Wagon Tadnss-z

4-axled cargo wagon with movable roof Tadnss-z is used for transport of granulated goods sensitive to moisture (nitrates, granulated lime, calcium soda, grains etc.) with 0 - 50 mm granulation.

Roof opening during loading of cargo is made manually, by means of portable mechanism on wagon platforms.
Wagon unloading is performed on both wagon sides, by means of gravity, through 8 openings (4 on each side).

Wagon parts production is conducted with auxiliary devices to achieve parts replacement possibility. Wagon is built according to UIC 505-3 standard and it complies to UIC, RIV and Croatian Railways standards.

Technical data

Track gauge: ..... 1435 mm
Number of axles: 4
Bogie axles distance: ..... 1800 mm
Bogies distance: ..... 16600 mm
Underframe length: ..... 20400 mm
Length over buffers: ..... 21640 mm
Wagon case length: ..... 16940 mm
Wagon case volume: ..... 80 m^3
Maximal wagon width: ..... 2920 mm
Loading opening: ..... 16800 x 1200 mm
Loading opening height above top of rail: ..... 4053 mm
Unloading opening: ..... 8 x 450 x 1480 mm
Unloading openings distance: ..... 4066 mm
Height of funnel's stable part above top of rail: ..... 720 mm
Height of funnel's movable part
above top of rail (working position): ..... 390 mm
Funnel's stable part distance
from wagon longitudal axle: ..... 640 mm
Funnel's movable part distance
from wagon longitudal axle (working position): ..... 1000 mm
Maximal speed: ..... 120 kmph
Curvature radius: ..... 75 m
Bogie type: ..... Y 25 Ls(s)d1
Tare weight: ..... 27 t
Max. payload: ..... 63 t
Maximal axle load: ..... 22.5 t

Bogies

Bogie is Y 25 Ls(s)d1 type with two axles. Tread circle diameter is 920 mm and journal diameter is 130 mm. Bearings 130/240 are built-in.

Wagon frame

Wagon frame is made of steel plates, rolled and bended shapes welded together. Frame supporting elements are made of Č.0562 (St 52-3). End part of frame is constructed for automatic clutch installing, according to UIC 530-1 standard.

Wagon case

Wagon case is prism-shaped self-supporting construction strengthened with lateral and frontal side stiffenings. Loading opening is strengthened with bended shapes. Lower part of the case is divided into 4 parts and enables unloading of cargo by means of gravity to both wagon sides simultaneously or individually. Case is made of Č.0562 (St 52-3).

Unloading gate valve

Gate valves are arc-shaped, 1480 mm long and 480 mm wide. They lean on beds fastened to transverse case carriers. Gate valve construction enables regulation of cargo quantity unloading rate.

Gate valve opening/closing mechanism

Wagon unloading is performed by means of gravity, through side openings. There are 4 gate valves on each wagon side. Valves are opened by hand mechanisms, operated from wagon platforms. Two neighbouring gate valves or one of each valve individually are opened simultaneously by one mechanism. The mechanism consists of hand lever, axle, bearings and lever system. Mechanism can be locked and leaded in gate valve closing position. It enables graded valve opening in five positions.

Funnel

One funnel is built to each gate valve. It consists of stable and movable part. Wagon unloading can be done with lowered or lifted funnel movable part, according to circumstances. Funnel movable parts are handled from ground. There is also a locking handle on carrier in front of each gate valve. When unloading of cargo is finished, funnel movable part should be obligatorily put back to its lower position.

Roof

Wagon roof is arc-shaped, made of bended shapes and steel plates. The shape of the roof prevents entrance of water into the wagon case. Roof can be twisted to one side by mechanism and by that loading opening is uncovered.

Roof opening/closing mechanism

Loading opening is placed along wagon case and it is covered by movable roof. Loading opening can be uncovered by twisting of the roof to one side. Hand roof-opening mechanism consists of spiral spindle and a pair of bevel gears and it is handled by from wagon platforms. For purpose of parallel guiding of the roof, on both wagon end sides there are lever systems, connected with axle. For purpose of ballancing of the roof and easier manipulation, there are springs connected to roof carriers on wagon case ends.

Coupling gear

Coupling gear is tensile-type with elastomer spring TS 2 type RG15, breaking strength of screwed clutch is 850 kN and 1000 kN for hook.

Buffers

Buffers are in class A according to UIC 526-1 standard, with elastomer spring, buffer stroke is 105 mm and 340 x 450 mm untwisted buffer plates.

Hand brake

Hand brake is made according to SS regime requirements, with spindle and bevel gears. Hand brake acts on wagon wheels by turning of hand brake wheel, over brake leverage and 16 double brake levers. Brake leverage regulator compensates total exhaustion. Hand brake manipulation is handled by from wagon platform.

Compressed air brake

Air braking device consists of compressed air brake GP-A type, with distributor, two 16" braking cylinders, 250 liter auxiliary reservoir and two braking leverage regulators.
Change over valves are built in bogie construction, for "empty-loaded" regimes.
Main line ends on wagon ends with one connecting hose and a tap.

Platforms, stairs, holders and signal supports

On both wagon ends there is a platform with fence. Wagon is equipped with stairs and holders, according to UIC 535-1 and UIC 535-2 standard. Signal supports are made according to UIC 532 standard. There are 4 dragging hooks on wagon, according to UIC 536 standard. There are also leaflet frames, one on each side of the wagon.

Painting and inscriptions

Wagon is painted and marked with RAL 8012 paint, according to UIC, RIV and Croatian Railways standards.