



HBI PLANT

Construction Update: August 2020

Cleveland-Cliffs is back in action in Toledo! Construction of our hot-briquetted iron (HBI) production plant was temporarily halted on March 20, 2020 due to the COVID-19 pandemic. In June 2020, we began the process of remobilizing the workforce to complete the project. As of mid-July we had about 325 contractors on site with a plan to get to approximately 400 by mid-August. Due to mandatory social distancing and other newly implemented safety-related measures limiting the number of workers allowed to be present simultaneously, construction is now expected to be completed in the fourth quarter of this year.

Major Systems Progress

Completed

Pellet Storage System	100%
Nitrogen System	100%
Water Systems (Machinery cooling, Process, Potable)	100%
Water Treatment System	100%
DCS	100%
Air Systems (Plant, Instrument air)	100%
Electrical Substation	100%
Natural Gas Supply	100%

In Progress

Core Process (Mechanical)	99%
Core Process (Electrical)	65%
Pellet Handling System (Mechanical)	99%
Pellet Handling System (Electrical)	45%
HBI Loadout (Mechanical)	75%
Rail System	50%

Commissioning activities have been on-going where possible, and are expected to be fully completed during the fourth quarter of 2020. Most major systems are fully installed. Electrical work is in progress on the core process and pellet handling system and mechanical work is underway on the HBI loadout. Once a pipeline is relocated, we can complete all work on the rail system.

Our Toledo HBI production plant, when operational, will allow us to offer another unique, high-quality product to discerning raw material buyers. Our HBI will offer a sophisticated iron feedstock alternative with less impurities than scrap, allowing EAF steelmakers to increase the quality of their respective end steel products and reduce reliance on imported metalics.

Our site is in close proximity to over 20 EAFs, giving us a natural competitive freight advantage over import competitors. As the only producer of DR-grade pellets in the Great Lakes region and with access to consistent and abundant natural gas, we will be in a unique position to serve clients in the area and grow our customer base.

Project Timeline

Q2 2020



Construction Restart

Q3 2020



Systems Installed

Q4 2020



Commissioning and Start Up

Cleveland-Cliffs Metallics

Cleveland-Cliffs will be producing a compact form of Direct-Reduced Iron (DRI) in the shape of briquettes for ease of shipping, handling, and feeding into an electric arc furnace. Hot-Briquetted Iron (HBI) is transported and fed similarly to scrap and pig iron, and requires no special handling. HBI can also be consumed into blast furnaces, helping to boost their productivity.



- U.S. based company: Cliffs is the only reliable domestic supplier of HBI in the Midwest
- Access to our own DR-grade pellet feedstock
- Midrex technology
- Capacity of 1.9 MTPY
- Access to consistent and abundant natural gas, power and transportation
- Close proximity to EAF customers simplifies logistics, minimizing working capital costs for ore based metallics

A New and Improved HBI for Steel Producers

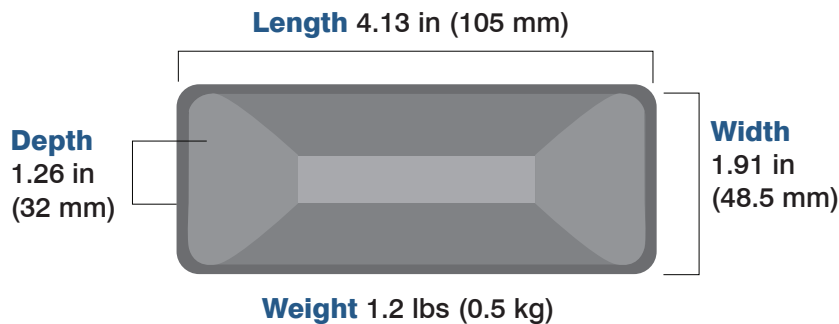
Reliability, consistency and value-in-use

- High metallization and high carbon
- High conversion yield from ore to steel
- Strong briquettes that can be stored and shipped
- Local production for dependable and regular delivery
- No need for specialized storage or charging systems

HBI Expected Analysis CHEMISTRY

Total Fe	90.6%
Metallic Fe	86.1%
Metallization	95.0%
FeO	5.8%
Carbon	3.0%
Sulphur	0.003%
Phosphorus	0.020%
Copper	0.001%
SiO ₂	2.69%
Al ₂ O ₃	0.34%
CaO	1.16%
MgO	0.42%

Dimensions



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