Thesis Title	The Development of Thermal Insulation of High Alumina Refractory
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Abstract

The heat insulation improvement of high alumina refractory was done by casting with bubble alumina , fine calcine alumina (A-11) with other additives and sintered at 1700°C. The objective of the study are point at the fraction of the raw materials, the process technique and effect of the heat insulation ,strength of refractories.

The experimental results showed that the approximate composition of following component bubble alumina powder, alumina powder (A-11) were 30:70, 35:65, 40:60, 45:55 % wt, the method of the casting and sintering gave a trend to increase the thermal insulation than the cast 18-LW. After the cold crushing strength test of these found that of the sample 40:60 composition show 100.27 kg/cm^2 which the same of cast 18-LW, the composition after sintering are Al_2O_3 98.72 % SiO_2 0.69% CaO 0.10% and Na_2O 0.19%, corrundum, meonite crystal structure, 7.5x 10^{-6}mm/mm$^{\circ}$C of thermal expansion coefficient or 1.2 % expansion at 1,630 $^{\circ}$C. This sample which has composition of the component that increase the thermal insulation and the cold crushing strength is still acceptable.