

Cement, Asbestos, Ceramics, Bricks, Limestone and Construction Materials Manufacturing Technology

[The Complete Book on Glass and Ceramics Technology](#)

Author: NIIR Board of Consultants & Engineers

Format: Paperback

Book Code: NI163

Pages: 624

ISBN: 8178330334

Price: Rs. 1,275.00 **US\$** 125.00

The technology of glass ceramics are now a day wide field involving a great variety of raw materials, manufacturing processes, as well as products, and of considerable diversity in theoretical background. The manufacture of traditional glasses and ceramics is based on the utilization of the most widely occurring natural raw materials. Glass is an inorganic product that is typically produced by melting a mixture of silica, soda and calcium compound with the desired metallic oxides that serve as colouring agents. The glass industry covers products such as silicate glasses, phosphate glasses, germanate glasses, halide glasses, nitrate glasses etc. Glass products are used widely in households, construction, laboratories and consumer items such as bangles, beads, pearls, etc. A ceramic is an inorganic, nonmetallic solid prepared by the action of heat and subsequent cooling. Ceramic materials may have a crystalline or partly crystalline structure, or may be amorphous (e.g., a glass). Because most common ceramics are crystalline, the definition of ceramic is often restricted to inorganic crystalline materials, as opposed to the noncrystalline glasses. Commercial application of glass ceramics are dinnerware, fine mesh screens, cookware, burner covers, semiconductor doping sources etc. The domestic glass industry is facing increasing competition in the global, as well as domestic markets. State of the art technology in manufacturing is becoming increasingly important in the industry. Modern technology and operations are replacing traditional methodologies in fibre glass composites. The demand for ceramic and glass products is growing globally with over 90 percent of the total demand for advanced ceramic materials coming from electronic goods and allied industries, thanks to the product ability to withstand extreme environmental conditions. This book majorly deals with types of glasses, silicate glasses, boric oxide and borate glasses, phosphorus pentoxide and phosphate glasses, germanium dioxide and germanate glasses, titanate glasses, nitrate glasses, glasses based on water, halide glasses, modern glass working, monax and pyrex glass, electric welding, photo electric cells, glassy metals, analysis of glass, glass ceramics, ceramics as electrical materials, analysis of ceramics etc. The technology of glass ceramics are now a day wide field involving a great variety of raw materials, manufacturing processes, as well as

products, and of considerable diversity in theoretical background. The manufacture of traditional glasses and ceramics is based on the utilization of the most widely occurring natural raw materials. The efforts have been made to provide maximum and latest information about processing of glass and ceramics and their products in this book. This book is an invaluable resource for entrepreneurs, technocrats, manufacturers of glass and ceramic products, research scholars, technical institutions etc.

All India Construction Materials Manufacturers & Suppliers Database/Directory

Format: CD-Rom

Book Code: NID86

Price: Rs. 2,950.00 **US\$** 200.00

Contains : Over 5400 records with Name, Addresses, City, State, Pin, Phone, Fax, E-mail*, Products.

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.

[The Complete Technology Book on Bricks, Cement and Asbestos](#)

Author: NPCS Board of Consultants & Engineers

Format: Paperback

Book Code: NI193

Pages: 720

ISBN: 9788190439862

Price: Rs. 1,400.00 US\$ 150.00

Bricks, cement and asbestos have major role in building and road construction. Construction industry is the largest consumer of material resources, of both the natural ones (like stone, bricks, cement, 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. A brick is a block of ceramic material used in masonry construction, usually laid using various kinds of mortar. It has been regarded as one of the longest lasting and strongest building materials used throughout history. Brick is the most commonly used building material which is light, easily available, and 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; silica bricks, carbon bricks, magnesite bricks, dolomite bricks, alumino silicate bricks, refractory bricks, etc. Cement is a binder, a substance that sets and hardens independently, and can bind other materials together. The most important use of cement is the production of mortar and concrete the bonding of natural or artificial aggregates to form a strong building material that is durable in the face of normal environmental effects. Cement is made by heating limestone (calcium carbonate) with small quantities of other materials (such as clay) to 1450 °C in a kiln, in a process known as calcination, whereby a molecule of carbon dioxide is liberated from the calcium carbonate to form calcium oxide, or quicklime, which is then blended with the other materials that have been included in the mix. The resulting hard substance, called clinker, is then ground with a small amount of gypsum into a powder to make Ordinary Portland Cement, the most commonly used type of cement (often referred to as OPC). Asbestos is a set of six naturally occurring silicate minerals used commercially for their desirable physical properties. Asbestos mineral have an almost unique combination of physical and chemical properties. The most widespread modern uses of asbestos are in fireproof textiles, papers and boards and in brake and clutch linings for many kinds of vehicle and machinery. The

three main kinds of asbestos which have had wide commercial exploitation are chrysolite, amosite and crocidolite. Some of the major contents of the book are moulded and ornamental bricks and blocks, including copings and lintels, cutters and rubbers, fireplace bricks, fire bricks and other refractory bricks mixing, tempering mills or wet pans, the addition of water, souring, de airing, shaping the bricks, bricks made of calcined clay or grog, silica bricks, transition temperatures of silica on cooling, alumino silicate bricks, magnesium silicate bricks (forsterite bricks), high alumina bricks, spinel bricks, developments in refractory brick, production of cement clinker, introduction, preparation of kiln feed, wet and semi wet processes, dry and semi dry processes, pyroprocessing: principal manufacturing processes, wet and semi wet processes, dry processes, semi dry (lepol) process, clinker cooling, refractories, electric power consumption , plastic moulding by machinery the machine moulding process, moulding machines, the wire cut or extrusion process, selection of machinery, power, individual machines, shredding machines , grids, feeders, proportioning, proportioning feeders, crushing rolls, high speed rolls, dressing the rolls, edge runner mills, tempering mills etc. The present book contains processes of different types of bricks making, cement manufacturing and production of asbestos. The book is very resourceful for new entrepreneur, existing units, professionals, institutions related to building construction, research scholars etc.

