

# **Steel, Iron, Ferrous, Non-Ferrous Metals with Casting and Forging, Aluminium, Ferroalloys Technology**

[The Complete Technology Book on Hot Rolling of Steel](#)

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI147

**Pages:** 656

**ISBN:** 9788190568586

**Price:** Rs. 1,575.00 US\$ 150.00

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.

# [The Complete Book on Ferrous, Non-Ferrous Metals with Casting and Forging Technology](#)

**Author:** NIIR Board of Consultants and Engineers

**Format:** Paperback

**Book Code:** NI148

**Pages:** 504

**ISBN:** 9789381039014

**Price:** Rs. 1,575.00 **US\$** 150.00

The Casting and Forging product is playing a greater role in our everyday lives and is essential than it has ever been. The Casting and Forging industry fortunes is largely dependent on the level of activity within the construction (building and non-building) and automotive sectors. Ferrous and non ferrous metals and its alloys accounts for a large portion of all metal production. Metal ingots and billets are formed by a casting process. The Casting process has traversed a long path and impacted human civilization for nearly five millennia. For any metal casting process, selection of right alloy, size, shape, thickness, tolerance, texture, and weight is very vital. Casting process involves melting the metal to be used, pouring it into a mould, letting it cool and then knocking out the casting. On the other hand, forging is one of the oldest known metal working processes. Forging technology occupies a very important place among all the manufacturing processes as it produces parts with excellent properties and with minimal wastage. Forging involves the use of machinery with a hammering or pressing action to convert basic shapes into a pre-determined form. Forging has the capacity to refine the grain structure and improve the physical properties of the metal. Forging products are consistent, without the defects of porosity, inclusion or voids, and finishing operations like machining, coining, sizing, straightening or surface treatments can also be easily done. This handbook gives a concise description of the fascinating on the state-of-the-art technology of the casting and forging process of metals and metal alloys. This book contains precise details on production of ferrous and non ferrous metals, its casting and forging process along with their alloys. It is hoped that this book will find very helpful to all its readers who are just beginners in this field and will also find useful for existing industries, technocrats, technical institutions, etc.

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## [Steel Rolling Technology Handbook \(2nd Revised Edition\)](#)

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI167

**Pages:** 576

**ISBN:** 9788178331690

**Price:** Rs. 1,775.00 **US\$** 150.00

The steel industry has had a long history of development, yet, despite all the time that has passed, it still demonstrates all the signs of longevity. The steel industry is expanding worldwide. The economic modernization processes in these countries are driving the sharp rise in demand for steel.

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. Being a core sector, steel industry reflects the overall economic growth of an economy in the long term. Also, steel demand, being derived from other sectors like automobiles, consumer durables and infrastructure, its fortune is dependent on the growth of these user industries. Steel consumption is forecast to grow annually by about 5%–6%. This handbook describes different classes of steel making processes, welding processes and plant & machinery suppliers with their photographs.

Techniques of steelmaking have undergone vast changes in scale and new processes have been developed to meet the demands of speed, quantity and quality. There are various hot mills involved in the production of steel plate mill, hot strip mill, bar and rod mills etc. This handbook deliberated on the fundamental of mechanical working and its theory in a very simpler way. In addition it describes statistical methods of quality control, total quality management, quality assurance & raw material which are used in making of steel. The major contents of the handbook are fusion welding processes, grinding and abrasive processes, width change by rolling and pressing, metallurgical defects in cast slabs and hot rolled products, primary steel-making processes, optimization and control of width change process, fundamentals of metal casting, steel making technology, basic principles of width change, plate mills, hot strip mills, quality assurance, testing and inspection, bar and rod mills. It will be a standard reference book for professionals, entrepreneurs, those studying and researching in this important area and others interested in the field of steel rolling.

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## [The Complete Technology Book on Aluminium and Aluminium Products](#)

