Gondola car model 12-757

Specifications of the wagon

Model:	12-757
Model number:	104
Name:	gondola car
Wagon type:	4-axle gondola car with hatches in the floor without a brake platform
Additional feature:	Characteristics does not contain
Model feature:	P / in with unload. hatches and widened end doors
Accounting specialization of the model:	universal gondola car
Manufacturer:	Public Joint Stock Company "Kryukov Carriage Works" (stamp 27)
Project number:	757.00.000
Specifications:	TU 24.05.844-84
Body material:	09G2S, 09G2D, 09G2, 09G2SD-12
Cart:	18-100
Wagon axle:	four
Track width:	1520 mm
The presence of a transitional platform:	Not
Parking brake available:	There is
Possibility to install buffers:	There is
Design speed:	120 km/h
Wagon tare (minimum):	23.1 t
Wagon tare (maximum):	25.0 t
Load capacity:	69.0 t
Volume:	85.0 ^{m3}
Maximum calculated static load from the wheelset on the rails:	245.8 kN
Maximum calculated linear load:	70.4 kN/m
Wagon base:	8670 mm
Number of unloading hatches	14 pcs
Floor area	36.63 ^{m2}
Opening angle of middle manhole covers	31°
Opening angle of manhole covers above bogies	23.5°
Height from rail head to bottom rail	1423 mm
The size of the unloading hatches in the clear	1370x1540 mm
Number of end doors	2 pcs
Car interior dimensions	
Height:	2315 mm
Width:	2964 mm
Length:	12228 mm

External dimensions of the wagon	
Height from rail head level:	3746 mm
Maximum Width:	3220 mm
Dimensions according to GOST 9238-2013:	1-VM
Length along the axes of automatic couplers:	13920 mm
Frame length:	12800 mm
Automatic coupler height from the level of the rail head:	1040..1080 mm
Starting year of series production:	1986
Year of the end of serial production:	1998
Normative service life:	22

Overhaul runs and timing of scheduled repairs for the car mod. 12-757

Depot repair (DR) after	The buildings	3 years
	Depot repair (DR) to the first overhaul (CR)	1 year
	Depot repair (DR) after the first overhaul (CR)	1 year
	Capital repairs (KR)	2 years
	Overhaul with service life extension (KRP)	3 years
Overhaul (KR) after	The buildings	11 years
Mileage after	The buildings	210 thousand km
		3 years
	Depovsky repair (DR)	110 thousand km
		2 years
	Capital repairs (KR)	160 thousand km
		2 years
	Overhaul with service life extension (KRP)	210 thousand km
		3 years

Photos of the car






Detailed description of car model 12-757

OKP code 31 8224 1232

The four-axle universal gondola car model 12-757 is designed for transportation of bulk (non-dusty), lumpy, piece (including long), stacked and other cargoes that do not require protection from atmospheric precipitation.

The design of the gondola car makes it possible to use it in communication with the OSJD countries with a gauge of 1435 mm. According to climatic requirements, the car is manufactured according to U GOST 15150-69*.

The gondola car has an all-metal welded load-bearing body, including side walls, a frame, end doors, a floor with 14 unloading hatches, as well as an automatic coupler, running gear, automatic and parking brakes.

All main load-bearing elements of the car body structure are made of low-alloy steel grade 09G2D.

The frame of the side wall consists of the upper and lower trim, corner and intermediate posts. The upper trim is box-shaped, made of two special profiles, bent from a sheet 6 mm thick and a hot-rolled corner with a bent wall. The lower harness is made of a corner 160x100x10 mm. On the lower trim there are details of the mechanism for locking the covers of the unloading hatches.

Corner posts - stamped from a sheet with a thickness of 10 mm of constant section, reinforced with an overlay in the area of the greatest loads. To increase the strength of the embedding, the corner posts are 390 mm below the binding square. The steps and handrails of the originator are attached to the corner posts along the diagonal of the car. Intermediate racks are made of hot-rolled trough-shaped special profile according to GOST 5267.6-78. At the bottom of the uprights inside the profile, strips are welded to reinforce and connect them to the transverse beams of the frame.

The cladding of the side wall consists of two bent profiles with periodic corrugations, welded with an overlap. The top sheet measuring 1300x12075x3.6 mm has two rows of corrugations, the bottom sheet - 815x12075x4.5 mm - has one row of corrugations. Sheathing material - steel grade 10HNDP.

