

ABSTRAK

PRARANCANGAN PABRIK ALUMINIUM SULFAT DARI ALUMINIUM OKSIDA DAN ASAM SULFAT KAPASITAS 28.000 TON/TAHUN (Perancangan Reaktor (RE-201))

Oleh
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Prarancangan pabrik aluminium sulfat dari aluminium oksida dan asam sulfat dengan kapasitas 28.000 ton/tahun akan didirikan di Kawasan Industri Gresik, Jawa Timur di atas tanah seluas 67.800 m². Aluminium Sulfat dalam industri kimia digunakan sebagai koagulan, bahan tambahan dalam industri kertas, cat, dan bahan baku deodoran. Bahan baku berupa aluminium oksida sebanyak 1.043,1454 kg/jam diperoleh dari PT. Well Harvest Winning Alumina Refinery dan Asam Sulfat sebanyak 3.009,7172 kg/jam diperoleh dari PT. Petrokimia Gresik.

Jumlah karyawan sebanyak 167 orang dengan bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff*. Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i> (FCI)	= Rp 852.272.865.736
<i>Working Capital Investment</i> (WCI)	= Rp 150.401.093.953
<i>Total Capital Investment</i> (TCI)	= Rp 1.002.673.959.689
<i>Break Even Point</i> (BEP)	= 34,77%
<i>Shut Down Point</i> (SDP)	= 16,68%
<i>Pay Out Time after Taxes</i> (POT) _a	= 2,504 tahun
<i>Return on Investment after Taxes</i> (ROI) _a	= 41,37 %
<i>Discounted cash flow</i>	= 40,85%

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

ABSTRACT

MANUFACTURING OF ALUMINIUM SULFATE PLANT FROM ALUMINIUM OXIDE AND SULFURIC ACID WITH CAPACITY 28,000 TON/YEAR (Design Reactor (RD-201))

By

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Manufacturing of an aluminum sulfate plant from aluminum oxide and sulfuric acid with a capacity of 28,000 tonnes/year will be established in the Gresik Industrial Area, East Java on a land area of 67,800 m². Aluminum Sulfate in the chemical industry used as a coagulant, additive in the paper, paint and deodorant industries. The raw material in the form of aluminum oxide amounting to 1,043.1454 kg/hour was obtained from PT. Well Harvest Winning Alumina Refinery and Sulfuric Acid amounting to 3,009.7172 kg/hour were obtained from PT. Petrokimia Gresik.

The number of employees is 167 people with the company form being a Limited Liability Company (PT) using a line and staff organizational structure. From the economic analysis it is obtained:

<i>Fixed Capital Investment (FCI)</i>	= Rp 562.168.439.812
<i>Working Capital Investment (WCI)</i>	= Rp 99.206.195.261
<i>Total Capital Investment (TCI)</i>	= Rp 661.374.635.073
<i>Break Even Point (BEP)</i>	= 54%
<i>Shut Down Point (SDP)</i>	= 38%
<i>Pay Out Time after Taxes (POT)_a</i>	= 2,57 tahun
<i>Return on Investment after Taxes (ROI)_a</i>	= 24 %
<i>Discounted cash flow</i>	= 33,29%

Considering the explanation above, it is appropriate to study the establishment of this aluminium sulfate plant further, because it is a profitable factory and has a good prospect.