

# THE EFFECT OF STAY TIME , AMOUNT OF FEED, KILN ROUND IN COAL CARBONIZATION PROCESS FOR CARBONRISER IN PT. IP GUNUNG LIPAN CITY OF SAMARINDA PROVINCE, KALIMANTAN EAST

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Research conducted on the coal which is supplied from the company mines coal that is located in the area of the District Palaran , Kota Samarinda , Province Kalimantan East . Testing is done with the purpose that the coal which is supplied can be used be carbonriser with views of the influence of time of residence . Carbonriser itself is a carbon enhancer material used in the smelting process for the manufacture of iron or steel .

In doing activities carbonization of coal to be used as carbonriser then coal must be in fuel up first using the tool rotary kiln which a capacity of 1 ton / day , with dimensions of length 8 m and a diameter in the 0 , 8 m . The aim of burning it in order to get the value of the carbon tied (FC) of coal must be in the top 80% and substance fly less than 5%. Coal is used in the process of carbonization is coal that has been processed from coal mill which is in the form of downsizing the size of the coal that is using the tool jaw crusher and vibrating screen thus obtained size of less is more for 1-3 cm.

Exist when the same is done heating rotary kiln which requires time for 8-10 hours to reach a temperature of 800-900 ° C , the energy of heat that is used is sourced from combustion cyclone ( cyclone burner ) are made of fuel coal of fine sized 30 mesh. How to work burner cyclone is coal flowed into the chamber of combustion that has been heated up in advance , with the help of blowing air from the blower so that the coal burn and produce energy heat that flowed into the rotary kiln . Having reached a temperature of 800-900 ° C feed coal inserted into the hopper through the bucket elevator .

Based on the results of the proximate analysis of coal after the carbonization process, the most optimal value of fixed carbon was 86.01%, ash was 8.27%, volatile matter was 3.38% and inherent moisture was 2.34%. The optimal coal residence time during the carbonization process is 2.5 hours with a kiln rotation of 25 rpm and the amount of feed 100 kg / hour. Factors that influence the residence time are the size of feed entering the kiln by 1-3 cm, the kiln rotation used is 15 rpm, 17.5 rpm, 20 rpm and 25 rpm and the number of feeds entering the kiln is 50 kg / hour , 100 kg / hour and 150 kg / hour and the tilt of the rotary kiln is 3 degrees

Said Key : Inherent Moisture, Volatile Matter, Ash, Fixed Carbon, Time Live