

ABSTRACT

VEHICLE BODY COLLISION ENERGY ABSORPTION STRUCTURE AND RAIL VEHICLE

A vehicle body collision energy absorption structure, comprising a front end collision energy absorption structure mounted at the front end of a head vehicle and a middle end collision energy absorption structure mounted at an end of a middle vehicle (14); the front end collision energy absorption structure comprises an airtight partition wall (4) connected to both a framework and a skin of driver's cab, a front end coupler (1) arranged below the airtight partition wall (4) along a central line of the vehicle body, front end anti-creepers (2) symmetrically distributed at two sides of the central line of the vehicle body and located below the airtight partition wall (4), and a front end energy absorption module (3), the front end energy absorption module (3) being mounted on the airtight partition wall (4) at a side deviating to the central line of the vehicle body; and the middle end collision energy absorption structure comprises a middle breakable coupler (10) mounted below a chassis, middle energy absorption modules (11) mounted at two sides of an end wall of the middle vehicle (14), and middle anti-creepers (12) located below the middle energy absorption modules (11) and corresponding to positions of side beams, wherein the length of the middle energy absorption modules (11) extends along the height direction of the end wall where the middle energy absorption modules are located. A rail vehicle, comprising a vehicle body collision energy absorption structure mounted at the head end of a vehicle body. Said structure can be used to improve the safety performance during vehicle collision while the existing urban rail vehicle platform remains unchanged.

FIG. 1