

TRANSPORT VESSELS

WINDING CAGES

Utilization:

Winding cages serve for transportation of raw ore, persons and material in pits and staple pits of coal and ore mines. According to the utilization and design they are divided in

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- cages of emergency transport appliances
- staple pit cages
- 2-floors up to 4-floors winding cages

2-Floors Divided Cage



Cages of Emergency Transport Appliances:

May be stationary and mobile. The smallest mobile cage of a circular profile without guiding is delivered as a part of the mobile emergency transport appliance. The stationary cages are either permanently suspended or they are suspended in the operation status before their use. In the pit profile they are then guided either with the shaft guide or with the guide and the winding unit rope. These cages either have their own stationary winding machine or they are used with a mobile machine.

The cages without guiding have a cylindrical shape with tapered portions. The guided cages are usually of rectangular profile. Their construction consists of a supporting frame equipped with a floor-plate, roof, rope suspension, side covers and the entry door. The dimensions are modified according to the operated pit profile.

Staple Pit Cages:

Are cages for transportation of persons and material in staple pits to the mine floors that are inaccessible via the main pits. These are mainly one-floor cages for single-acting transportation with a counter-weight, purposefully designed for transportation of machinery equipment used on the given mine floor. Concerning parameters they are operated for lower carrying capacity (for two boogies), lower speed and with the cage sliding guiding on wooden guides. The suspension is performed with one rope or with four ropes. The design is classical – supporting frame, rope suspension, cage guiding, floor, roof, side covers and the front door that is either solid or a slat one. The floor is equipped with rails for boogies, the roof is equipped with a suspension rail bearing element and on the top surface there is a guard-rail with a roof.

Winding Cages,

that are operated in down-cast air shafts or in up-cast air shafts are mainly designed as two-floors up to four-floors cages and may be delivered either as one part or divided for easier installation in the pit. For raw ore or material transportation they are mainly designed for two wagons type JDV in tandem on one floor. The cage suspension is mainly performed with one winding rope. The cage is designed as a weldment – supporting frame with a head and floor plate, stationary or sliding floor plates of further floors, solid side sheet covering. The head is equipped with the ropes suspensions, clamp device and stationary cage guiding on the shaft guides. On the head is installed the wheel guiding, shelter sheet enclosure and the guard-rail with the roof. The floors are equipped with rails and stopping device for boogies, eventually with a beam for the rope groove or for the freight transportation, holders and door for transportation of persons. In the case of the winding machine with the friction wheel the floor plate is appended with the compensatory rope suspensions. On the bottom part is the cage wheel guiding and fix shaft guides.

