METI-ASEAN PROMEEC

Kyankhin Cement Plant
<Comments for EE&C>

- Relation between the brick thickness and shell surface temperature

November, 2006

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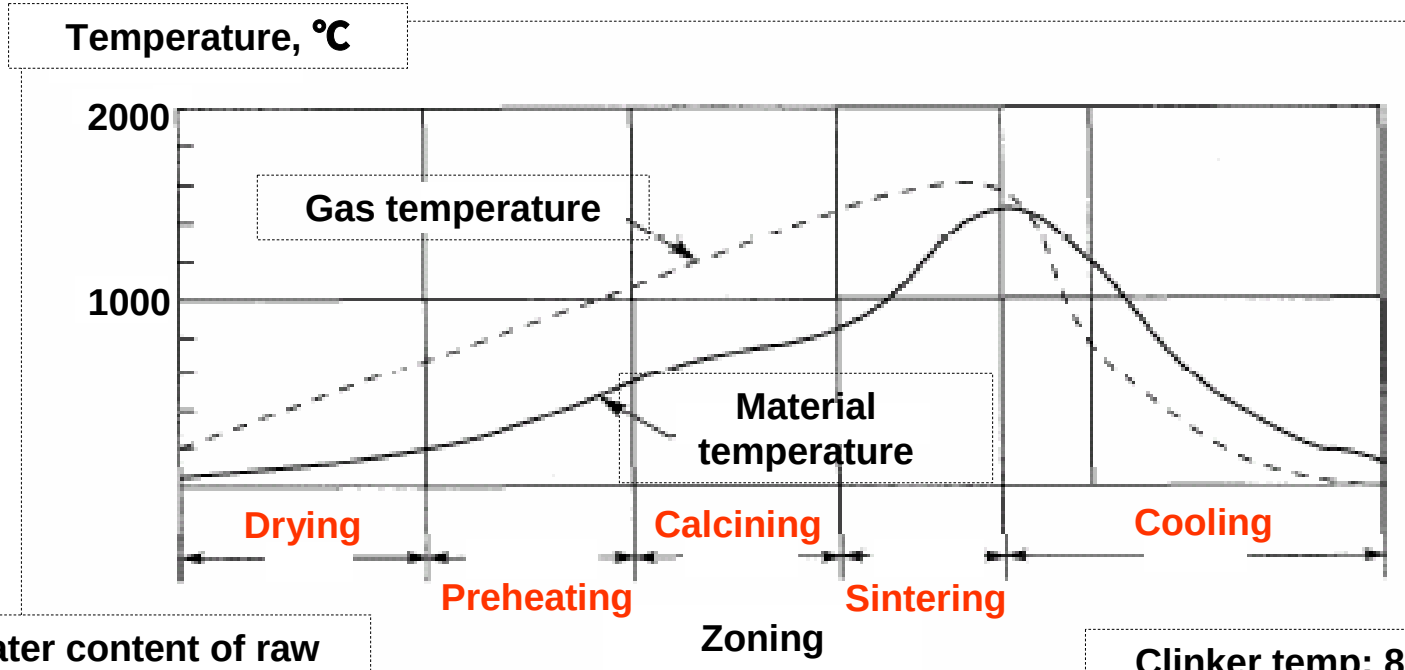
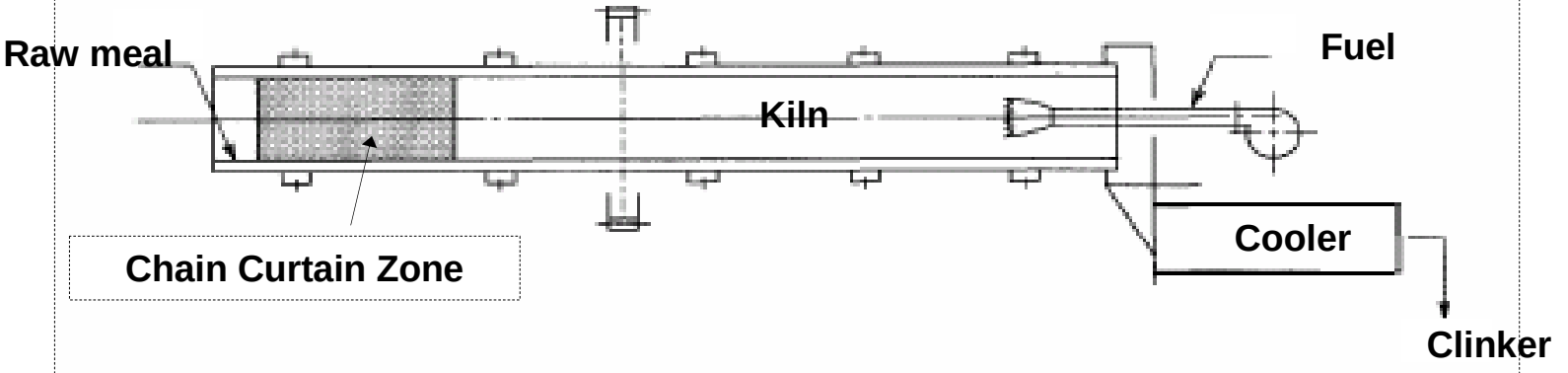
ECCJ

