

[IGJ] Article Review Request

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Iraqi Geological Journal <info@igj-iraq.org>

Fri, Aug 19,
2022, 12:00 PM

to Ahmed

Ahmed Mohammed Aqrawi:

This regards the manuscript "Production of Lightweight and Heat-Insulating Concrete Using Minced Tires," which is under consideration by The Iraqi Geological Journal.

Following the review of the previous version of the manuscript, the authors have now submitted a revised version of their paper. We would appreciate it if you could help evaluate it.

Please log into the journal web site by 2022-08-21 to indicate whether you will undertake the review or not, as well as to access the submission and to record your review and recommendation. The web site is <https://igj-iraq.org/igj/index.php/igj>

The review itself is due 2022-08-24.

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Thank you for considering this request.

Iraqi Geological Journal
Phone +9647905477409
info@igj-iraq.org

"Production of Lightweight and Heat-Insulating Concrete Using Minced Tires"

The main objective of the research is to study the effect of crushed used rubber tires, which were used as a substitute for coarse aggregate (gravel) in Production of Lightweight and Heat-Insulating Concrete, and the volume ratios of the mixtures used were as follows: First is 2 gravel, 1.5 sand, and 1 cement. The second is 2 minced tires, 1.5 sand, and 1 cement, while the third mixture is 1 minced tires, 1 spring gravel, 1.5 sand, and 1 cement. Concrete cubes were produced and the results were compared

with ordinary concrete. The following tests were carried out: Compressive, resistance, water absorption, Porosity, Volumetric Density, Specific weight, treatment with alkaline solutions -KOH NaOH, and thermal conductivity. And by studying the results of the tests, it was proved that the addition of minced tires negatively affects the compressive strength compared to the reference concrete at the age of 7, 14, and 28 days. As an alternative to Al-Naba gravel, it was also shown that there was an increase in water absorption with an increase in the proportion of minced tires relative to the water absorption in the reference mixture. Also, the density values of lightweight concrete decreased compared to the regular reference concrete, and this leads to a reduction in the weight of the dead loads and therefore the foundations and their quality. Because of the high temperatures in the summer as these types of concrete do not react with alkaline solutions such as NaOH and KOH, and this is one of the advantages for concrete work.

[The Iraqi Geological Journal](#)

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