[Public & Pvt. Ltd. Companies of India \(3rd Edition\)](#)

Format: CD-Rom

Book Code: NID124

Price: Rs. 6,785.00 **US\$** 300.00

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[Directory / Database of Corporate/Leading Companies in Indian Cement Sector \(with Financial Figures\) 5th Edition](#)

Format: CD-Rom

Book Code: NID141

Price: Rs. 4,484.00 **US\$** 150.00

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[Directory / Database of Indian Corporate/Leading Companies in Non-Metallic Mineral Products \(Silica Minerals, Abrasives, Stone, Mineral Phosphate, Magnesium Carbonate, Gypsum & Plasters, Limestone, Mica, Granite etc.\) with Financial Figures \(3rd Edition\)](#)

Format: CD-Rom

Book Code: NID172

Price: Rs. 6,136.00 US\$ 225.00

PRODUCTS COVERED: CEMENT, ASBESTOS, ABRASIVES Cement & Clinker, Products of Cement, Concrete, Asbestos-Cement Products, Millstone, Grindstone, Limestone, Abrasive Powder, Slag Wool, Rock Wool, Asphalt, Bitumen, Coal Tat Pitch, Earthen Wares & Plaster Products, Mica Products, Gypsum Board, Micro Abrasive Power CERAMIC PRODUCTS Bricks, Blocks, Refractory Bricks, Tiles, Ceramic Materials, Fibre, Pipe GLASS & GLASSWARES Float Glass, Glass Articles, Glass Cullet, Fiber Glass, Sheet Glass, Mineral Glass Sheet, Broken Glass PEARLS & PRECIOUS STONES Pearls, Diamond, Rough Diamonds, Semi Finished Diamonds, Cut & Polished Diamonds, Synthetic Semi Precious Stones, Gold Ornaments & Jewellery, Semi Finished Jewellery. Contains: 573 records Includes: Name of Company, Address, City, Pin Code, Phone, Fax, E-mail*, Website*. 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 Comparison amongst companies (Assets, Cash Flow, Cost as % of sales, Forex Transaction, Growth in Assets & Liabilities, Growth in Income & Expenditure, Income & expenditure, Liabilities, Liquidity Ratios, Profitability Ratio, Profits, Return Ratios, Structure of Assets & Liabilities (%), 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

[Directory/Database of Builders, Developers, Building Materials, Construction & Building Contractors in India \(3rd Edition\)](#)

Format: CD-Rom

Book Code: NID173

Price: Rs. 4,484.00 **US\$** 200.00

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Format: MS Excel

[Directory / Database of Corporate/Leading Companies in Indian Mining and Construction Equipments \(Earth Moving Machinery, Material Handling Equipments, Lift and Elevators, Cranes, Drilling, Oil and Gas Field Equipments\) with Financial Data \(3rd Edition\)](#)

Format: CD-Rom

Book Code: NID182

Price: Rs. 5,192.00 **US\$** 200.00

"Contains: 139 records Includes: Name of Company, Address, City, Pin Code, Phone, Fax, E-mail*, Website*. 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 Comparison amongst companies (Assets, Cash Flow, Cost as % of sales, Forex Transaction, Growth in Assets & Liabilities, Growth in Income & Expenditure, Income & expenditure, Liabilities, Liquidity Ratios, Profitability Ratio, Profits, Return Ratios, Structure of Assets & Liabilities (%), 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 "

[The Complete Technology Book on Asbestos, Cement, Ceramics and Limestone](#)

Author: Dr. H. Panda

Format: Paperback

Book Code: NI297

Pages: 592

ISBN: 9788178331669

Price: Rs. 1,875.00 US\$ 150.00

Asbestos is the generic term for a group of naturally occurring fibrous minerals with high tensile strength, flexibility, and resistance to thermal, chemical and electrical conditions. Asbestos fibers are of high-tensile strength, flexible, heat and chemical resistance, and good frictional properties. Cement is the most essential raw material in any kind of construction activity. Ceramics also known as fire clay is an inorganic, non-metallic solid article, which is produced by the art or technique of heat and subsequent cooling. Limestone is a sedimentary rock, mainly composed of calcium carbonate (CaCO₃). It is the principal source of crushed stone for construction, transportation, agriculture, and industrial uses. Emerging applications in commercial sectors such as asbestos, cement and ceramic are poised to fuel demand in the coming years. Growing demand for limestone in the production of cement as well as in several other chemicals that are used in the production of high-value every-day products offers significant opportunities for growth. Global Limestone consumption is projected to reach 5.7 billion tons and expected to grow at an average annual rate of 4–5% in coming years. Presently, cement production is 330 million tonnes and expected to double to reach almost 550 million tonnes in future. The major contents of the book are asbestos, monitoring and identification of air-borne asbestos, asbestos in industrial applications, asbestos – cement products, non – occupational asbestos emissions and exposures, cements, mortars and concrete, raw materials, additives and fuels for cement, processes of manufacturing of cement, cement based on natural and artificial pozzolanas, fast-setting cements, special portland cements, packing of cement, storages of cement, ceramics, lime & limestone, glass & glass ceramics etc. It describes the manufacturing processes and photographs of plant & machinery with supplier's contact details. 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 these industries.

About NIIR

NIIR PROJECT CONSULTANCY SERVICES (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

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