МТ-6

I’m a student of Bauman Moscow State Technical University. I study at Mechanical Engineering Technologies faculty. My specialized department is Machines and Technology of Plastic Working of Metals.

The Department AM-6 and now MT-6 was organized in 1933. The Department deals with forging, pressing and stamping processes and their automation. It is also involved in designing highly productive machinery and press lines

First of all I’d like to say a few words about famous scientists who organized our Department.

The Department “The Machines and Treatment by Pressing” was organized by prof. Zimin in 1930.

The most valuable results were obtained in the 1950s - 1970s by talented scientists. For example, prof. Zimin designed hydroscrew press hammers, prof. Storozhev - hydraulic and crank presses, prof. Unksov - pneumatic hammers, prof. Bocharov - impact action forge- stamping machines. The head of the Department prof. Popov formed the basis for the theory of sheet stamping. Prof. Ovchinnikov made a great contribution to the development of metal- forming theory.

A lot of metalworking processes have been developed for certain applications such as rolling, extrusion, drawing, forging and others. I’ll tell you about forging.

Forging is the term for shaping metal by using localized compressive forces.It is a very ancient process and it was first used to make jewelry, coins and various articles by hammering metal with tools made of stone.

Nowadays forging operations can be hand and machine ones. Hand forging is carried out on anvils with the aid of hand forging tools. Machine forging is done under forge hammer blows or on presses.Open and closed die operations can be used in forging.

One and the same part can be forged by different methods and on different forging machines. And it is always necessary to ensure high-quality, high productivity and complete safety at work. The process of making a part by forging consists of three main operations. They are: 1) selecting and preparing the stock for forging; 2) heating the metal; 3) forging the stock to the requisite shape and dimensions.

After forging metals become stronger, they have improved properties and enhanced structure.And as a rule forged parts (or forgings) are superior or equal to parts produced by other metal working methods. Moreover production time and cost are very often reduced by forging. Forging can be cold or hot depending on the temperature of a billet. Cold forging is done at room temperatures or near room temperature. Hot forging is done at high temperature, which makes metal easier to shape and less likely to fracture.

Depending on the method of production of forgings forging processes are divided into hammer, press, and rolled types.

Forgings usually require further processing to achieve a finished part and can range in weight from less than one kilogram to 170 metric tons.

Forging process is extremely important in the machine-building industry. No machine, whether simple or complicated, can be built without the use of forgings. Forging technologies are widespread in automobile andrailroad machinery, ship-building, aerospace, oil field applications, hand tools and hardware; ordnance and general industrial equipment.

In conclusion I’d like to add that my future job as a mechanical engineer will be concerned with machinery of all kinds. It is known that production engineering is the national treasure of any country. The level of its development predetermines the potential and efficiency of all kinds of industry. Graduates of our faculty occupy leading positions in research, design and manufacturing enterprises of the main branches of industry.