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI186

**Pages:** 672

**ISBN:** 8178330156

**Price:** Rs. 1,450.00 US\$ 150.00

Aluminium, the second most plentiful metallic element on the earth, became an economic competitor in engineering applications as recently as the end of 19th century. It was become a metal for its time. Aluminium possesses many characteristics that make it highly compatible with recycling. It is resistant to corrosion and it thus retains a high level of metal value after use, exposure, or storage. Once produced, it can be considered a permanent resource for recycling, preferably in to similar products. It is essentially a soft and weak metal which has to be strengthened by alloying with suitable elements. The elements which are added to aluminium in appreciable quantities to increase its strength and improve other properties are surprisingly limited to only four, namely, magnesium, silicon, copper and zinc. These are added singly or in combination. It is theoretically 100% recyclable without any loss of its natural qualities. It is the most widely used non ferrous metal. The applications of aluminium are grown in many fields for example; electric conductors, windows and building components, aircraft, foil packaging etc. It has a major role in packaging industry especially in pharmaceuticals. It includes different types of packaging; unit packaging, bunch wrapping, strip packaging, thermoformed unit packaging and sachets Aluminium alloys with a wide range of properties are used in engineering structures. Aluminium alloys are divided into two major categories; casting compositions and wrought compositions. Further differentiation for each category is based on the primary mechanism. The most commercially mined aluminium ore is bauxite, as it has the highest content of the base metal. The primary aluminium production process consists of three stages. First is mining of bauxite, followed by refining of bauxite to alumina and finally smelting of alumina to aluminium. India has the fifth largest bauxite reserves with deposits 5% of world deposits. Indian share in world aluminium capacity rests at about 3%; it will touch almost 13% to 15% of the growth rate. This book basically deals with aluminium production, heat treatable and non heat treatable alloys, properties of cast aluminium alloys, testing of liquid & solidification contraction of aluminium alloys, trends in the improving economic use of aluminium, laboratory investigation of carbon anode consumption in the electrolytic production of aluminium, alumina extraction from a

pennsylvania diaspora clay by an ammonium sulfate process, the recovery of alumina from its ores by a sulfuric acid process, initial softening in some aluminium base precipitation hardening alloys, basic properties of aluminium foil, how to select a flexible foil packaging laminate, printing on aluminium foil, designing aluminium foil packs etc. The present book covers the need within the industrial and academic communities for up to date information about production of aluminium and extrusion process due to the ever increasing use of this technology. The book provides concepts in the different areas of extrusion technology. It is hoped that its presentation will be very helpful to new entrepreneurs, technocrats, research scholars, libraries and existing units.

# The Complete Book on Construction Materials

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI190

**Pages:** 672

**ISBN:** 9788190439831

**Price:** Rs. 1,475.00 **US\$** 150.00

Construction industry is the largest consumer of material resources, of both the natural ones (like stone, sand, clay, lime) and the processed and synthetic ones. Each material which is used in the construction, in one form or the other is known as construction material (engineering material). No material, existing in the universe is useless; every material has its own field of application. Stone, bricks, timber, steel, lime, cement, metals etc. are some commonly used materials by civil engineers. Selection of building material, to be used in a particular construction, is done on the basis of strength, durability, appearance and permeability. The stone which is used in the construction works, in one form or another is always obtained from the rocks. The rocks may be classified in four ways; geological classification, physical classification, chemical classification and classification based on hardness of the stone. Various kind of rocks come under these classification for example; igneous rocks, plutonic rocks, sedimentary rocks, silicious rocks, stratified rocks etc. brick is the most commonly used building material which is light, easily available, uniform in shape and size and relatively cheaper except in hilly areas. Bricks are easily moulded from plastic clays, also known as brick clays or brick earth. Bricks can be moulded by any of the three methods; soft mud process, stiff mud process and semi dry process. There are various kinds of bricks; specially shaped bricks, burnt clay bricks, heavy duty bricks, sand lime bricks, sewer bricks, refractory bricks, acid resistant bricks etc. lime is an important building material, it has been used since ancient times. Lime is used as a binding material in mortar and concretes, for plastering, for manufacturing glass, for preparing lime sand bricks, soil stabilization etc. Concrete is a construction material obtained by mixing a binder (such as cement, lime, mud etc.), aggregate (sand and gravel or shingle or crushed aggregate), and water in certain proportions. Based on the binding materials, the common concretes can be classified as; mud concrete, lime concrete, cement concrete and polymer concrete. World demand for cement and concrete additives is projected to increase 8.3 percent annually in next few years. This book basically deals with rock and stone, formation of rocks, classification of rocks, geological classification, metamorphism physical classification of rocks, chemical classification, classification based upon hardness of



the stone composition of stone (rock forming minerals), igneous rock forming minerals, sedimentary rock forming minerals, texture of the rocks, types of fractures of rock, uses of stone, natural bed of stone, aluminium and magnesium alloys, mechanical properties of a partially cured resin, DMA characterization, chemical advancement of a partially cured resin, differential scanning calorimeter characterization, chemical mechanical relations, moisture content as a variable, wettability and water repellency of wood, fungal and termite resistance of wood etc. The book provide wide coverage of building materials such as stone, bricks, lime, mortars, concrete, asbestos, gray iron, cast iron, steel castings, aluminium, wood, architectural paints and so many others with their applications in building construction. The book is resourceful for all professionals related to construction field, technocrats, students and libraries.