Temperature Profile in Wet Process Kiln



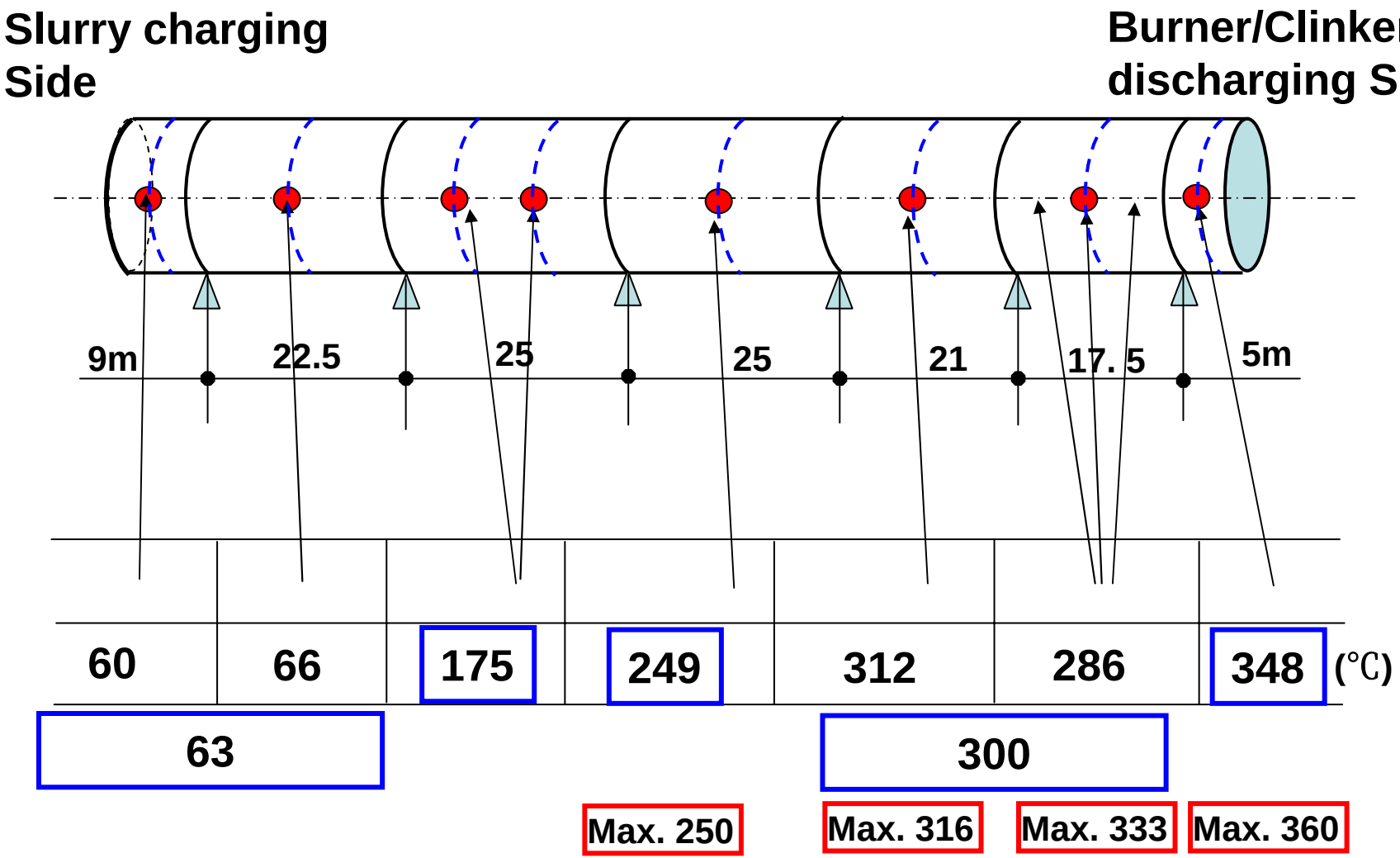
Water content of raw material : 38 – 40%

