

## ABSTRAK

Beton memiliki banyak kelebihan yaitu mampu menahan gaya tekan dengan baik, tahan terhadap korosi, tahan terhadap pembusukan oleh kondisi lingkungan, tahan terhadap temperatur yang tinggi, dan biaya pemeliharaan yang relatif kecil. Salah satu sifat beton adalah susut. Susut beton adalah perubahan volume beton saat mengalami proses pengerasan karena adanya proses penguapan air bebas pada muka beton, oleh karena itu hal ini perlu diperhatikan karena akibat dari penyusutan dapat menurunkan kualitas beton serta dapat menimbulkan keretakan pada beton, *Calcium stearate* yang digunakan pada beton bertujuan untuk mencegah masuknya air dan bahan kimia ke dalam beton. Reaksi antara *calcium stearate* dan semen menghasilkan suatu senyawa yang secara fisik menyerupai lilin. Efek pelapisan ini menyebabkan beton bersifat *hydrophobic* atau tidak menyerap air sehingga beton sulit ditembus oleh air atau bahan kimia. Penelitian ini bermaksud mengetahui pengaruh penambahan *Calcium Stearate* sebesar 0%, 0.1%, 0.2%, dan 0.3% berat semen terhadap terhadap nilai susut beton yang terjadi pada arah horizontal, dan terhadap kuat tekan mortar pada hari ke -28. Hasil penelitian menunjukkan bahwa penambahan *calcium stearate* menurunkan susut rata-rata sebesar 21% setiap penambahan 0.1% kadar *calcium stearate* dari berat semen. Penambahan *calcium stearate* pada campuran mortar juga menurunkan kuat tekan mortar rata-rata 16% setiap penambahan 0,1% kadar *calcium stearate* setiap berat semen.

Kata Kunci : beton, mortar, *calcium stearate*, susut, kuat tekan, kandungan kimia.

## **ABSTRACT**

*Concrete has many advantages that are able to withstand the compressive force well, resistant to corrosion, resistant to decay by environmental conditions, resistance to high temperatures, and relatively low maintenance costs. One of the properties of concrete is shrinkage. Concrete shrinkage is the change in the volume of concrete when experiencing a hardening process due to the process of evaporation of free water on the concrete face, therefore this needs to be considered because the result of shrinkage can reduce the quality of concrete and can cause cracks in concrete, Calcium stearate used in concrete aims to prevent the entry of water and chemicals into the concrete. The reaction between calcium stearate and cement produces a compound that is physically waxy. This coating effect causes concrete to be hydrophobic or does not absorb water so that it is difficult for concrete to be penetrated by water or chemicals. This study intends to determine the effect of adding Calcium Stearate by 0%, 0.1%, 0.2%, and 0.3% by weight of cement on the value of concrete shrinkage that occurs in the horizontal direction, and on the compressive strength of mortar in the 28th day. The results showed that the addition of calcium stearate reduced shrinkage by an average of 21% for each addition of 0.1% calcium stearate levels by weight of cement. The addition of calcium stearate to the mortar mixture also reduced the compressive strength of the mortar by an average of 16% for each addition of 0.1% of calcium stearate levels for each cement weight.*

*Key words: concrete, mortar, calcium stearate, shrinkage, compressive strength, chemical content.*