

Quality of Sinter Ore by Combustion zone shape in Bed Location

Y.S Seo¹, H.M Lee², B.C Kim³ and H.J Yoon⁴

1. Ironmaking, Hyundai steel, Dangjin-Si Chungnam-Do, 31719, westys@hyundai-steel.com
2. Engineer, Hyundai steel, Dangjin-Si Chungnam-Do, 31719, hmlee@hyundai-steel.com
3. Researcher, Hyundai steel, Dangjin-Si Chungnam-Do, 31719, bckim@hyundai-steel.com
4. Researcher, Hyundai steel, Dangjin-Si Chungnam-Do, 31719, hojun.yoon@hyundai-steel.com

ABSTRACT

The combustion zone size and velocity of the sinter bed are greatly affected by the quality and production of sinter ores. Therefore, depending on the combustion zone size, balance, In order to confirm the result, the influence of the sintering quality and the shape of the exhaust part by the position was confirmed. As a result, it was found that the strength and grain size were 10% or more lower than the average at 10 ~ 15% of the top layer. On the other hand, in the lower part, the strength was higher according to the concentration of the heat, but the average of the grain size was not reached. This is due to overheating brittle structure is expected to increase. Therefore, the quality of the sinter ores was predicted according to the shape of the exhaust part.

The sintering quality was stable during exhaust with a uniform and constant width, but the intensity and recovery rate of some unbalanced combustion zones decreased by 5 ~ 10% compared to the average. Also, when the width of the combustion zone was large, the productivity decreased by more than 1%, which was also affected by the decrease of the yield rate and the increase of the differential fraction. When the shape of the combustion zone is unbalanced, it has a large influence on the recovery rate and the strength depending on the generation of the unfired sintered ores and the excessive tin sintered ores. Therefore, it is possible to predict the operation of real-time sinter ore based on the shape of exhaust.