Formulation and Manufacturing Process of Adhesives, Glues and Resins

(Glues of Animal Origin, Fish Glues, Animal Glues, Amino Resin Adhesives, Epoxy Resin Adhesives, Phenolic Resin Adhesives, Rosin Adhesives, Alkyd Resins, Hydrocarbon Resins, Polyurethane Resins)

Introduction

An adhesive or glue is a material, usually in a liquid or semi liquid state, that adheres or bonds items together. Adhesives come from either natural or synthetic sources. The types of materials that can be bonded are vast but they are especially useful for bonding thin materials. Adhesives cure (harden) by either evaporating a solvent or by chemical reactions that occur between two or more constituents. Animal glues are essentially high polymer proteins; these glues find application in a wide range of industrial uses. Fish glue as the name indicates, is obtained as the byproduct of the fish skin industry, was the first liquid glue that reached commercial importance and was forerunner of all household glues.

Resins are used in the manufacture of adhesives, paints and number of other products. Polyesters are thermosetting and thermoplastic resins for various applications. Due to high cost they are used with other resins for the application of adhesives. Polyamide resins used in adhesives can be divided into four used classes; thermoset adhesives, nylon epoxy adhesives, thermoset plastic adhesives and thermoplastic thermoset adhesives. The adhesives industry has found its place in many industries and will surely spread to many other fields. It is used in building, electrical, automobile, aircraft and aerospace industries. The future advancement and consumption are practically beyond mental comprehension.

Even today, as ones surroundings are observed, the use of adhesives, glues and resins are associated with almost every product that is marketed. While use of all adhesives has increased, the greatest gain has occurred in the synthetic resin category. The synthetic resin adhesive is the most important for packaging uses. Pressure sensitive adhesive is a fast growing segment of the industry. This field includes products designed for the industrial trade but which can, by minor modification, be marketed through the hardware dealer and variety store. Adhesives for this growing market range from the simplest glues and mucilage for furniture making and repair, to metal to metal bonding for frame construction.

Adhesives are the most adaptable bonding agents available in the market, which remained unaffected by the recent global slowdown due to their application in a wide variety of end-user industries. The major allied industries for adhesives include packaging, woodworking and construction industry. India adhesives market has recorded strong growth during the period FY'2010-FY'2015 and is expected to sustain its rapid growth during the next five years.

The adhesive industry was dominated by a few industrialized countries. Now, a significant portion of new demand is being generated by emerging countries such as China. The next major growth country could be India. Market fragmentation continues as new adhesive demand is generated from a supply and demand standpoint.

The demand growth is also supported by the emergence of new market applications that result from changing substrates and evolving assembly processes. Increasing use of adhesives in automotive manufacturing contributes to overall growth in the global adhesive resins market. The construction sector, automotive market, and medical adhesives market have all seen growth or resurgence that is contributing to a projected increase in the world-wide market for adhesive resins. Adhesives offer distinct advantages over mechanical fastening, sewing, and thermal bonding. Adhesives can bind diverse materials, distribute stress evenly across a joint and reduce cost. In addition, adhesive bonds are often more aesthetically pleasing and contribute to the value of consumer products.

Asia-Pacific is the biggest and the fastest growing region due to the growing demand for adhesive resins in India, China, Japan, South Korea, and Australia. North America is a matured market and is expected to grow with a CAGR till 2020. The adhesive resin market demand, in terms of value and volume, depicts the current and future projections according to the parallel economic and industrial outlook.

Some of the fundamentals of the book are glues of animal origin, fish glues, manufacture of animal glues, casein glues and adhesives, spray dried melamine formaldehyde resins, epoxy resin adhesives, specialty epoxy resins & derivatives, polychloroprene resin adhesives, phenolic resin adhesives, resorcinolic adhesives, ethylene copolymer hot melt adhesives, isocyanate adhesives, polyamide adhesives, rosin adhesives, silicone adhesives and sealants, applications in pressure sensitive adhesives, starch adhesives, acrylic adhesives and sealants, pressure sensitive adhesives, amorphous polypropylene and petroleum resin, alkyd resins, use of alkyds in trade sales finishes, etc.

The present book covers manufacturing aspects of various adhesives, glues and resins. This will be very helpful to new entrepreneurs, technocrats, technical institutes and existing units.

