

Diminished Conduct of Burned Iron Ore Pellets

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Abstract: *The goal of the current project, "diminished conduct of burned iron ore pellets," is to encourage the efficient use of coal fines and iron ore in the production of sponge iron. India is currently the world leader in the production of sponge iron, and the DR-EAF route is producing more steel every day. The current project effort examined the impact of adding concentrated sucrose binder on the physical characteristics of pellets made from burned iron ore. It was discovered that the crushing strength peaked at 2% binder addition and thereafter decreased as the binder concentration increased. Porosity showed a reversal of trend, increasing as the concentration of binder rose from 1% to 8% in burned pellets. The pellets were processed for reduction experiments in various coal types after being burned at 1100 C. Up to the range under study, the degree of reduction in fired iron-ore pellets rose as the reduction temperature and time increased. It was discovered that as the coal's reactivity increased, so did the degree of reduction in burned pellets.*

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