

RINGKASAN

PT. Aneka Dharma Persada (PT ADP) merupakan sebuah perusahaan yang bergerak di bidang pengolahan komoditas andesit. Pabrik peremuk andesit terletak di Dusun Ngentak, Desa Argorejo, Kecamatan Sedayu, Kabupaten Bantul, Daerah Istimewa Yogyakarta. PT ADP memiliki dua unit peremuk dengan produksi kedua unit peremuk sebesar 510 ton/hari. Dengan ke dua unit peremuk tersebut sudah memenuhi permintaan pasar saat ini. Meningkatnya perkembangan pembangunan daerah dan pabrik-pabrik baru diperkirakan akan terjadi peningkatan kebutuhan andesit. Maka dari itu, PT ADP berencana membangun unit peremuk baru untuk memenuhi lonjakan permintaan pasar tersebut, dengan perkiraan produksi total mencapai 1200 ton/hari. Dalam pembangunan pabrik peremuk baru, dibutuhkan rancangan pabrik peremuk untuk menentukan alat-alat yang dibutuhkan dan target produksi yang diinginkan, serta menentukan setting alat peremuk. Permasalahan yang terjadi ialah di butuhkan rancangan pabrik peremuk baru untuk produksi 690 ton/hari dengan syarat produksi produk terbanyak ukuran $-19 + 13$ mm.

Dalam merancang unit peremuk baru, dibutuhkan beberapa data antara lain: distribusi umpan, efisiensi *screen*, jam kerja efektif, dan *cycle time*. Hasilnya didapatkan alat-alat yang digunakan, antara lain: *Hopper* dengan dimensi 4,5 m x 3,5 m x 0,5 m, *Vibrating Grizzly Feeder* merek *LIMING*, model *GZD960x3800*, *Primary Jaw Crusher* merek *LIMING*, model *PE750x1060*, *Single Deck Vibrating Screen* merek *LIMING*, model *GZD960x3800*, *Secondary Crusher (Cone Crusher)* merek *LIMING*, model *HST110*, *Triple Deck Vibrating Screen* merek *VIPEAK*, model *S5x1545-3*, *Belt Conveyor* 1 dan 2 merek *LIMING*, *belt width* 650 mm, dan *Belt Conveyor* 3-8 merek *LIMING*, *belt width* 500 mm. setting yang digunakan pada *Jaw Crusher* 100 mm, sedangkan pada *Cone Crusher* 25 mm. Distribusi produk yang diinginkan, ukuran $-25 + 19$ sekitar 25%, ukuran $-19 + 13$ sekitar 45%. Ukuran $-13 + 5$ sekitar 25%, dan ukuran -5 sekitar 5%.

SUMMARY

PT. Aneka Dharma Persada (PT ADP) is an active company in the processing of andesite commodities. This andesite crusher factory is located in Ngentak Hamlet, Argorejo Village, Sedayu District, Bantul Regency, Special Region of Yogyakarta. PT ADP has two unit crushers with the production of both crushing units of 510 tons/day. With the two crusher units, it already fulfill current market demand. The increasing development of regional development and new factories is expected to increase the demand for andesite stone. Therefore, PT ADP plans to build a new crusher unit to meet the bump in market demand, with an estimated total production of 1200 tons/day. In the construction of a new crusher factory, it is necessary to design a crusher factory to determine the tools needed and the desired production target, as well as determine the setting of the crusher. The problem that occurs is that a new crusher factory design is needed for the production of 690 tons/day with the condition that the production of the most products is -19 + 13 mm in size.

In designing a new crusher unit, some various data are needed, including: feed distribution, screen efficiency, effective working hours, and cycle time. The results for the tools used are: Hopper with dimensions of 4.5 m x 3.5 m x 0.5 m, Vibrating Grizzly Feeder LIMING brand, model GZD960x3800, Primary Jaw Crusher LIMING brand, PE750x1060 model, Single Deck Vibrating Screen LIMING brand, model GZD960x3800, Secondary Crusher(Cone Crusher), HST110 model, Triple Deck Vibrating Screen VIPEAK brand, model S5x1545-3, Belt Conveyor 1 and 2 LIMING brand, belt width 650 mm, and Belt Conveyor 3-8 LIMING brand, belt width 500 mm. The setting used in the Jaw Crusher is 100 mm, while the Cone Crusher is 25 mm. The distribution of desired products is, size -25 + 19 about 25%, size -19 + 13 about 45%, size -13 + 5 about 25%, and size -5 about 5%.