



TIKHVIN  
FREIGHT CAR BUILDING  
PLANT

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## SOLID-BOTTOM GONDOLA

A solid-bottom gondola is designed for transportation of freights which don't require to be protected against atmospheric precipitations, namely, bulked, not powdered, stacked and unitized cargoes along the 1520 mm gauge mainline railways.

Technical specifications	Car model 12-9833	Car model 12-9833-01	Car model 12-9869
Payload capacity, t	71,5	71,5	77
Tare weight, maximum t	22,5	22,5	23
Service, yr	22	32	32
Body space, m3	92	92	92
Maximum estimated static load from the wheel set on rails, kN (tf)	230,5 (23,5)	230,5 (23,5)	245 (25)
Length over coupler pulling faces, mm	13920	13920	13920
Wheel base, mm	8650	8650	8650
Body internal dimensions, mm – length – width – high	12780 2986 2425	12780 2986 2425	12780 2986 2425
Overall dimensions (gabarit) as per GOST 9238-83 –body –bogie	1-BM 02-BM	1-BM 02-BM	1-BM 02-BM
Bogie model	18-100	18-9810	18-9855
Run to the first roundhouse service, thousand (s) km	210	500	500

## DESIGN FEATURES

### 1 Car body

- The applied structural design allows to decrease the car weight and increase its payload capacity providing the required structural strength and reliability;
- The expanded body allows to transport freights, which density is within the bounds of a wide spectrum, with the total availability of the car's load capacity;
- Application of smooth sheets of the body lining improves the conditions for freight emptying, reduces the unloading time and costs spending on future cleaning the body from remainders of the bulk freight;
- The improved design used in junction of side and end walls increases the reliability of this unit in operation;
- The improved design of the end wall provides the increase of body's strength characteristics.

### 2 Coupler

The coupler is equipped with a modern shock absorbing device of T-1 class, which decreases the level of axial forces applied to the car, and an improved uncoupling arrangement, which prevents falling of the coupler on a track when it breaks and the situation is abnormal.

### 3 Brake system

The braking system is fitted with advanced braking apparatuses which overhaul life is at least four years, fittings for threadless joints of brake lines, wear-resistant composite press material on the base of formaldehyde resins providing the run life at least 1 mln km.

The independent bogie braking system is used for the solid-bottom gondola of model 12-9869, which provides more advantageous braking conditions, possesses higher efficiency and reliability in comparison with the traditional braking system.

### 4 Undercarriage

Application of bogies of models 18-9810 and 18-9855 (Barber S-2-R) improves the car dynamical characteristics, promotes safety during its operation, increases an overhaul run and decreases generally the life cycle cost.