

Aluminium Metal and Aluminium Products

**Cast Aluminium Alloys, Alumina Extraction,
Aluminium Conductor, Aluminium Foil, Flexible
Foil Packaging Laminate, Aluminium Foil Packs,
Printing on Aluminium Foil, Beneficiation of
Bauxite, Aluminium Die Castings**

Introduction

Aluminium plays a major role in the modern world through its innumerable forms of applications- from kitchen ware to electric conductors and from railway wagon to Appollo spacecraft. Because of its intrinsic and versatile properties of lightness, strength to weight ratio, corrosion resistance, electrical and thermal conductivity, non toxicity etc., a wide range of uses has opened up for this metal. Aluminium as a packaging material is unmatched owing to its light weight, hygienic and non-contamination which eventually results in longer shelf-life of end products. Aluminium is an attractive material and there is strong competition among the various aluminium producers with regard to product development, new solutions for customers and continuous cost reductions.

On the industrial side, aluminium is heavily used in electrical power transmission, machinery and equipment, and construction. Housing, in particular, makes heavy use of the lightweight material as a substitute for steel and wood in doors, windows and siding. On the consumer side, aluminium is used in a variety of retail products, including cans, packaging, air conditioners, furniture and vehicles. Aluminum also has the advantage of a practically infinite capacity for recycling, making it a choice solution in terms of environmental protection. The use of secondary aluminum, employing rejects or aluminum products at the end of their life cycle, requires only 5% of the power required to produce the primary metal.

Aluminium and its alloys are vital to the aerospace industry and important in transportation and structures, such as building facades and window frames. The oxides and sulfates are the most useful compounds of aluminium. Aluminium is a relatively soft, durable, lightweight, ductile, and malleable metal with appearance ranging from silvery to dull gray, depending on the surface roughness. It is nonmagnetic and does not easily ignite.

Aluminum, with its affordable production cost, is undeniably an exceptional and very versatile metal. Its future holds the promise of still unsuspected qualities that will attract even more attention to this “grey” gold.

Indian aluminium industry is a highly concentrated industry with the top 5 companies constituting the majority of the country's production. With the growing demand of aluminum, the industry is also growing at an enviable pace. In fact, Aluminum production in India is currently outpacing the demand.

The global requirement is estimated at around 7.4 million tons, against the consumption in India as only around 110,000 tons. India's share in the global downstream sector is low as compared to other developed countries. India has nearly 10% of the world's bauxite reserves and a growing aluminium sector that leverages this. Demand in the domestic market is expected to grow by 8-10%; India is expected to have an installed aluminum capacity of 1.7 to 2 million tons per annum by 2020.

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.

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 diaspore 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.

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201.0

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DIRECTORY SECTION

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AN ISO 9001:2008 COMPANY

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We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.

What do we offer?

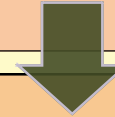
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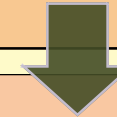
- *We have two decades long experience in project consultancy and market research field*
- *We empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
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Our Approach

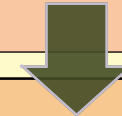
Requirement collection



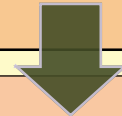
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Economic feasibility study of the Project



Market potential survey/research



Report Compilation

Who do we serve?

- *Public-sector Companies*
- *Corporates*
- *Government Undertakings*
- *Individual Entrepreneurs*
- *NRI's*
- *Foreign Investors*
- *Non-profit Organizations, NBFC's*
- *Educational Institutions*
- *Embassies & Consulates*
- *Consultancies*
- *Industry / trade associations*

Sectors We Cover

- *Ayurvedic And Herbal Medicines, Herbal Cosmetics*
- *Alcoholic And Non Alcoholic Beverages, Drinks*
- *Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin*
- *Activated Carbon & Activated Charcoal*
- *Aluminium And Aluminium Extrusion Profiles & Sections,*
- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*

- *Bamboo And Cane Based Projects*
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- *Biodegradable & Bioplastic Based Projects*
- *Chemicals (Organic And Inorganic)*
- *Confectionery, Bakery/Baking And Other Food*
- *Cereal Processing*
- *Coconut And Coconut Based Products*
- *Cold Storage For Fruits & Vegetables*
- *Coal & Coal Byproduct*

- *Copper & Copper Based Projects*
- *Dairy/Milk Processing*
- *Disinfectants, Pesticides, Insecticides, Mosquito Repellents,*
- *Electrical, Electronic And Computer based Projects*
- *Essential Oils, Oils & Fats And Allied*
- *Engineering Goods*
- *Fibre Glass & Float Glass*
- *Fast Moving Consumer Goods*
- *Food, Bakery, Agro Processing*

- *Fruits & Vegetables Processing*
- *Ferro Alloys Based Projects*
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- *Ginger & Ginger Based Projects*
- *Herbs And Medicinal Cultivation And Jatropha (Biofuel)*
- *Hotel & Hospitality Projects*
- *Hospital Based Projects*
- *Herbal Based Projects*
- *Inks, Stationery And Export Industries*

Sectors We Cover *Cont...*

- *Infrastructure Projects*
- *Jute & Jute Based Products*
- *Leather And Leather Based Projects*
- *Leisure & Entertainment Based Projects*
- *Livestock Farming Of Birds & Animals*
- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
- *Medical Plastics, Disposables Plastic Syringe, Blood Bags*
- *Organic Farming, Neem Products Etc.*

Sectors We Cover *Cont...*

- *Paints, Pigments, Varnish & Lacquer*
- *Paper And Paper Board, Paper Recycling Projects*
- *Printing Inks*
- *Packaging Based Projects*
- *Perfumes, Cosmetics And Flavours*
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Sectors We Cover *Cont...*

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- *Real Estate, Leisure And Hospitality*
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- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
- *Steel & Steel Products*
- *Textile Auxiliary And Chemicals*

- *Township & Residential Complex*
- *Textiles And Readymade Garments*
- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

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