

THE STORY OF STEEL

People have become increasingly skilled in making iron and steel over many thousands of years. Evidence indicates that the Egyptians were the first to use iron about 4000 BC, but this iron came from meteorites and was prized as a precious metal. It was used mainly for ornaments. The next stage came when it was discovered that iron could be obtained from the earth as well as the heavens. Although one twentieth of the earth's crust is iron, it occurs combined with oxygen. The art of smelting was needed to separate the iron from the oxygen to produce metal, which has a multitude of uses. (Extract from BHP Steel website)

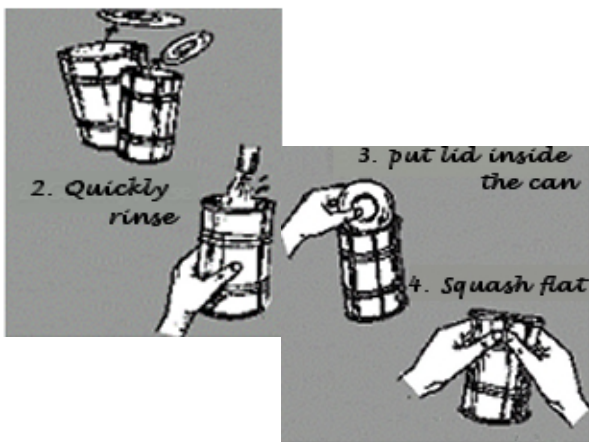
Making Steel

Steel is made by removing carbon from cast iron (which is first made from iron ore, coke and limestone in a blast furnace.) A process called BOS or basic oxygen steel making heats cast iron and scrap steel to 1700 degrees Celsius by blowing oxygen through the mixture, and the limestone absorbs impurities to form slag. (Slag is a by-product or waste material of the steel making process used in cement mix, soils and paving.)

The molten steel is poured from the enormous BOS vessel and cast into slabs, cooled and then sent to various mills for making different steel products.

At a rolling mill the slabs are re-heated to 1200 degrees or treated with acid for rolling into flat sheets and eventually shaping into cans.

1. Take Lid Off and eat contents



Steel Cans are widely used for packaging food and drink, and are sometimes referred to as "tin cans" because they have a thin layer of tin over the steel to prevent them from rusting.

The tin is applied to both sides of the rolled steel sheets by electrolysis, then the large sheets (now called tin plate) are cut into short lengths and rolled into cans.

In 1995 the average Australian recovery rate for steel cans was 18% (BHP, 1995)



In 1995 the recovery rate grew to 27%, which equals 32,000 tonnes of steel cans, coming from 55% of all Australian households. (Planet ARK Recycling Report, 1996)

Each Australian throws away 7kg of small steel products and steel cans each year. (BHP, 1995)

Only 25% of the energy used in making a can from iron ore is used in recycling one. (ARK Recycling Report, 1996)

RECYCLING STEEL involves more than just steel cans. Scrap steel of many kinds is melted in the BOS furnace along with the cast iron, and steel cans are usually detinned before they are melted down with other steel. This is to keep the concentration of tin and other alloys to a minimum within the recycled steel. **DETINNING** is done by electrolysis, and the tin residue is smelted and re-used as tinplate again. To prepare your steel cans for recycling simply rinse them out, place the lids back inside the can and flatten them. There is no need to take off the labels. Steel sardine tins, aerosols and Milo, Quik or Ovaltine cans are also recyclable. In the MRF steel cans are lifted off the conveyer automatically.

At the MRF a powerful magnet lifts the steel cans away from the rest of the recyclables.