## [Directory/ Database/ List of Metals & Minerals Companies / Industries in India \(4th Edition\)](#)

**Format:** CD-Rom

**Book Code:** NID108

**Price:** Rs. 4,897.00 **US\$** 150.00

Offline Business directory is the best thing in today's business world. If you are searching for Buyers, then this Directory/Database is the perfect tool for you. By having the right business leads, you would be able to have immediate communication with prospective businesses, partners and customers through this boundless list of Metals & Minerals Companies / Industries in India in excel format, .xls We offer an extensive suite of Directories/ database to assist you in reaching the right businesses and people quickly and easily. Business Directories are used for sales planning, finding Buyers and marketing research to perform business analysis. With our company database/Directory, you will have access to company list. You will find a business list consisting of company contact details. We compiled list of companies in excel format to give you access to over hundred thousands of major & minor businesses and companies. From small business to Corporate Houses, our data is complete with business contact information to help you connect with the right companies or buyers. This database collection is a great resource for those suppliers who offer their goods and services to Metals & Minerals Companies / Industries like, Companies, Industries, Manufacturers, Traders, Buying Houses, Buying Agents, Traders, Wholesalers, Retailers, Cargo Shipper, Clearing Agents, Travel Agents, Custom House Clearing Agents, Bank, Money Exchanger, Packaging Material Suppliers, Plant & Machinery Suppliers, Office Equipment Suppliers, Office Furniture Suppliers, Mobile Companies, Raw Material Suppliers, Advertisement Agencies, Office Stationery Suppliers, Transporters, Courier Companies, IT, Software Companies, Placement Companies, Labour Contractors etc. Information in this database contains over 29,100 records of Metals & Minerals Companies / Industries in India. Details Includes: Company Name (29,100), Contact Person (17,000), Postal Address (29,400), Phone No. (27,200 Landline or Mobile), Fax (8,500), E-mail (24,100), Website (5,500). Note: All Records does not contain all fields of information. However, maximum information has been incorporated. Format: MS Excel, .xlsx

**The Complete Technology Book on Steel and Steel Products  
(Fasteners, Seamless Tubes, Casting, Rolling of Flat Products &  
others)**

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI206

**Pages:** 576

**ISBN:** 8178330180

**Price: Rs. 1,625.00 US\$ 150.00**

Iron and steel have played a leading role in the development of human civilization and their techniques. Together with its derivative, steel, iron has no real rival in its particular fields of application and has become a synonym of progress, being an essential element in mankind's greatest technological achievements. It was at the origin of the industrial and scientific revolutions and at the heart of all the great discoveries which have marked the history of humanity from the manufacture of high quality swords in ancient times to today's architectural wonders. Steel is an alloy that consists mostly of iron and has carbon content between 0.2% and 2.1% by weight, depending on the grade. Carbon is the most common alloying material for iron, but various other alloying elements are used, such as manganese, chromium, vanadium, and tungsten. 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. Steelmaking is the second step in producing steel from iron ore. Processing of steel results in special steel products with required properties, for example; vacuum treated steel for forging ingots; pre-strengthened stress-relieved elongated steel, metallurgical addition products, forging powder alloy steels, etc. Fasteners are used to join and hold two or more pieces of metal either temporarily or permanently. Some of the most common are bolts, screws, nuts, rivets and pins. Packaging steels differ from other sheet products particularly in terms of their thickness, mechanical properties and coatings, together with their aptitude to satisfy specific industrial and marketing requirements related to high production rates, design factors etc. Small-gauge welded tubes have an extremely wide range of applications, including metallic roof frames, mechanical construction in public work and industrial engineering sector, agricultural machinery, fluid distribution circuits, pistons, etc. India is among the top producers of all forms of steel in the world. Easy availability of low-cost manpower and presence of abundant reserves make India competitive in the global setup. The steel industry in India has witnessed an increase in demand due to expanding oil and gas sectors, huge spending on infrastructural facilities coupled with growth in housing, consumer durables and auto sectors. This book basically deals with structural changes in steel during hot

rolling, structural changes during reheating, kinds of grain restoration process, dynamic restoration process, static restoration process, effect of initial grain, size of static recrystallization, effects of temperature and micro alloying, fundamental principles of the metal rolling process, preparing and heating the initial materials, preparations for rolling heating before rolling operations, bolt and nut manufacturing technology, casting of steel for flat products etc. The present book covers different important aspects of steel processing with the casting method of steel for flat products, rolling of rails, wheels and rings, rolling of different steel products, production of fasteners, welded pipes, steel products for the building trade and many more. The book is very useful for everybody who wants the thorough study on steel and steel products or wants to diversify in to this field.

