOMER

Draft gear is designated for dampening of dynamic (impact) axial forces that are transmitted via automatic coupler to stop shoulders and the back frame of the car in shunting and train operational modes. Applied for the freight rolling stock equipment with the aperture between stop shoulders mostly transporting the cargoes of hazard classes 3,4,5,8,9 per GOST 19433-88



Design travel, mm	95
Strength of the initial tightening, кН	240
Min closing force under quasi-static compression, кН	1500, не менее
Nominal capacity, кJ	100, не менее
Max. capacity, кJ	130, не менее
Min static capacity, кJ	40, не менее
Weight, kg	170, не более
Overroll dimensions, mm:	
- length	570
- width	318
- height	230
Overhaul period to the first depot repair, ths/years	1600/16
Service life, years	32

LLC "URAL RAILCAR-BUILDING DESIGN OFFICE"

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