Clinker temp: 80 – 100 ℃



Temperature Profile in Wet Process Kiln

Measurement of No.3 Kiln Surface Temperature



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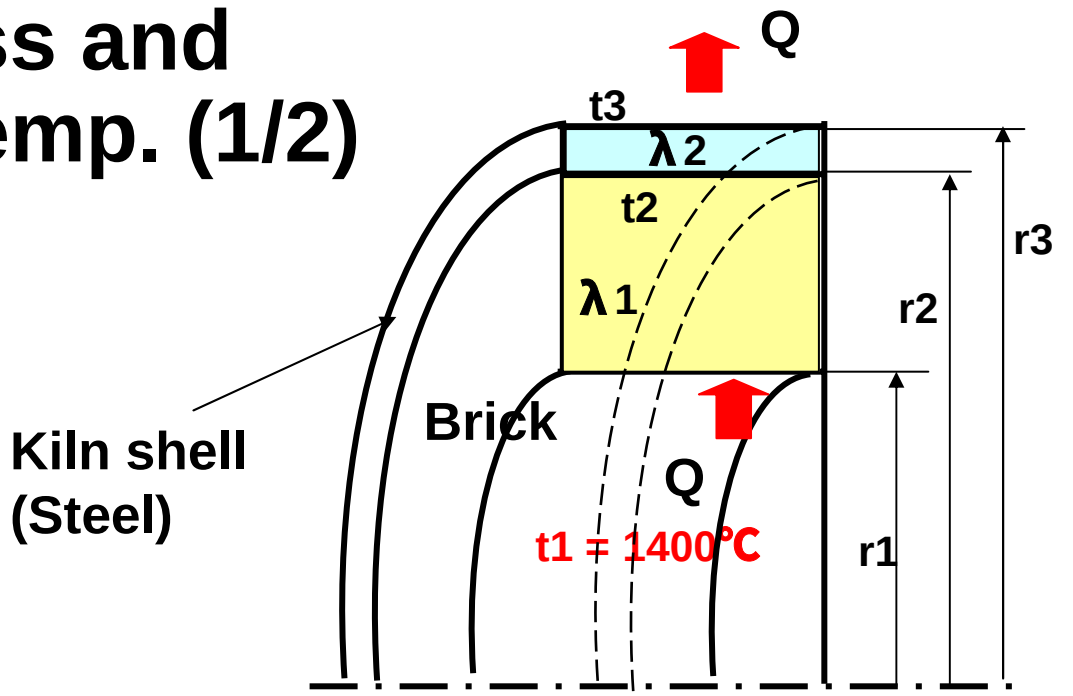
Relation between the brick thickness and kiln surface temp. (1/2)