**Directory / Database of Indian Corporate/Leading Companies in  
Base Metals (Iron & Steel, Copper, Nickel, Aluminium, Lead, Zinc,  
Tin) with Financial Figures (6th Edition)**

**Format:** CD-Rom

**Book Code:** NID138

**Price:** Rs. 6,313.00 **US\$** 200.00

Products Covered: 1. Iron & Steel: (Pig Iron, Sponge Iron, Ferro Alloys, Ferrous Products, Waste, Scrap, Granules, Crude Steel, Flat, Long, Ingot, Billets, Special Steel, Stainless Steel, Sheet, Casting, Forging, Tube, Pipe, Pipe Fittings, LPG Cylinder, Wire & Rope, Chain, Nails, Screw, Bolt, Nut, Rivet, Washer, Threaded, Non Threaded Article, Fastener, Spring, Swing Needle, Table, Kitchen Articles of Iron & Steel, Sanitary Ware, Transmission Tower) 2. Copper: (Refined Copper & Alloys, Waste & Scrap, Powder & Flakes, Bars, Rod & Profiles, Wire, Brass Wire, Plates, Sheets Strips, Foil, Tube & Pipes, Wire & Cables, Nails, Staples, Screws, Washers, Springs, Kitchen ware) 3. Nickel: (Alloys, Waste & Scrap, Powder & Flakes, Bars, Rod & Wire, Plates, Sheets Strips, Foils, Tube & Pipes) 4. Aluminium: (Alloys & Ingots, Waste & Scrap, Powder & Flakes & Paste, Bars, Rod & Profiles, Wire, Plates, Sheets Strips, Foil, Tube & Pipes, Castings, Structures, Doors Windows, Tanks, Containers, Extruded Bottles, Wire & Cables, Kitchen Ware, Pressure Cooker, Utensils) 5. Lead: (Pig Lead, Unrefined, Refined, Waste & Scrap, Bars, Rod & Profiles, Plates, Sheets Strips, powder, Tube & Pipes) 6. Zinc: (Alloyed, Waste & Scrap, Dust, Powder & Flakes, Bars, Rod & Profiles, Plates, Sheets Strips, Foil, Tube & Pipes) 7. Tin: (Alloys, Waste & Scrap, Bars, Rod & Profiles, Plates, Sheets Strips, Foil, Tube & Pipes, Containers) 8. Other Base Metals: (Tungsten, Molybdenum, Tantalum, Cobalt, Bismuth, Cadmium, Titanium, Zirconium, Antimony, Manganese, Metal Sludge) Contains: 2,476 records with following information: Name of Company, Address, City, Pin Code, Phone, Fax, Email (2,055), Website (1,080). Name of Directors, Location of Plants, Project Capacity, Production, Name of Products, Turnover, Product industry Code, List of Major Raw Materials with their consumption quantity & Raw material value, credit ratings. Comparison amongst companies ( Cash Flow, Cost as % of sales, Forextransactions, Growth in Assets & Liabilities, Growth in Income & Expenditure, Income & expenditure, Liabilities, Liquidity Ratios, Profitability Ratio, Profits, Return Ratios, Structure of Assets & Liabilities (%), Assets, Working Capital & Turnover Ratios) (\*Wherever available) Note: All Records does not contain all fields of information. However, maximum Information has been incorporated. Format: MS Excel

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## [The Complete Book on Non-Ferrous and Precious Metals with](#)

## [Electroplating Chemicals](#)

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI256

**Pages:** 558

**ISBN:** 9788178331737

**Price:** Rs. 1,975.00 **US\$** 52.95

Non-ferrous metals are those which don't have any iron content. These are specified for structural applications requiring reduced weight, higher strength, nonmagnetic properties, higher melting points, or resistance to chemical, atmospheric corrosion and also for electrical and electronic applications. A precious metal is a rare, naturally occurring metallic chemical element of high economic value. Although they have industrial uses, they are better known for their uses in art, jewellery and coinage. Depending on the end use, metals can be simply cast into the finished part, or cast into an intermediate form, such as an ingot, then worked, or wrought, by rolling, forging, extruding, or other deformation process. Electroplating is a procedure that uses electrolysis to apply a thin layer of a metal over the surface of another metal. Electroplating chemicals are used to change the surface properties of an object such as abrasion and wear resistance, corrosion protection, lubricity, etc. This chemical is widely demanded in automotive, electronics, telecommunications, aerospace and precision engineering industries. This handbook explains different extraction and production processes with flow diagrams of various non ferrous and precious metals. Major contents of the book are Silver, Gold, Copper, Complex salts of copper, silver and gold, magnesium, chromium, platinum group of metals, nickel, zinc, lead, aluminium, mercury, cobalt, sodium, sodium chloride, soda ash, sodium sulfate, glauber salt, hydrochloric acid, sodium silicate, sodium sulfides, sodium thiosulfate, sodium bisulfate, anhydrous, sodium hyposulfite, liquid chlorine, hydrides of boron, silicon, sulfuric acid, nitric acid, ammonium nitrate, hydrazine, hydrogen cyanide, melamine, amines, aniline, isocyanates, phosphorus, tin, ferroalloys, manganese, bismuth, cerium, phosphoric acid, tungsten, niobium and tantalum etc. It will be a standard reference book for professionals, entrepreneurs, engineers, those studying and researching in this important area and others interested in the field of non ferrous, precious metals and electroplating chemicals.

