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KEY WORD : BRASS CASTING TECHNOLOGY / BRASS PROCESSING DEVELOPMENT / BRASS FOUNDRY DEVELOPMENT / BRASS POURING TEMPERATURE CONTROLLER / THERMOELECTRIC PYROMETER

WICHAI GOSULWAT : APPROPRIATE TECHNOLOGY FOR THE FOUNDRY DEVELOPMENT OF NONFERROUS METALS : A CASE STUDY OF BRASS CASTING IN SAMUTSAKORN PROVINCE . THESIS ADVISORS : SUCHART NAWAGAWONG M.Sc., ADISAK WANNAWAL M.Sc., GRITSANARUCK THEERARAJ M.Sc., 149 P. ISBN 974-663-032-6

The objectives of this research are : to study the brass pouring temperature , to analyze The brass pouring temperature of suitable casting , and to get the brass casting appropriate technology. The appropriate technology of this research is engineering technology that adding two part in to brass foundry processing. One is the hardware, thermoelectric pyrometer which used to temperate instead of tempered by braking sample pieces. The other one is software, accompaniment with the inspection and controlling of brass pouring temperature that the foundry always use. Preparing with the four pouring temperature levels which the researcher using in his experiment. Together with the physical analysis are the tensile strength , the percent elongation , and the percent of good productions that the thickly face less than 13 Millimeter. The summary result is the appropriate technology of brass casting process in small factory being the temperature level at $1163 - 1227^{\circ}\text{C}$ because of the quantity productions increasing 16.67 % , the tensile strength increasing 20.50 N/mm^2 and the elongation increasing 3.38 % , which according to the hypothesis. The gain of environmental and resources conservation view, find that saving the time, labour, energy, and raw material resources in case of recycling. Beside this reducing air pollution such as vapourization and dust occur between brass casting process. The gain of economic view, find that increasing income by reducing bad products and reducing others expenses in reprocess. Finally supporting Thai small industry and firmness. There have appropriate process development and self sufficiency.