

## **Characterization of impact resistance of lightweight aggregate cellular concretes (LACC)**

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### **Summary**

Concrete structures such as concrete safety barriers are often subjected to direct impact loads mainly due to vehicle crash impact. In this case, the impact resistance is one of the most critical characteristic of concrete used in such structures. The present study aims to characterize the impact resistance of lightweight aggregate cellular concrete (LACC), which will be used in concrete barriers. Impact tests on LACC specimens were carried out based on the repeated drop-weight impact test guideline recommend by ACI committee 544. Impact resistance and compressive strength of the LACC specimens were characterized and the results were used to determine an optimal mix-proportion of LACC providing the highest impact resistance.

**keywords:** High strength light-weight concrete, impact test, cellular concrete, concrete barriers

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