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## [The Complete Book on Ferroalloys \(Ferro Manganese, Ferro](#)



**Molybdenum, Ferro Niobium, Ferro Boron, Ferro Titanium, Ferro Tungsten, Ferro Silicon, Ferro Nickel, Ferro Chrome)**

**Author:** B.P Bhardwaj

**Format:** Paperback

**Book Code:** NI258

**Pages:** 480

**ISBN:** 9789381039298

**Price:** Rs. 2,775.00 US\$ 250.00

The Complete Book on Ferroalloys (Ferro Manganese, Ferro Molybdenum, Ferro Niobium, Ferro Boron, Ferro Titanium, Ferro Tungsten, Ferro Silicon, Ferro Nickel, Ferro Chrome) An alloy is a mixture or solid solution composed of metals. Similarly, Ferroalloys are the mixture of Iron with high proportion of other elements like manganese, aluminium or silicon. Alloying improves the physical properties like density, reactivity, Young's modulus, electrical and thermal conductivity etc. Ferroalloys thus show different properties as mixture of different metals in different proportion exhibit a wide range of properties. Also, Alloying is done to alter the mechanical properties of the base metal, to induce hardness, toughness, ductility etc. The main demand of ferroalloys, nowadays is continuously increasing as the major use of such products are in the field of civil construction; decorative items; automobile; steel industry; electronic appliances. The book provides a wide idea to readers about the usage of appropriate raw material and the treatment involved in the processing of raw material to final produce, safety, uses and properties of raw material involved in the processes. This book concisely presents the core principles and varied details involved in processing of ferroalloys. The work includes detailed coverage of the major products like ferroaluminium, ferrosilicon, ferronickel, ferromolybdenum, ferrotungsten, ferrovanadium, ferromanganese and lesser known minor ferroalloys. Progress in thermodynamics and physico-chemical factors in ferroalloy production has developed rapidly during the past twenty-five years or so. The book presents the principles and current knowledge of processes in the production of various ferroalloys. The production of a particular ferroalloy involves a number of processes to be followed in order to give the alloy desired physical and mechanical properties. The slight difference in the temperature or heating or composition can lead to entirely different alloy with different properties. This book is not only confined to the different processes followed in the production of ferroalloys but also describes the processes used and other information related to product, which are necessary for the manufacturer's knowledge. Also, the book gives the reader appropriate knowledge regarding the selection the best of available raw materials.

# Steel and Iron Handbook

**Author:** B.P. Bhardwaj

**Format:** Paperback

**Book Code:** NI259

**Pages:** 472

**ISBN:** 9789381039304

**Price:** Rs. 1,775.00 US\$ 150.00

Modern civilization as people know it would not be possible without Iron and Steel. Iron has been a vital material in technology for well over three thousand years. However, since ancient times, steel is made by alloying iron with carbon to produce a harder, stronger metal that will take a much keener edge. Owing to its intense connections with core infrastructural segments of the economy, steel industry is of high priority and importance. Steel has probably the widest range of applications of any material. The wide range of alloy compositions, mechanical properties and product forms available make it a versatile material that is used in components and products that may be small or large, high-tech or low-tech, everyday or specialist. In an introduction to modern steel making, an attempt has been made to cover, as the space would permit, the entire field of steel making with equal emphasis on the general practices and the underlying principles. This book is intended as a resource and as an introduction to the layman about our most important metal system. This book provides basic information covering every aspect of iron and steel production as well as a practical aid for workers engaged in the field. After an introduction that deals with the history and production of iron and steel, the rest of the book examines their physical properties and metallurgy. Beginning with a brief introduction to the ferrous alloys and metals, types and production of cast iron, production of compacted Graphite Irons, Ductile Iron, Malleable Cast Iron and current status of steel making together with the reasons for obsolescence of Bessemer converter and open hearth processes, the book moves on to: elaborate the physiochemical principles involved in steel making; explain the operational principles and practices of the modern processes of primary steel making (LD converter, Q-BOP process, and electric arc furnace process); provide a summary of the developments in secondary refining of steels; discuss principles and practices of ingot casting and continuous casting of steels; discusses the defects in the steel produced and also the remedies for their removal. This book provides considerable information in an easily assimilable form and makes an ideal introduction to the complex subject of steel technology.

