ABSTRACT

MANUFACTURE OF GLUCOSE OF CORN STARCH
BY HYDROLYSIS ACID
CAPACITY 100.000 TONS/YEAR
(Design Reactor (RH-201))

By
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A plant producing glucose by hydrolysis acid of corn starch and water is planned to be in industrial plant in the region of Center Lampung in Lampung Province. The plant would be Plant was established by considering the availability of raw materials, transportation facilities, readily available labor and environmental conditional.

Plants production capacity is planned for 100.000 tons/year, with operating time of 24 hours/day and 330 working days in year. The raw materials used are corn starch as 14.841 kg/hr and water 21.769,62 kg/hr.

 Provision of utility plant needs a treatment system and water supply, steam supply systems, instrument air supply systems, and power generation systems.

The total amount of labor needed is as much as 188 people with a business entity form Limited Liability Company (PT) which is headed by a Director who is assisted by the Director of Production and Director of Finance with line and staff organizational structure.

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\begin{align*}
\text{Fixed Capital Investment (FCI)} & = \text{Rp 274.240.731.600,-} \\
\text{Working Capital Investment (WCI)} & = \text{Rp 48.395.423.050,-} \\
\text{Total Capital Investment (TCI)} & = \text{Rp 322.636.153.600,-} \\
\text{Break Even Point (BEP)} & = 47.78\% \\
\text{Pay Out Time before Taxes (POT)\textsubscript{b}} & = 2,33 \text{ year} \\
\text{Pay Out Time after Taxes (POT)\textsubscript{a}} & = 2,75 \text{ year} \\
\text{Return on Investment before Taxes (ROI)\textsubscript{b}} & = 28,03 \% \\
\text{Return on Investment after Taxes (ROI)\textsubscript{a}} & = 22,42\% \\
\text{Discounted Cash Flow (DCF)} & = 58 \% \\
\text{Shut Down Point (SDP)} & = 24,32\%
\end{align*}
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By consider all the summaries, it is propere to do a further about the establishment of this glucose plant, because the plant could be profitable with good prospects.