

A flatcar, the design of which consists of a crew compartment module containing two two-axle bogies, an automatic coupler module, a braking equipment module, a frame module with a spine beam, pivot beams, end beams, main longitudinal beams, intermediate longitudinal beams, intermediate transverse beams, and diagonal braces; and a body module containing metal side walls and a floor deck. To improve the strength of the flatcar frame under cyclic operational loads, as well as to ensure the safety of the cargo being transported, the spine beam consists of two rectangular tubes arranged parallel to each other and connected by intermediate diaphragms along the length of these tubes at equal spacing. Each diaphragm is oriented vertically; the main longitudinal beams consist of rectangular tubes, while the end beams consist of C-shaped profiles that interact with the vertical sheets. The floor is formed by sandwich panels consisting of two metal sheets with energy-absorbing material between them to absorb the energy of dynamic loads.