## [Handbook on Steel Bars, Wires, Tubes, Pipes, S.S. Sheets Production with Ferrous Metal Casting & Processing](#)

**Author:** B.P. Bhardwaj

**Format:** Paperback

**Book Code:** NI260

**Pages:** 408

**ISBN:** 9789381039311

**Price:** Rs. 1,775.00 US\$ 150.00

Ferrous materials have made a major contribution to the development of modern technology; they span a tremendous range of properties and applications. Reflecting the industrial practices, the information provided here offers easy access to reliable processes involved in the manufacturing of Steel products like Steel Bars, Wires, Tubes, Pipes, Sheets etc that proves to be the backbone of construction and automobile industries booming worldwide. The work closes the gap in the treatment of steel and cast iron. Each chapter takes into account the gradual transitions between the two types of ferrous materials. It demonstrates that ferrous metal and steel are versatile and customizable materials which will continue to play a key role in the future and also covers the operations performed on ferrous metals for converting them into a commodity. The book provides a full characterization of steel, including structure, chemical composition, classifications, physical properties, production practices of different steel products, processing of ferrous metals and so on. It will prove to be a layman's guide for the entrepreneurs who are willing to invest in the ventures related to Iron and Steel Industries, as it contains information related to processing of ferrous metals and production practices followed in Steel products manufacturing units. The text discusses the importance and objectives of processes and material used for the production of disposable products. Many examples have been provided to illustrate the concepts discussed. The topics covered in the book are: Casting of Ferrous Metals, Heat Treatment of Ferrous Metals, Stamping Process of Ferrous Metals, Forming Process of Ferrous Metals, Machining Process of Ferrous Metals, Joining Process of Ferrous Metals, Production of Stainless Steel Wire, Production and Fabrication of Steel Bars, Steel Tube & Pipe, Stainless Steel Sheet and Different Grades of Stainless Steel.

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## [Importers Directory of Ferrous – Non Ferrous Metal & Metal Products \(World Wide /International Buyers Database\) 3rd Edition](#)

**Format:** CD-Rom

**Book Code:** NID198

**Price:** Rs. 4,307.00 **US\$** 150.00

ABOUT: Today much of the world's economy is based on the ability of countries to import and export goods to each other. This global economy is vital to allowing the exchange of technology and goods and relies upon a network of importers and exporters to ensure that goods can flow freely and be available to meet the ever growing demand of the public. In order to keep track of the most reputable importers, we have created Database of Importers. Perhaps no other question is asked more frequently by exporters than "Where and how can I find importers?? Database of Importers is a perfect starting point for international exporters, manufacturers, traders and merchants looking to establish direct contacts with overseas customers. This Directory contains the latest and complete information about your potential business partners in several countries. The importers information listed in Buyers Directory has been collected from very reliable sources like electronic media, embassies and different association of concerned countries .Having in view the export promotional programme, our dedicated team has compiled Buyers Directory with hard work, efforts and devotion. The Directory contains the most comprehensive database of importer information. We at NPCCS collect data from around the world, and then classify the raw data into the kind of intelligent categories that companies around the world use to:

- Find new importers, new markets and new business opportunities
- Enhance international trade
- Support sales & marketing.

Importers Directory of Ferrous – Non Ferrous Metal & Metal Products (World Wide /International Buyers Database) 3rd Edition (Iron & Steel, Copper, Nickel, Zinc, Aluminium, Tungsten, Molybdenum, Cobalt, Titanium, Ferrous - Non Ferrous Metals, Manganese, Ferro Silicon, Steel, Cast Iron, Utensils, Locks, Saws, Cutting Tools, Knives, Hammers, Razors, Scissors, Aluminium & Foils, Steel Pipes & Tubes, Screw) Contains: Over 3,300 Importers / Foreign Buyers. Details include Company's Name, Contact Person (2,100), Address (3,300), Phone (3,150 Landline/ Mobile), E-Mail (3,100), Fax (2,650), Website (1,200) and Product Description. Note: All Records does not contain all fields of information. However, maximum information has been incorporated. Format: MS Excel

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## **Global and India Aluminum Easy Open End Market**

