



Definitions Before Retrofit

RAW MATERIAL YARD

The Raw Materials household consists of stacks/ piles of iron ore, coke, coal etc. which are then used in the steel producing process. The raw materials are operated with horizontal excavators and transported to the end of use with the help of conveyor belts.

BLAST FURNACE

A blast furnace is a type of metallurgical furnace used for smelting to produce hot metal. In a blast furnace, fuel (coke), ores, and flux (limestone) are continuously supplied through the top of the furnace, while a hot blast of air is blown into the lower section of the furnace through a series of pipes so that the chemical reactions take place throughout the furnace as the material falls downward. The end products are hot metal and slag phases tapped from the bottom, and waste gases from the top of the furnace.

STEEL SHOP (with Converter)

A „classic” Steel Shop, with „converter(s)” is using the method of primary steelmaking in which carbon-rich hot metal is made into steel. Blowing oxygen through liquid hot metal lowers the carbon content of the alloy and changes it into low-carbon steel. The process is known as basic because fluxes of burnt lime or dolomite, which are chemical bases, are added to promote the removal of the impurities and protecting the lining of the converter.

CONTINUOUS CASTING

In Continuous Casting, liquid steel is poured into a tank from which the liquid then descends into a quarter-circle shaped tube. As it descends, the steel cools and solidifies. On exiting the tube, the steel is cut into long, parallelepiped-shaped pieces, named slabs, which are cooled, stored, and become raw material for rolling mills.

ROLLING MILLS

Rolling mills are production lines where slabs are heated and passed through several rolling cylinders. As a result of these passes, the steel thins and elongates. At the end of the line, the steel strip is cut into sheets or rolled into cylinders, according to customers' requests. Rolled steel can be coated with zinc or paint.



Definitions After Retrofit

Human Resources

The Human Resources function ensures the relationship between employees and the company. Employees can obtain specific services, documents, information, request training and professional development courses, discuss their career path and obtain data about available jobs.

The Scrap Yard

The Scrap Yard is a platform where pieces of scrap steel are collected, sorted by size and characteristics, and loaded into wagons or trucks to be sent to the Steel Works for melting. The scrap metal is operated with the help of cranes with tongs or powerful magnets.

GREEN ENERGY PRODUCTION PLANT

In the new green energy production capacity, electricity is obtained directly from the Sun, through photo-voltaic panels or from the wind, with the help of wind turbines. Thus, the energy produced does not have a carbon footprint, as is the case with electricity obtained by burning fossil fuels.

POWER DISTRIBUTION PLANT

The power distribution plant collects the electricity produced by both the Sun and the wind and distributes it to the Electric Arc Furnace, rolling mills and other users. This function also receives and distributes the energy brought from the national electricity grid and ensures the balancing of the consumption of different types of electricity.

Electric Arc Furnace

An electric arc furnace is a furnace that heats the steel by means of an electric arc. In electric arc furnaces, the charged material (the scrap, basically) is directly exposed to an electric arc, and the current from the electrode terminals passes through the charged material.