



## Design and calculations for a 2x2-axle open car carrier

### Client

Founded in 1975, ARS Altmann AG now has a fleet of 600 closed and 840 open double-decker carrier units, which is operated to the very highest technical standards, with optimal utilisation and minimum failure rates.

### Requirements

ARS Altmann AG automotive logistics needs additional open double-decker car-carrier units for the transport of cars, vans, light trucks and equivalent vehicles. The car-carrier units must be usable without any restrictions on all standard gauge tracks of the OTIF member states, both as individual cars and in block trains or group trains (TSI capability), and must meet the technical specifications in relation to interoperability (TSI WAG). Loading and unloading should be possible using the standard peripheral systems, and must be possible with simple handling using a chain system or transfer platforms. The car-carrier units must be fitted with a lifting and lowering device for the upper loading deck that allows for continuous height

adjustment over the adjustment range. Loading will be on two levels with a maximum size. The height of the lower deck should be as low as possible above the railhead. It should be possible to adjust the drive-through clearance to different vehicle heights in a short time by suitable adjustment options for the upper loading level.

### Implementation

Together with the client, CE cideon engineering has prepared specifications for the technical parameters of the vehicle. In this phase, extensive studies were made of various loading options to determine the optimal vehicle dimensions. Afterwards CE cideon engineering received a contract for the design, calculations and certification support from ARS Altmann AG and CARWAGGON AG (holding company). The vehicle has now already been approved and is currently being prepared for serial production.

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