**Author:** Ajay Kumar Gupta

**Format:** CD-Rom

**Book Code:** NI324

**Pages:** 75

**ISBN:** 9788195075560

**Price:** Rs. 177,000.00 **US\$** 4,500.00

Global and India Aluminum Easy Open End Market- Growth Rate, Covid 19 Impact, Economic Impact, Size, Share, Trend, Drivers, Competitive Landscape, Opportunity, Limitations, Technological Landscape, Regulatory Framework, PESTEL Analysis, PORTERs Analysis and Demand Forecast upto 2027

India aluminium easy open ends market stood at USD 38 million in 2019 and is likely to reach USD 45 million by the end of 2027 by registering a CAGR of 5.51% during the forecast period, 2020-2027. It is due to the surge in demand for aluminium easy open ends for the packaging of bottled water, carbonated soda drinks, and non-carbonated soda drinks, will augment the growth of the aluminium easy open end industry in the forecast periods. Additionally, the increasing population rate, urbanization, industrialization, and the upsurge in the use of aluminium easy open ends to prevent tampering, contamination, and counterfeiting are expected to foster the aluminium easy open end market growth. The aluminium easy open end has distinct features, including lightweight, stackable, strong, and resistant to transportation, hermetically sealed cover, and easy recyclability, allowing brands to package and transport more beverages & food using less material. The increasing easy open ends application in-home care products & cosmetics industries and rising awareness regarding food safety amongst consumers will bolster the growth of global and India aluminium easy open end market shares in the coming years. Moreover, increasing the shelf life of products and increasing awareness of using environment-friendly materials with decreasing pack sizes will stimulate the market share. Furthermore, the increasingly stringent government regulations for food security and the rising emphasis on reducing the amount of plastic packaging will accelerate the growth of the global and India aluminium easy open end industry.

**Size Overview in the Global Aluminum Easy Open End Market**

Based on the size, the global aluminum easy open end market is segregated into 50 mm, 52 mm, 57 mm, 63 mm, 65 mm, 73 mm, and others. The 50 mm segment is estimated to witness the highest growth over the analysis timeframe due to the growing consumption and need for ready-to-eat food and reducing package serving sizes as an intervention strategy to control food intake.

**Size Overview in the India Aluminum Easy Open End Market**

Based on the size, the Indian aluminum easy open end market is segregated into 50 mm, 52 mm, 57 mm, 63

mm, 65 mm, 73 mm, and others. The 50 mm segment is estimated to witness the highest growth over the analysis timeframe due to the rise in demand for convenience packs and consumer mindfulness over calorie counting. Type Overview in the Global Aluminum Easy Open End Market Based on the type, the global aluminum easy open end market is categorized into standard ends, ring-pull ends, and others. The standard ends segment accounted for the significant market share in 2019. It is due to its cost-effective and easy to open design and compatibility with the contents. Additionally, it provides an effective seal and complies with the product. Type Overview in the India Aluminum Easy Open End Market Based on the type, the Indian aluminum easy open end market is categorized into standard ends, ring-pull ends, and others. The standard ends segment held for a significant market share in 2019 and will witness to gain maximum market revenue by 2027. It is attributable to its broad application in various end-use industries such as pharmaceutical and food & beverage industries.

Application Overview in the Global Aluminum Easy Open End Market Based on the application, the global aluminum easy open ends market is bifurcated into food and beverages. The beverage segment is further sub-segmented into sport & energy drinks, juices & smoothies, beer, and others. The beverages segment old the largest market share in 2019 and are estimated to generate maximum revenue by 2027. It is owing to the expanding demand for aluminum easy open ends for the ready to eat food products, beer-beverage, and packaging food cans. Application Overview in the India Aluminum Easy Open End Market Based on the application, India aluminum easy open ends market is bifurcated into food and beverages. The beverages segment accounted for largest market share of 70% in 2019 and likely to generate highest revenue USD 31 million by 2027. It is due to the massive demand for aluminum easy open ends for the packaging of carbonated soda drinks, non-carbonated soda drinks, energy drinks, and bottled water.

Region Overview in the Global Aluminum Easy Open End Market By geography, the global aluminum easy open end market segmented into North America, Europe, Asia Pacific, South America, and Middle East & Africa. North America anticipated dominating the market by 2027 due to many small and medium aluminum caps & closures manufacturer's presence, rising awareness about product security & safety, and increasing demand for single-portion packs.