On the outer side of the side wall, handrails are attached - stairs, tie-down brackets and traction brackets. On the inner side of the side wall are located in the upper part of the brackets of forest posts, upper and middle tie-down brackets, which are designed for a load of 15 and 25 kN, respectively. The lower tie-down rings are located on the corner of the lower strapping and are capable of absorbing inertial loads up to 150 kN. The joints of the intermediate and pivot posts with the frame transverse beams are reinforced by increasing the cutting height from 265 to 312 mm.

The frame consists of a main beam, two end beams, two pivot beams and four intermediate cross beams. Automatic couplers, braking equipment and covers of unloading hatches with their lifting and locking mechanisms are installed on the frame.

The main beam is the main load-bearing element of the frame and consists of three hot-rolled profiles, two reinforced Z-sections No. 31 (U) and a special I-beam 190 mm high, welded together. Manhole cover holders are attached to the I-beam. On the consoles of the main beam there are standard front and rear stops of the automatic coupler. In the area where the pivot beams are located, the section of the center beam is reinforced with welded padded boxes. Weld-in reinforcing diaphragms are also provided at the junctions of the intermediate transverse beams with the spinal one.

The welded end beam consists of a front plate, two rear plates, two bottom plates and four diaphragms. Reinforcing sub-buffer plates are placed on the front plate, which make it possible to install typical OSJD buffer devices. For access to the fixing bolts when installing buffers in diaphragms, there are oval holes from below. On the end beam there are stops for hatch covers and straps that protect the bogies from falling asleep with small fractions of bulk cargo when unloading the car through hatches in the floor.

A drafter's handrail is installed on one of the end beams, and parking brake brackets are welded on the second. The end beam is connected to the main beam, corner posts and lower wall trim by welding using additional linings.

The pivot beams are of welded construction, have a box section of variable stiffness and consist of an upper chord made of a bent profile, four vertical sheets, gussets and a lower chord. The distance between the vertical sheets of the pivot beam in cross section has been increased from 128 to 150 mm. Compared to gondola cars of the previous production, the width of the lower and upper sheets of the beam has been increased by 20 mm. The distance from the bend of the bottom sheet to the wall of the zeta of the main beam was also increased by 40 mm.

On the lower sheets of the pivot beams, side bearings and center plates are installed, which ensure the interaction of the body and bogies.

Intermediate transverse beams consist of an upper chord made of a bent profile, two vertical and two bottom sheets. Manhole cover stops are welded to the vertical sheets of the transverse beams. Vertical sheets of intermediate beams are made of constant height.

The end doors of the body in the closed position serve as the end walls of the gondola car. The end door consists of two wings hinged to the corner posts of the side walls. The door leaves open inside the car and are held in the open position by brackets located on the upper belt of the door leaves.

The end door is equipped with top and bottom locks. The upper lock keeps the door leaves from bulging outward and perceives the thrust forces. The bottom latch keeps the doors closed and prevents them from opening inwards. With open doors in the body, it is possible to place and transport long loads (timber, pipes), the length of which exceeds the clear length of the body, as well as wheeled vehicles.

The floor of the gondola car body is formed by the upper sheets of the frame beams and the surface of the covers of the unloading hatches. Manhole covers in the closed position are fixed by locking mechanisms, and in the open position they are described on stops located on the transverse beams. The hatch cover consists of a frame and a sheathing sheet.

The hatch cover plating is made of maoki 10KhNDP steel in the form of a bent profile with six corrugations and a rear flanging to eliminate the gap between the cover and the I-beam of the main beam when the hatch covers are opened. Cover frame elements are made of steel 09G2D.

The mechanism for locking hatch covers consists of caps and rotary sectors hinged to the lower trim of the side wall. To facilitate the lifting of the lid when closing, a torsion mechanism is provided, which accumulates elastic energy when the hatch lid is lowered and releases energy when it is raised. The torsion bar is mounted on the cover in the supports and is pivotally connected to the lever connected to the main beam.

The gondola car is equipped with a standard automatic brake with a 483M air distributor, auto mode No. 265A-1, automatic regulator No. 574B with a lever drive and brake cylinder No. 188B with a diameter of 356 mm. There is a manual parking brake according to OST 24.290.01-78.

The gondola car is equipped with an automatic coupler with an automatic coupler of the SA-3 type and a spring-friction draft gear of increased energy intensity.

The undercarriage of the gondola car is reinforced two-axle bogies model 18-131. It is allowed, upon agreement with the customer, to issue batches of cars on two-axle bogies model 18-100 in accordance with GOST 9246-79 * with a decrease in carrying capacity.

Produced according to TU 24.05.844-86. The year of production start is 1987.

Manufacturer - Kryukov Carriage Works.