

ABSTRAK

PRARANCANGAN PABRIK PRECIPITATED CALCIUM CARBONATE DENGAN PROSES KARBONASI KAPASITAS 90.000 TON/TAHUN

Oleh
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Pabrik *precipitated calcium carbonate* berbahan batu kapur dengan proses karbonasi direncanakan didirikan di Tuban, Jawa Timur. Pendirian pabrik didasarkan atas pertimbangan ketersediannya bahan baku, sarana transportasi yang memadai, dan tenaga kerja yang mudah didapatkan serta kondisi lingkungan sekitar lokasi pabrik akan didirikan.

Bentuk perusahaan Perseroan Terbatas (PT) menggunakan struktur organisasi line dan staff dengan jumlah karyawan sebanyak 127 orang dan durasi kerja selama 330 hari.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 380.462.992.601,-
<i>Working Capital Investment</i>	(WCI)	= Rp 67.140.528.106,-
<i>Total Capital Investment</i>	(TCI)	= Rp 447.603.520.707,-
<i>Break Even Point</i>	(BEP)	= 35,10%
<i>Shut Down Point</i>	(SDP)	= 16,48%
<i>Pay Out Time before taxes</i>	(POT) ^b	= 1,95 tahun
<i>Pay Out Time after taxes</i>	(POT) ^a	= 2,33 tahun
<i>Return on Investment after taxes</i>	(ROI) ^a	= 28,02%
<i>Discounted cash flow</i>	(DCF)	= 36,56%

Mempertimbangkan paparan diatas, sudah selayaknya pendirian pabrik *precipitated calcium carbonate* ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dari sisi ekonomi dan mempunyai prospek yang relatif cukup baik.

Kata kunci: *Precipitated Calcium Carbonate*, Batu Kapur, Karbonasi

ABSTRACT

PRELIMINARY DESIGN OF AN PRECIPITATED CALCIUM CARBONATE PLANT FROM LIMESTONE USING A CARBONATION PROCESS CAPACITY OF 90,000 TONS/YEAR

By

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A precipitated calcium carbonate plant from limestone using the carbonation process is planned to be established in Tuban, East Java. The establishment of this plant is based on several considerations, including the availability of raw materials, adequate transportation infrastructure, a readily available workforce, and the environmental conditions surrounding the prospective site.

The business entity will be structured as a Limited Liability Company (PT) utilizing a line and staff organizational structure. The plant will employ 127 people with an operating period of 330 days per year.

Economic analysis of the plant yields the following results:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 380.462.992.601,-
<i>Working Capital Investment</i>	(WCI)	= Rp 67.140.528.106,-
<i>Total Capital Investment</i>	(TCI)	= Rp 447.603.520.707,-
<i>Break Even Point</i>	(BEP)	= 35,10%
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<i>Pay Out Time before taxes</i>	(POT)b	= 1,95 years
<i>Pay Out Time after taxes</i>	(POT)a	= 2,33 years
<i>Return on Investment after taxes</i>	(ROI)a	= 28,02%
<i>Discounted cash flow</i>	(DCF)	= 36,56%

Considering the technical and economic evaluation above, the establishment of this precipitated calcium carbonate plant warrants further comprehensive study, as it demonstrates strong economic profitability and highly promising future prospects.

Keywords: *Precipitated Calcium Carbonate, Limestone, Carbonation.*