

The Independent study entitled "Feasibility Study in Establishing Mould Making Unit of Siam Refractory Industry Co.,Ltd." was aimed to study the feasibility in establishing Mould Making Unit by studied in 3 aspects ; namely marketing feasibility , technical feasibility and financial feasibility. The primary data about hardening method and cost of hardening were collected by consulting with engineer of Navaloha Co.,Ltd. and operator of B.K.J. Co.,Ltd. while the secondary data were collected from the internal reports of Siam Refractory Industry Co.,Ltd. such as the ,e.g., factory accounting section report, marketing division report and external data from hardening educational papers, books, journals, research reports, statistical document and machine or equipment supplier document. The data collection period was form December 2000 to June 2001. The financial data processed using Incremental Basis Principle under hypothesis of the internal rate of return 15%.

The results of marketing analysis found that Marketing division was able to forecast sale in 2001 to 2005 have average growth rate 6.9% per year ; 2001 saleplan of 78,982 ton.

The results of engineering analysis showed that the machine used for Mould Making unit consists of cutting machine, shaping machine, milling machine, drilling machine, horizontal

grinding machine and CNC grinding machine. Hardening equipments consists of hardening furnace, oil quenching bath and tempering furnace. An investment of machine and equipment was 9,179,000 baht and working area adjustment was 500,000 baht. Steel hardening procedure was chosen to be hardening. Types of steel suitable for hardening were steel grade D-2 and D-6 or equivalent grades for the side liner making and top bottom press plate, the steel grade SCM-4 or equivalent grade was chosen.

Costs of new method contain of the costs of steel, grinding media, electricity, maintenance, staff salary, machine depreciation and working area adjustment yearly charge. The cost of mould making was calculated by using the saleplan forecast. The cost of contract out was calculated by assigning the previous expenses to group of shaped-refractory per ton in order to cost estimation follow the saleplan forecast.

The result of financial analysis using Incremental Basis concept found that the project required an initial investment of 9,779,000 bahts where 8,000,000 bahts was obtained from long term debt and 1,779,000 bahts was owner equity. The period of project was 5 years. The net present value at discount rate 15% was 6,655,127 bahts while the internal rate of return was 46.96% with the payback period of 1 year 8 months 22 days. The study demonstrated that Mould Making Unit is feasible follow hypothesis.

Sensitivity analysis found that steel price changed effected to the net present value and the internal rate of return more than refractory sale changed.