

Impact Load Response of Light Rail Train Rail Guard

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Abstract : Nowadays, it is obviously known that the construction of different infrastructures is one measurement of the development of a country; infrastructures like buildings, bridges, roads, and railways are among them. In the capital city of Ethiopia, the so-called Addis Ababa, the Light Rail Train (LRT), was built Four years ago to satisfy the demand for transportation among the people in the city. The lane of the Train and vehicle separation Media was built with a curb and rail guard installation system to show the right-of-way and for protection of vehicles entering the Train Lane, but this Rail guard fails easily when impacted by vehicles and found that the impact load response of the Rail guard is weak and the Rail guard cannot withstand impact load. This study investigates the effect of variation of parameters such as vehicle speed and different mass effects and assesses the failure mode FRP and Steel reinforcement bar rail guards of deflection and damage state.

Keywords : impact load, fiber reinforced polymer, rail guard, LS-DYNA

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