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Tilting Train Technology

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Abstract: *As a train goes into a curve, it produces substantial centrifugal force towards the outside of the curve. By tilting the train, this centrifugal force is balanced by a force into the inner curve and passenger discomfort is reduced. Modern tilting trains allow operators to achieve higher speeds on existing curved routes without costly track improvements or the need to consider completely new high-speedlines. Signals from an accelerometer that measures train speed and curvature are analyzed by a computer, which tilts the individual cars as the first car goes onto the curve. Tilting Train consists of tilting mechanism that enables to increase the speed on regular tracks. In the upper part of tilting trains that is in which the passengers are seated can be tilted sideways. During the motion of the train if the train has to steer to left in a left turning the coaches of the train will be tilted to the left in order to compensate the centrifugal push to the right and conversely during the right turn.On every type of tilting trains, the tilting systems shall perform three main functions: first, they have to identify accurately and without delay the initial position of curve transitions, then second, they have to tilt the car body according to the tilting algorithm provided for the system and finally they have to verify that the provided amount of tilt corresponds to the tilt demand..*

Keywords: corrosion, crack width, crack depth, crack frequency, chlorides, carbonation

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