Rolling as a branch of engineering is a fabricating process in which the metal, plastic, paper, glass etc. is passed through a pair (or pairs) of rolls. There are two types of rolling processes - flat and profile rolling. In flat rolling shape of the product is either classed as sheet (thickness less than 3 mm) or plate (thickness more than 3 mm ). In profile rolling the final product may be round rod or other shaped bar. Rolling is also classified according to the temperature of the metal rolled. If the temperature of the metal is above its recrystallization temperature, then the process is termed as hot rolling. If the temperature is below - then cold rolling.

The first rolling mill was designed by Leonardo da Vinci. And later, in 1779, during the industrial revolution a rolling mill was created in Hampshire by Henry Cort, who developed ideas for rolling processes. In 1783 Cort received a patent for his groove rolling process.

Now I’d like to tell you about hot rolling. It’s a hot metalworking process where large pieces of metal, such as slabs or billets, are heated above their recrystallization temperature. Then they are deformed between rolls to form thinner cross-section. Hot rolling produces thinner cross-section than cold rolling processes with the same number of stages. Hot rolling is used mainly to produce sheet metal or simple cross-sections as rail road bars from billets.

It should be noted that there are many types of hot rolling mills. They are: hot strip mills, plate mills, billet mills, structural mills, merchant and bar mills, slab and bloom mills. All of them are currently available in industrial engineering.

The essential parts of every rolling mill are rolls, working stands, a manipulator provided just before each working stand and an induction motor.

Rolls can be classified as small working rolls, which do the actual rolling and two large backing rolls , which serve to give support to the smaller ones. The drive is taken directly to the smaller rolls.

The rolls may be either of steel or cast iron consisting of a body or barrel and the neck. The body of the roll may be a simple cylinder or may be grooved , if a piece is to be rolled to a definite shape.

In conclusion it should be said that one of the main advantages of rolling is that large pieces of metal can be rolled on rolling mills.