ABSTRAK

Saat ini limbah cangkang sawit belum dimanfaatkan dengan optimal hal ini dapat disimpulkan dari penumpukan limbah cangkang pada area pabrik yang semakin hari semakin meningkat. Penumpukan dari limbah sawit dapat menyebabkan hal-hal negatif terhadap lingkungan dan kesehatan manusia. Seperti, pencemaran air, iritasi kulit, dan kerusakan lingkungan. Pemanfaatan limbah cangkang sawit dan abu cangkang sawit sebagai bahan tambahan beton dapat menjadi alternatif untuk menanggulangi limbah cangkang sawit yang ada dan belum diketahui berapa persentase bahan campuran limbah cangkang sawit dan abu cangkang sawit yang pas sebagai campuran beton dengan mutu tekan beton normal. Berdasarkan hasil pengumpulan dan pengolahan data, didapatkan hasil bahwa kuat tekan beton normal tanpa campuran limbah cangkang sawit dan abu cangkang sawit dengan umur rencana 14 dan 21 hari adalah 15,68 Mpa dan 16,65 Mpa. Beton dengan menambahkan campuran limbah cangkang sawit dan abu cangkang sawit sebanyak 5% didapatkan nilai 6,48 Mpa dan 8,51 Mpa. Beton dengan menambahkan campuran limbah cangkang sawit dan abu cangkang sawit sebanyak 10% didapatkan nilai 7,49 Mpa dan 8,02 Mpa. Sedangkan untuk Beton dengan menambahkan campuran limbah cangkang sawit dan abu cangkang sawit sebanyak 15 % didapatkan nilai 6,64 Mpa dan 8,66 Mpa.

Kata Kunci: Limbah Cangkang Sawit, Abu Cangkang Sawit, Beton, Kuat Tekan.

ABSTRACT

Currently, palm shell waste has not been utilized optimally, this can be concluded from the accumulation of shell waste in the factory area which is increasing day by day. The buildup of palm oil waste can lead to negative things for the environment and human health. Such as, water pollution, skin irritation, and environmental damage. The use of palm shell waste and palm shell ash as concrete additives can be an alternative to overcome existing palm shell waste and it is not yet known what percentage of the mixture of palm shell waste and palm shell ash is suitable as a concrete mixture with normal concrete pressure quality. Based on the results of data collection and processing, it was obtained that the compressive strength of normal concrete without a mixture of palm shell waste and palm shell ash with a planned age of 14 and 21 days was 15.68 Mpa and 16.65 Mpa. Concrete by adding a mixture of palm shell waste and palm shell ash as much as 5% obtained a value of 6.48 Mpa and 8.51 Mpa. Concrete by adding a mixture of 10% palm shell waste and palm shell ash obtained a value of 7.49 Mpa and 8.02 Mpa. As for concrete, by adding a mixture of palm shell waste and palm shell ash as much as 15%, a value of 6.64 Mpa and 8.66 Mpa was obtained.

Keywords: *Palm Shell Waste, Palm Shell Ash, Concrete, Compressive Strength.*