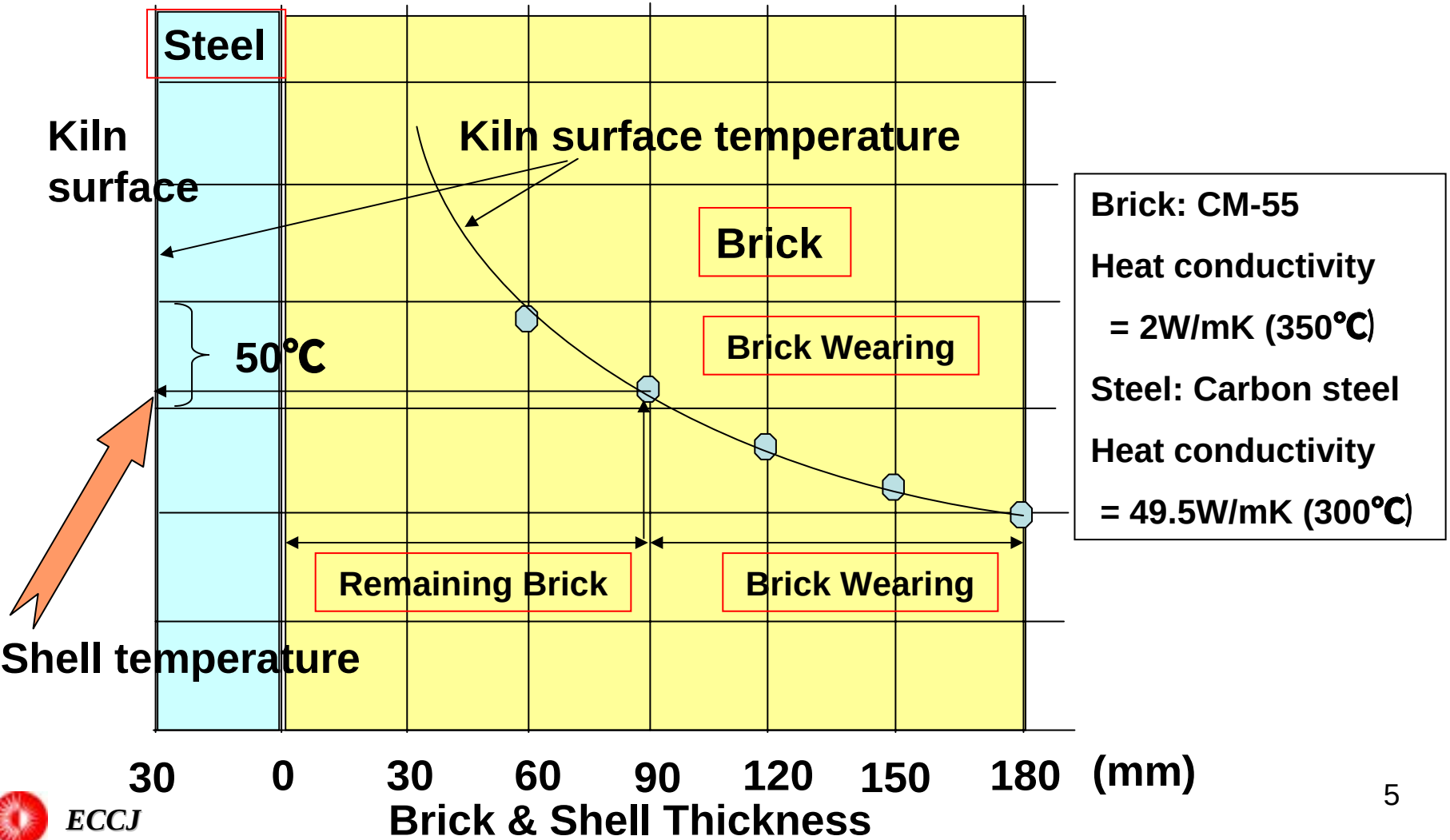


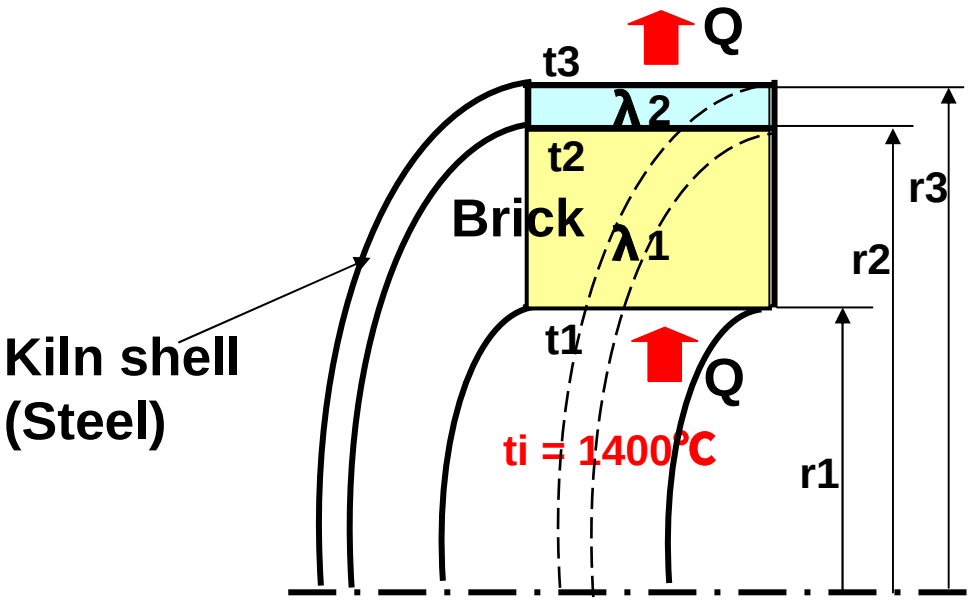
The heat conduction in a cylindrical walls expressed by the following formula, and the heat values through the respective layers are equal.

$$Q = \frac{2\pi\,(t1 - t3)}{\frac{1}{\lambda 1}\,LN\frac{r2}{r1} + \frac{1}{\lambda 2}\,LN\frac{r3}{r2}}$$

r1, r2, r3: (m)
t1, t2, t3: ℃
λ1, λ2: Heat conductivity (W/mK)

Relation between the brick thickness and shell surface temp. (2/2)





r1, r2, r3: (m)
t1, t2, t3: ℃
λ1, λ2: Heat conductivity (W/mK)

The heat conduction in a cylindrical walls expressed by the following formula, and the heat values through the respective layers are equal.

$$Q = \frac{2\pi\,(t1 - t3)}{\frac{1}{\lambda 1}\,LN\left(\frac{r2}{r1}\right) + \frac{1}{\lambda 2}\,LN\left(\frac{r3}{r2}\right)}$$