Country Overview in the India Aluminum Easy Open End Market By country, the India aluminum easy open end market segmented into North India, West India, South India, and East India. North India anticipated dominating the market by 2027 due to growing disposable earnings of



consumers, increasing population rate and expanding food & beverage sector. Global and India Aluminum Easy Open End Market: Competitive Landscape Companies such as Easy Openends India Pvt Ltd, Easy Open Lid Industry Corp Yiwu, Sonoco Products Company, Silgan Holdings, Scan Holdings Private Limited, Crown Holdings Inc, and Smart Packaging are the key players in the global and Indian aluminum easy open end market About Us: NIIR PROJECT CONSULTANCY SERVICES (NPCS), an ISO 9001:2015 company is one of the leading reliable names in industrial world for providing one of the most comprehensive suites of technical consulting services. We at NPCS are dedicated with passion and enthusiasm for helping young entrepreneurs is a real encouragement to proceed with a business start-up right from providing basic information to technology evaluation, sourcing and assimilation of detailed project reports, market survey studies and research through our advanced Industrial, Business and Commercial Databases. NPCS is a well-known technical consultancy providing focused services and we have been following stringent system and procedure to ensure only top quality strictly in conformity with delivering the needs of our clients in this rapidly growing & changing market. We have a full fledge of highly qualified Technical Consultants, Engineers, Economist and Technologists specialized in various disciplines and we take great pride in working as a team, and share the common goal of exceeding excellence. Our team is behind the success of many clients in their investment. Over the years, NPCS has become a well-known name in the industrial world for delivering a wealth of technical services and solutions to clients, both large and small. We provide the services through comprehensive knowledge of equipment and practices through our excellent team at a very economical price.

# Manufacture of Electrical Cables, Wire and Wire Products Handbook

**Author:** P.K. Tripathi

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Manufacture of Electrical Cables, Wire and Wire Products Handbook (Copper Wire, Barbed Wire, Spring, Wire Nail, Wire Mesh, Fiber-Optic Cable, PVC Wire and Cable, Aluminum Wire, Steel Wire Rope, Galvanised Wire, Coaxial Cable, Litang Cable LAN/Ethernet Cable, Power Cord Cable, Submersible Cable, XLPE Cable with Machinery Equipment Details & Factory Layout) The Electrical Cables, Wire and Wire Products Handbook has been written with a dual purpose in mind: the first is to provide information on the actual assembly of cables, wire, and wire products; the second is to serve as an initial reference handbook for electrical cable, wire, and wire products designers. A successful business needs a good foundation. This handbook will provide you with the basics on electrical cables, wire and wire products. You'll learn about the different types of cables, how they're made and what goes into making a quality product. Plus, you'll get an overview of the factory layout and machinery involved in the manufacturing process. With this knowledge in hand, you'll be well on your way to starting a successful business. Explore the possibilities! Learn about production of different types of wires

The global wires and cables market size was estimated at growth rate (CAGR) of 4.4%. The global copper wire market reached a CAGR of 5.70%. The global spring market size at a CAGR of 4.5%. Global Wire Mesh Market size valued at a CAGR of 3.5%. The global fiber optic cable market a CAGR of 14.5%. The CAGR for the plastic coated steel wires market is 6.28%. The global Aluminum Wire market is forecasted to grow at a rate of 3.3%. The global steel wire rope & plastic rope market size at a CAGR of 8.0%. The global hot-dip galvanized steel wire market is expected to grow at a CAGR of 4.5%. The global coaxial cables market size is expected growth rate (CAGR) of 9%. The global ethernet cable market size a CAGR of 11.3%. The global power cables market size a CAGR of 6.8%. The global market for Electric Submersible Cables growing at a CAGR of 3.5%. The global XLPE Cables market size is estimated a CAGR of 5.0%. The market demand for wire and wire products is constantly growing. This is due to the increasing need for electrical power and the ever-growing telecommunications industry. The manufacture of electrical cables, wire and wire products is a highly specialized process that requires the use of sophisticated machinery and equipment. Examples of this are extruders, crimpers, cutters, heat treaters and insulation

converters. These are all machines used in the production of specific types of wire and cable such as copper wire, aluminum wire or fiber optic cable, Barbed Wire, Wire Nail, PVC Wire, Steel Wire. There are also many other types including galvanized steel wire rope, steel springs and metal mesh screens. The Manufacture of Electrical Cables, Wire and Wire Products Handbook is a comprehensive guide everything from the conception of your business to the execution of your product. This book provides detailed instructions on how to start a business, including how to write a business plan, and how to manufacture your product. The book covers the manufacture of electrical cables, wire and wire products. It includes production of copper wire, barbed wire, spring wire nail, wire mesh, fiber-optic cable, PVC wire and cable, aluminum wire, steel wire rope, galvanized wire, coaxial cable, litang cable LAN/ethernet cable, power cord cable, submersible cable, XLPE cable with machinery equipment details & factory layout.

# About NIIR

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