

**FATIGUE STRENGTH OF POLYMER-MIXED CONCRETE WITH AND
WITHOUT ADDED WASTE FIBRE**

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With the Selawat and Salam to Prophet Muhammad SAW.

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ABSTRACT

The objective of this project is to study the effect of fibre due to the fatigue strength of the polymer concrete. Two types of polymer concrete; polymer concrete (sand, polyester resin, talcum and hardener) with and without added waste fibre has been produced. Tensile and fatigue specimens machined and tested. In tensile test, parallel sided specimens were pulled at constant rate of 5 mm/min. In fatigue strength test, Three point bend testing fixture was employed. Cyclic load with stress amplitude of 50 N at vary maximum stress were applied at the frequency i.e. 5 Hz (as benchmark) and 25 Hz respectively. It was found that the average tensile strength of the material was increased by about 32% and the stiffness increased 18.8% with added waste fibre. From the fatigue strength test, clearly seen that both samples, with and without added fibre have the different strength due to the fatigue strength.