G E B A R
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general partnership

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Special carts „Gebar" with regulated height of reload and transport of rechargeable batteries.

Destination and construction: special carts Gebar 2.1t and Gebar 5.5t are used for efficient reloading and transport of rechargeable batteries on the mine levels, within mine levels and to the surface. A hydraulic lift with manual drive is the integral part of the cart's construction. It allows it to lift and move down an empty cart or the cart with the rechargeable battery. Lift's hydraulic system allows it to stop its movement at any point.

Battery reload: our cart's attributes allow it to conduct the direct reload within locomotive trunk, charging table and the cart itself. Another way is to reload the battery with a hoist.

Battery transport: the procedure is conducted in the cart's standard position. The low position of the centre of gravity provides much better stability of transport compared to the current solutions. Moreover, wheelsets, couplers and bumpers absorb the redundant energy using a special kind of amortization.

The advantages of using "Gebar" special carts 2.1t and 5.5t:

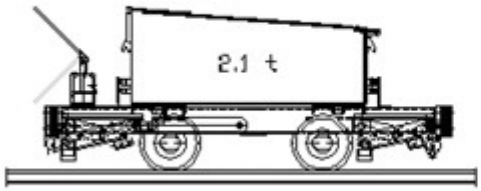
- elimination of lifting equipment from the process of loading and unloading of rechargeable batteries.
- elimination of reloading problems connected with height differences between particular locomotives and charging tables.
- gaining the high level of comfort and safety in the transport of rechargeable batteries

"Gebar" special carts 2.1t and 5.5t can be used in underground excavations classified as levels a and b of methane explosion hazard and levels A or B of coal dust explosion hazard. Carts have an actual admission of WUG (Polish mining authority) President.

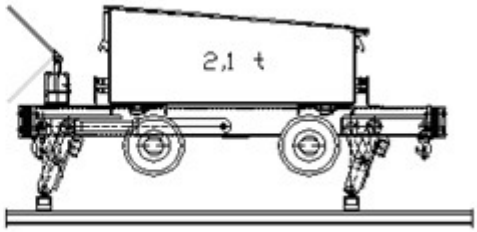
VAT ID No.: PL6431764917 Employer identification No.: 243647526 National Court Register No.: 0000544365 District Court Katowice - Wschód in Katowice, 8th Commercial Department of the National Court Register Account nr: 60 1240 4315 1111 0000 5301 7745

Specification of “Gebar” special cart 2.1t

Total length	L = 2 850 mm
Maximum width	B = 900 mm
The height of loading platform from the rail head	H = 430 mm
The height of lifted loading platform from the rail head	HP = 680 mm
Maximum height of the cart with a battery box	H1=1.080 mm
Range of the rail width	S = 535 - 1.000 mm
Wheelbase	a = 1.000 mm
The diameter of a running wheel	D = 350 mm
The height of coupling	h = 260 mm
Capacity	Q = 25 kN
Cart mass	M = 1.060 kg
The minimum radius of the rail curve	R = 8 m
Maximum velocity	v = 5 m/s
Pulling power of the hook equipment	Ns = 100 kN
Bearing capacity of the hydraulic lift	QP = 40 kN



Stranded cart



Lifted cart

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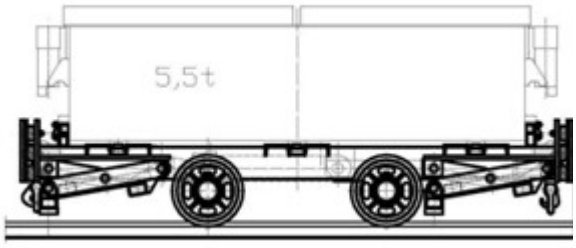
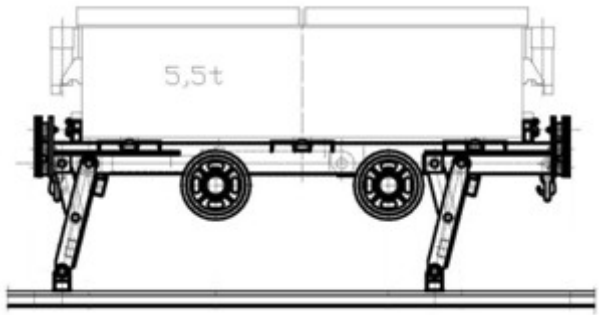
Specification of “Gebar” special cart 5.5t

Total length	L = 3 200 mm
Maximum width	B = 1.050 mm
The height of loading platform from the rail head	H = 430 mm
The height of lifted loading platform from the rail head	HP = 870 mm
Maximum height of the cart with a battery box	H1= 1.221 mm
Range of the rail width	S = 600 - 900 mm
Wheelbase	a = 1 000 mm
The diameter of a running wheel	D = 350 mm
The height of coupling	h = 260 mm
Capacity	Q = 60 kN
Cart mass	M = 1 200 kg
The minimum radius of the rail curve	R = 8 m
Maximum velocity	v = 5 m/s
Pulling power of the hook equipment	Ns = 75 kN
Bearing capacity of the hydraulic lift	QP = 70 kN



Stranded cart



Lifted cart

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