BHP

Iron ore
Properties, facts, uses and production

What is iron ore?

Iron ores are rocks and minerals from which metallic iron can be extracted.

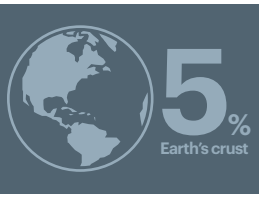
There are four main types of iron ore deposit: massive hematite, which is the most commonly mined, magnetite, titanomagnetite, and pisolitic ironstone.

These ores vary in colour from dark grey, bright yellow, or deep purple to rusty red.

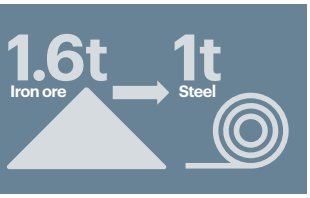
Iron is responsible for the red colour in many of our rocks and the deep red sands of the Australian deserts, and is a key ingredient in steelmaking.

Facts about iron ore

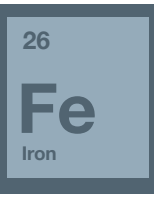
Iron makes up close to 5% of the Earth's crust.



It takes around 1.6 tons of iron ore to produce one ton of steel.

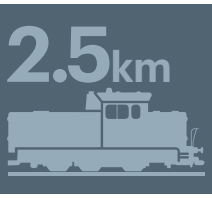


The chemical symbol for iron is 'Fe' because of its Latin name Ferrum.



We use 20 times more iron (in the form of steel) than all other metals put together.

Our iron ore trains are over 2.5km (264 ore cars) long, meaning it can take half an hour to walk from one end to the other.



The ships we use to transport iron ore to our customers can carry around 47 Olympic-sized swimming pools worth of material.

How is iron ore used?

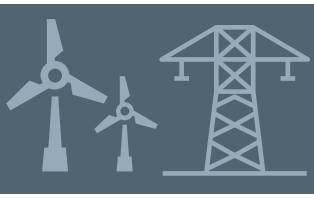
98% of iron ore is used for pig iron in steel-making. Steel is used in:

Construction

Household appliances

Transport

Energy

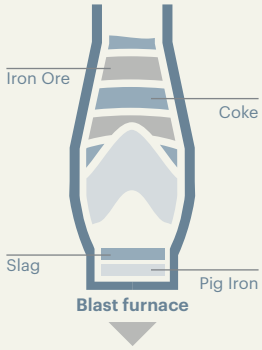


How do you make steel?

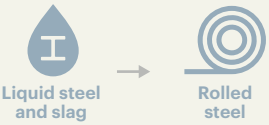
Iron ore is mixed with coke (from super-heated metallurgical coal) in a blast furnace.

Air that has been heated to around 1,200 degrees Celsius is injected into the furnace.

This converts the iron ore to liquid steel and slag (impurities). Carbon is removed and alloying elements are added.



The steel is then cast, cooled and rolled for use in finished products.



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What is the future for iron ore?

The world will need iron ore for as long as the world needs steel.

In 2020, we produced 280 million tonnes of iron ore. That's enough to make the steel for around 3,300 Sydney Harbour Bridges.

We're building a new iron ore mine in Western Australia. When completed, South Flank will produce high-quality iron ore for around 25 years.

Where is iron ore found?

There are iron ore deposits all over the world.

Our Western Australia Iron Ore business in the Pilbara region of Western Australia contains five mines, four processing hubs and two port facilities, all of which are connected by more than 1,000 kilometres of rail infrastructure.

How is iron ore mined?

Iron ore undergoes a series of processes from pit to port before export.

Finding the ore

First, we explore the geology of the region to find the best iron ore prospects for our mining operations.

Mining

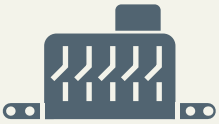
Once the ideal site has been chosen, the ore is drilled and blasted.

Primary Crusher

It is then transported to the primary crusher for processing.

Ore handling plant

The crushed ore is then sorted over screens and resized to different specifications, such as lump and fines products.

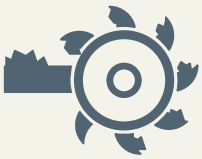


Stacker

Once the iron ore is processed, a stacker builds a stockpile in the stockyards.

Train Loading

When ready for transportation, a reclaimer picks up the ore from the stockpiles and conveys it to train load out facilities.



Rail

Trains transport the iron ore to ports.

Port

The iron ore is then loaded onto ships at our port facilities and exported to our customers around the world.