

## **Introduction**

How many items do you use every day that are made from sheet metal? Sheet metal is more common than you might think: it's used to manufacture the appliances in your kitchen, automobiles and airplanes, commercial buildings, heating and ventilating systems, ladders and shelves, soft drink cans, cardiac pacemakers, filing cabinets, wood stoves and much, much more.

The use of thin metal sheets to clad statues and make jewelry, tools and armor dates back to ancient times. More than 2500 years ago, a Celtic prince was laid to rest on a bed made of thin sheets of bronze. Hundreds of years earlier, humans were hammering bronze sheets into large cauldrons for preparing and serving their food.

Today, sheet metal manufacturing uses sophisticated technology to precisely cut, shape and join pieces of metal. CAD/CAM software is used to design complex 3D parts and Computer Numerically Controlled, or CNC, machines such as lasers, punches and water jets cut the metal sheet into the required flat shape, complete with slots and holes where needed. A press brake then bends the flat piece into a three-dimensional form that can be welded to other pieces to make the final part.

A man with a hammer might have created a couch for a prince in 500 BC, but twenty-first century sheet metal manufacturing requires educated, skilled workers with knowledge of computers as well as precision machining to create the products needed for today's world.