

THESIS

**EFFECT OF KILN GAS-TEMPERATURE ON
TEMPERATURE AND THERMAL STRESS AT HOT
SPOT REGION OF KILN SHELL**

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ABSTRACT

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The hot spot on the kiln shell is one of the problems that occur in the cement factory generally. This hot spot is formed due to the existence of a fire-resistant stone that dislodged from its arrangement which causes the hot gas inside the kiln to come into direct contact with the shell of the kiln. This causes the temperature in the hot spot area to be higher than allowed. This hot spot can damage the shell of the kiln so that it can shorten the life of the kiln. To overcome the hot spot problem, it is necessary to calculate the distribution of temperature and thermal stress on the hot spot. This research was conducted with variations in gas input temperature in the kiln. The results showed that the higher the input gas temperature, the higher the temperature distribution and thermal stress of the hot spot, and the presence of hot spots can cause damage to the skin of the kiln.

Keyword: hot spot, kiln, temperature, stress

