

## ABSTRAK

### PRARANCANGAN PABRIK SELULOSA ASETAT DARI TANDAN KOSONG KELAPA SAWIT (TKKS) DENGAN KAPASITAS 30.000 TON/TAHUN (Perancangan Reaktor Asetilasi (RE-201))

Oleh

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Pabrik Selulosa asetat berbahan baku TKKS dan asetat anhidrat, direncanakan didirikan di Kawasan Industri Pelalawan, Riau. Pendirian pabrik berdasarkan atas pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Pabrik direncanakan memproduksi Selulosa Asetat sebanyak 30.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah TKKS sebanyak 5.396,88 kg/jam dan Asetat Anhidrat sebanyak 6.988,53 kg/jam.

Penyediaan kebutuhan utilitas pabrik terdiri dari unit pengolahan air (*Filtered Water*), air demin (*demineralized water*), *steam*, udara instrument, dan pengolahan limbah.

Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 193 orang.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	=	Rp. 677.288.238.621,-
<i>Working Capital Investment</i>	(WCI)	=	Rp. 119.521.453.874,-
<i>Total Capital Investment</i>	(TCI)	=	Rp. 796.809.692.496,-
<i>Break Even Point</i>	(BEP)	=	40,19 %
<i>Shut Down Point</i>	(SDP)	=	12,74 %
<i>Pay Out Time before taxes</i>	(POT) <sup>b</sup>	=	2,28 tahun
<i>Pay Out Time after taxes</i>	(POT) <sup>a</sup>	=	2,70 tahun
<i>Return on Investment before taxes</i>	(ROD) <sup>b</sup>	=	28,72%
<i>Return on Investment after taxes</i>	(ROD) <sup>a</sup>	=	22,97 %
<i>Discounted cash flow</i>	(DCF)	=	43,74%

Mempertimbangkan paparan di atas, sudah selayaknya pendirian pabrik Selulosa Asetat ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

**Kata Kunci :** Tandan Kosong Kelapa Sawit, Asetat Anhidrat, Asetilasi, Selulosa, Selulosa Asetat

## ABSTRACT

### Feasibility Cellulose Acetate Plant From Cellulose and Acetate Anhydride Capacity 30.000 Tons/year (Design Acetylation Reactor -201 (RE-201))

By

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Cellulose Acetate manufacturer made from cellulose and acetic anhydride, planned to set up in the Industrial Area Pelalawan, Riau. Establishment of the plant based on consideration of the availability of raw materials, adequate transportation facilities, readily available labor and environmental conditions.

The factory is planned to produce cellulose acetate 30,000 tons / year, with operating time 24 hours / day, 330 days / year. The raw material used is cellulose 5.396,88 kg / hr and Acetate Anhydride 6.988,53 kg / hour.

Plant utility requirements consist of water treatment units (Filtered Water), water demin (demineralized water), steam, instrument air, and waste treatment.

The shape of the company is a Limited Liability Company (PT) using line and staff organizational structure with the number of employees is 193 people.

From the economic analysis is obtained:

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Taking into consideration the above explanation, it is proper establishment of the plant's Cellulose acetate further investigation, because it is a plant that is profitable and have a good future.

**Keyword** : Empty Fruit Bunch of Palm, Acetate Anhydride, Acetylation, Cellulose, Cellulose Acetate,