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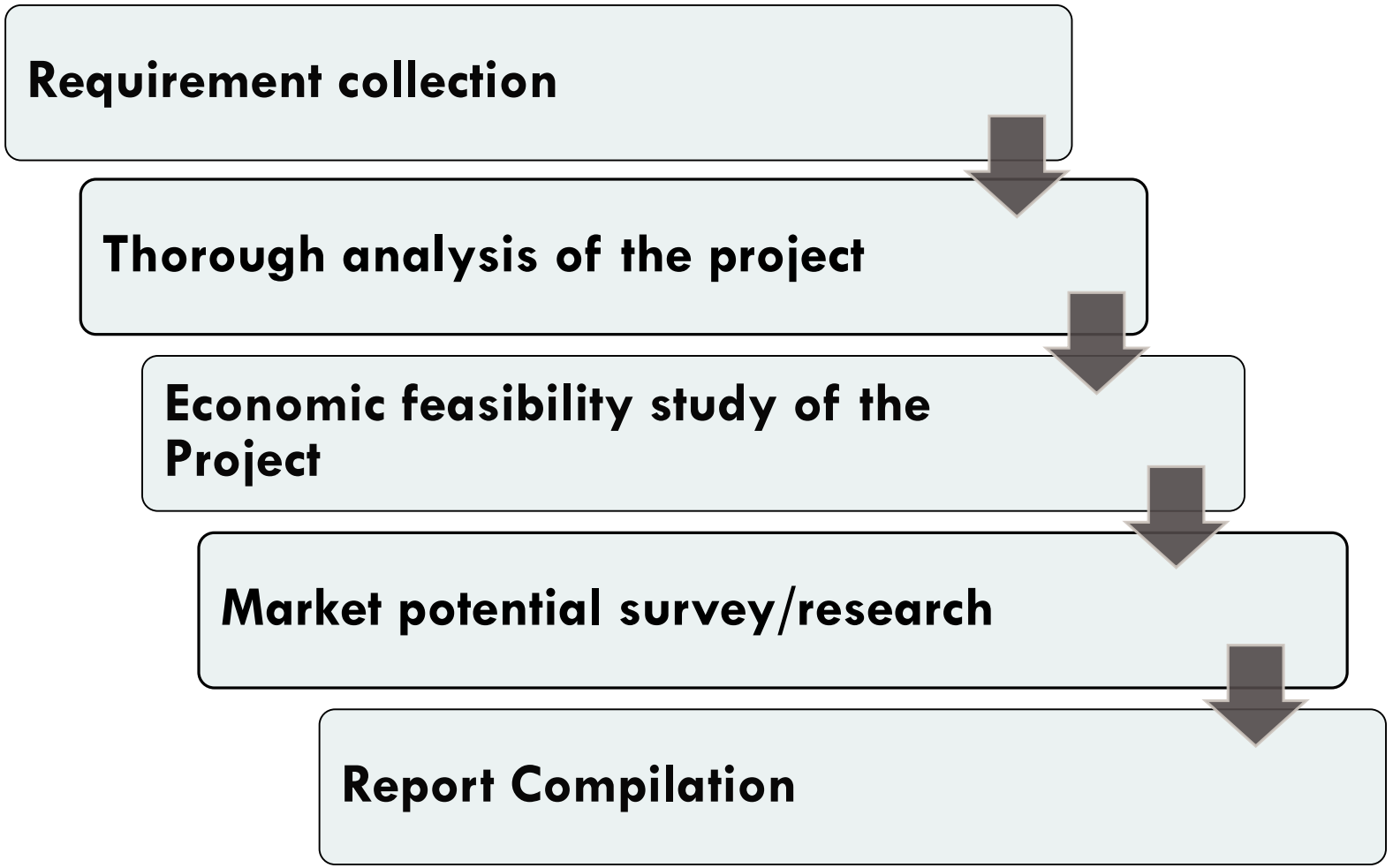

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- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
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- *Organic Farming, Neem Products Etc.*

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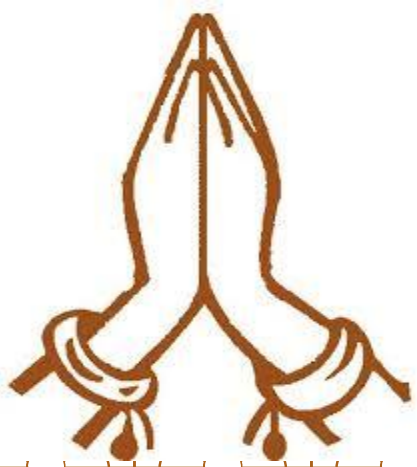

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