

عنوان مقاله:

Track stabilization with resins

محل انتشار:

ششمین کنفرانس بین المللی پیشرفتهای اخیر در مهندسی راه آهن (سال: 1398)

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خلاصه مقاله:

Considering the fact that main railway lines are dominantly ballasted and nowadays much older than the people interacting with them, it gets obvious that these tracks are not designed in accordance with the class of traffic present. despite the advantages of ballasted way annually a great deal of time, effort, and budget is spent to either sustain and/or to strengthen railway track ballast through renewal and/or maintenance operations. Normally as the ballast material ages it gradually fails to perform the main duties specified through fouling (caused by breakage) which in turn might lead to loss of structural integrity, change of stiffness, loss of stability and eventually derailment. Better design of ballasted foundations can provide the performance required to ensure reduction of maintenance cost. Also innovative solutions to decrease the rate of track degradation are being developed and implemented e.g. ballast stabilization methods. Optimization of track qualities through these approaches to reach an ideal case of track behavior has been the aim of many studies yet. Efficient methods of track maintenance/renewal are normally followed by great cost, in many cases logical due to decrease in the volume of operations required in the future. Ballast stabilization through bonding has gained attention due to its great efficiency in reducing ballast degradation, settlement, and finally maintenance on extensive periods of time, which makes it a good option for further research and development. In this paper multiple bonding methods and especially resin bonding are discussed, and also a comparison of attributes, components, advantages, and disadvantages is made. The main objective is to match the dots on the broad board of this concept and ultimately to create an easily accessible source about the topics discussed.

کلمات کلیدی:

Railway, Ballast bonding, Degradation, Settlement, Review, Resin

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