

A case for alternatives

If iron ore and scrap demand are going up relentlessly, can some of the alternative iron and scrap substitutes help? We are talking about pig iron, direct reduced iron (DRI), and its more compact and safer cousin, hot briquetted iron (HBI).

Sure, these alternatives can certainly help, but so far they have been on par with iron ore and scrap price increases, and at times they were harder to get a hold of.

According to Midrex Technologies Inc., the leading provider for DRI plants, the US imports seven to eight million mt of alternate iron each year. US imports of pig iron mostly come from Brazil, Russia, and Ukraine, while the majority of DRI imports come from Trinidad, and

HBI imports are primarily from Venezuela.

Pig iron trade to the US definitely looks substantial. Nucor and SDI consume massive amounts of pig iron in their electric arc furnaces and have developed contacts with many pig iron producers, especially in Brazil.


The world production of pig iron continues to go up, but is barely keeping up with demand; the same can be said for DRI. According to the International Iron and Steel Institute (IISI), world production of DRI reached around 59.9 million mt in 2006, up from 56.8 million mt in 2005 and 54.1 million mt in 2004. The top DRI producers in 2006 were India, with 15 million mt; Venezuela, with 8.4 million mt; and Iran,

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with 6.9 million mt.

HBI, which is denser and safer to handle than DRI, is also making some progress in terms of production. In 2006, HBI world capacity reached approximately 15.8 million metric tons. Most of the HBI produced was exported to North America and Europe.

DRI and HBI are great products to produce high quality steel; however, high natural gas prices limit the DRI and HBI production pretty much to the oil and gas producing countries.

Still, there is a lot of room for all alternatives and all help is welcomed. The raw materials market is booming and will continue to do so for several decades to come. China and India have barely started to consume steel for the purposes of improving their infrastructure and improving their people's standard of living. As their massive populations slowly cross the poverty lines, demand for steel will multiply incrementally. Naturally, the same is true of demand for the raw materials of steelmaking. 

Hot Briquetted Iron (HBI)
Picture courtesy of
Hot Briquetted Iron Association (HBIA)

