The Complete Technology Book on Hot Rolling of Steel

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The hot rolling technology is the most widely used method of shaping metals and is particularly important in the manufacture of steel for use in construction and other industries. In metalworking, rolling is a metal forming process in which metal stock is passed through a pair of rolls. Rolling is classified according to the temperature of the metal rolled. If the temperature of the metal is above its re crystallization temperature, then the process is termed as hot rolling. The hot mills using plain rolls were already being employed by the end of the seventeenth century. But the industrial revolution in the nineteenth century saw a new horizon in steel making process, with the considerably expanded markets for rods, rails and structural section, provided further impetus to the development of hot rolling. The basic use of hot rolling mills is to shape up the larger pieces of billets and slabs into narrow and desired forms. These metal pieces are heated over their re crystallization temperature and are then moved between the rollers so as to form thinner cross sections. Hot rolling mill thus helps in reducing the size of a metal thereby molding it into the desired form and shape. Rolling mills perform the function to reform the metal pieces such as billet and ingot whilst maintaining its well equipped micro structure into bar, wire, sheet, strip, and plate. Hot rolled products are frequently categorized into plain carbon, alloy, high strength alloy, dual phase, electrical and stainless steels.
This book provides a descriptive illustration of pre treatment of hot metal, the basic principles of heat treatment, types of hot rolled products, principles of measurement of rolling parameters, steel making refractories, performance characteristics of transducers, causes of gauge variation , main factors affecting gauge performance, gauge control sensors and actuators, automatic gauge control systems, strip tension control system in cold mills, flat rolling practice cold rolling, pack rolling, steelmaking refractories, refining of stainless steels, special considerations in refining stainless steels etc.
This book is a unique compilation and it draws together in a single source technical principles of steel making by hot rolling process up to the finished product. This handbook will be very helpful to its readers who are just beginners in this field and will also find useful for upcoming entrepreneurs, engineers, personnel responsible for the operation of hot rolling mills, existing industries, technologist, technical institution etc.

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