

APPLICATION OF HMDS SLAG IN IRON ORE SINTER MAKING

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Abstract

Modern steel industries in general, produce large amounts of solid waste during the iron and steel making process. Innovative measures have been taken to maximum utilization of such wastes generated all over the world. This not only reduces the cost of waste disposal and environmental pollution but also reduction in the amount of iron ore, flux material and fuel benefits to the existing process. Disposal of large quantity of slag becomes a major environmental concern. Keeping this in mind, in the present investigation, Hot Metal Desulphurised Slag (HMDS) has been used in sinter making as JSW Steels, Toranagallu generates huge quantities of slag during iron and steel production. Experiments were conducted with HMDS slag from 0 to 60 kg/t in sinter making to assess the influence of addition of slag on sinter productivity, quality, strength and other properties. During the lab-scale studies several experiments have been carried out and best results were obtained at 35 to 40 kg HMDS slag per ton of sinter along with the desired physical and metallurgical properties of the sinter. Based on the trail results at laboratory, plant scale trails have been taken up and optimized to economize the cost and also reduce the burden at slag yards.

Keywords: HMDS-Hot metal desulphurization slag, Optimisation, Experimental studies, Sintering