

## عنوان مقاله:

Laboratory Study on Mechanical Strength and Mix Proportions of RCC Pavements in Cold Regions

## محل انتشار:

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## خلاصه مقاله:

Roller compacted concrete (RCC) has recently been used as an alternative to conventional concrete as industrial and heavy duty pavements. Benefits of RCC were discussed as a cost-effective type of pavements. In order to evaluate freeze-thaw resistance of specimens more accurate and reliable, gyratory compactor was used. Generally, three mix designs with different water to cement ratios were prepared with 12 cylindrical samples for each mixture. Freeze-thaw durability of mixtures after sawn to prisms was evaluated by mass loss percent which was according to the ASTM C666 Procedure (A) method. Results have shown that freeze thaw resistance of RCC specimens is more depended to cement paste and water to cement ratio, and then the degree of compaction. Splitting tensile strength is related to cohesiveness between cement paste and aggregate which can predict the freeze thaw durability of RCC pavement samples. Range of tensile strength at the same maximum number of freeze-thaw cycle for high cement paste with high durability have not shown significant different as gyrations changed from 50 to 90

## کلمات کلیدی:

RCC, pavement, freeze-thaw, gyration, tensile strength

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/274874>

