Modern Technology of Plastic Processing Industries (2nd Edition)

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Plastics are contemporary, synthetic materials. Plastics are oil and gas based, and consumes less than four per cent of our oil and gas reserves. Plastic in fact saves the energy it takes less energy to convert into plastic from raw materials. Throughout their whole life circle one-third less energy needs than making paper bags. Without plastic, whole packaging would take almost double energy by around 160 percent. The better-quality properties of plastics such as sanitized or germ free barrier properties, light weight, and durability contribute appreciably to our health and quality to way of life.

The Plastic industry has been witnessing a continuous increase in demand from a long time attracting many towards it. To all those who are looking forward for a proper understanding of technology and methodology used in the plastic industries so that they could penetrate into plastics industries with a consideration of the current industry trend then this book provides you about certain very essential information about Plastic. PVC can be processed by all the conventional conversion processes as used for other thermoplastics but with some modifications. This book covers an intensive study of Current Trends in Conducting Polymers with a significant and detail explanation of thermosetting, thermoplastic material and products environment health and the future prospects.

The content of the book includes information about plastic and allied products equipped with latest technology. It also includes comprehensive information on the development of the sector and manufacturing process. The several chapters of the book contain information about: Processing of PVC, Applications of PVC and so on. The book also has chapter that will provide you with some very interesting, feasible and profitable plastic project profiles that will act as guide in proper understanding and analysis of the sector. Recent Developments in Plastics Extrusion and Environment Health and Future Prospects, Constructive use of HDPE, The Processing of Fibre Re-in forced Thermo-

plastics Using Co-Rotating Twin Screw Extruders, Economical Film Extrusions with Modular Systems these are few chapters that are very informational and will help you in deep penetration of the industry. Along with these feature the book also encloses a directory section which list all major manufacturers of plastic processing machinery and raw material suppliers.

1. Current Trends in Conducting Polymers

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Synthesis and Properties
Technological Applications

Electromagnetic Shielding Applications

Electrooptical Display Devices

Microelectronic Devices

Photovoltaic Devices

Sensors

Scope of Conducting polymers

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Introuction

Kinds of Thermoset Plastics

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Resols and Novolaks

Acid and Base Catalysts

Solubility

Manufacturing of Phenolic Resins

Process (Novolak)

Application of Phenolic Resins

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Grinding Wheels (Abrasives)

Sand core bonding (Foundry)

Shellmoulds for metal castings

Wood waste boards

Impregnation

Adhesives (Plywood Glues)

Surface Coatings

Oil Varnishes

Lamp capping cement

Rubber Based Adhesives

Rubber Compounds

Tackifier

Aminoresins

Chemistry of the interaction of Urea and Formaldehyde

Methylol Ureas

Monomethylol Urea

Dimethylol Urea

U.F. Resin

Melamine-Formaldehyde Resin

Method of Manufacture

Applications of Aminoplastic Mouldings

Other Industrial Applications

The Laminating Process

Melamine Resin Adhesives

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Small market and large capacity
Factors governing the performance of Indian polymer plastic Industry
The Pragmatic policy
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Methods of Compounding

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Internal Intensive Batch Mixers

Continuous Mixer

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Single-Screw Extruders

Compounder-Extruder

Twin-Screw Extruder

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General guidelines for PVC formulations for common product

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PVC Resins

Molecular Weight

Injection Moulding

Additives for improving processing

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Higher Shear Vertical Non-fluxing Mixer

Dry Blend Properties

Low Shear and High Shear Mixing in Horizontal,

Jacketed Cylinderical Blenders

Hot Melt Compounding

Two Stage (Farrel) Continous High Intensity Fluxing Mixers

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Injection Blow Moulding

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9. Classification of Plastics

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Thermosetting Resins
Identification of Plastics

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Polyster

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About NIIR

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