

ABSTRAK

PRARANCANGAN PABRIK SELULOSA DIASETAT DARI SELULOSA DAN ASETAT ANHIDRAT DENGAN KAPASITAS 24.000 TON/TAHUN (Tugas Khusus Perancangan Reaktor Asetilasi (RE-201))

Oleh

Fitriani Wulandari

Selulosa diasetat merupakan salah satu produk industri kimia yang digunakan sebagai bahan baku pembuatan membran, filter rokok, tekstil, dan *bio-plastic*. Selulosa diasetat dapat di produksi dengan proses esterifikasi dengan menggunakan beberapa katalis yang berbeda yaitu 1) Proses esterifikasi dengan katalis asam sulfat, dan 2) Proses esterifikasi dengan katalis Natrium Bisulfat. Penyediaan kebutuhan utilitas pabrik berupa sistem pengolahan dan penyediaan air, sistem penyediaan *Thermal oil*, *Chills water*, sistem penyediaan udara tekan dan proses, dan sistem pembangkit tenaga listrik.

Kapasitas produksi pabrik direncanakan 24.000 ton/tahun dengan 330 hari kerja dalam 1 tahun. Lokasi pabrik direncanakan didirikan di daerah Jabung, Jambi. Tenaga kerja yang dibutuhkan sebanyak 160 orang dengan bentuk badan usaha Perseroan Terbatas (PT) yang dipimpin oleh seorang Direktur Utama yang dibantu oleh Direktur Produksi dan Direktur Keuangan dengan struktur organisasi *line and staff*.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 1.161.316.058.446
<i>Working Capital Investment</i>	(WCI)	= Rp 204.938.127.961
<i>Total Capital Investment</i>	(TCI)	= Rp 1.366.254.186.407
<i>Break Even Point</i>	(BEP)	= 36,1 %
<i>Shut Down Point</i>	(SDP)	= 21,8 %
<i>Pay Out Time before taxes</i>	(POT) _b	= 1,6 years
<i>Pay Out Time after taxes</i>	(POT) _a	= 1,94 years
<i>Return on Investment before taxes</i>	(ROI) _b	= 44,19%
<i>Return on Investment after taxes</i>	(ROI) _a	= 41,49%
<i>Discounted cash flow</i>	(DCF)	= 42,94%

Mempertimbangkan rangkuman di atas, sudah selayaknya pendirian pabrik Selulosa Diasetat ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai prospek yang baik.

ABSTRACT

PREDESIGN OF CELLULOSE DIACETATE FROM CELLULOSE AND ACETATE ANHYDRATE WITH CAPACITY OF 24.000 TONS/YEAR (Specialized Assignment of Acetylation Reactor Predesign (RE-201))

By

Fitriani Wulandari

Cellulose diacetate is one of chemical industry's product which used as raw material for membrane production, cigarettes filter, textile, and *bio-plastic*. Cellulose diacetate can be made through esterification process by using some different catalysts, that are 1) Esterification process by using sulfuric acid catalyst 2) Esterification process by using Sodium bisulphate catalyst. The supply of plant utilities are water supply, thermal oil supply, chilling water, compressed air supply, and process air supply.

Plants capacity that had been planned was 24.000 tons/year with 330 working days in a year. The location of plant construction that had been planned was in Jabung, Jambi. The labours which needed for are about 160, with Perseroan Terbatas (PT) as the type of bussiness enity headed by Chief Executive Officer and helped by Director of Production also Director of Finance with line and staff organization structure.

From the economical analysis, these are can be obtained:

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By considering the summaries above, it is better to take proper study of Cellulose Diacetate Plant establishment, it is because of the profitable and good prospects of the plant.