ABSTRACT

VEHICLE BODY COLLISION ENERGY ABSORPTION STRUCTURE AND RAIL VEHICLE

A vehicle body collision energy absorption structure, a front-end collision energy absorbing structure mounted at a front end of a head carriage, and a middle-end collision energy absorbing structure mounted at an end of a middle carriage (14), where the front-end collision energy absorbing structure includes a hermetic partition wall (4) connected to both a cab skeleton and a skin, a front-end coupler (1) arranged below the hermetic partition wall (4) along a center line of a vehicle body, front-end anti-climbers (2) symmetrically distributed on both sides of the center line of the vehicle body and located below the hermetic partition wall (4), and a front-end energy absorbing module (3), where a side of the front-end energy absorbing module (3) deviating towards the center line of the vehicle body is mounted on the hermetic partition wall (4); and the middle-end collision energy absorbing structure includes a middle shearing coupler (10) mounted below an underframe, middle energy absorbing modules (11) mounted on both sides of an end wall of the middle carriage (14), and a middle anti-climber (12) mounted at a position corresponding to a side beam and below the middle energy absorbing modules, where a length of each of the middle energy absorbing modules (11) extends along a height direction of the end wall. A rail vehicle, comprising a vehicle body collision energy absorbing structure mounted at the head end of a vehicle body. Said structure can be used to improve the vehicle collision safety performance under the premise of unchanging urban rail vehicle platform.

FIG. 1