COMPLETE HAND BOOK ON ADHESIVES AND ADHESION TECHNOLOGY WITH PROJECT PROFILES

The book Technology of Complete handbook on Adhesives and Adhesion Technology with project Profiles covers Rubber Bonding and Thermoplastic Elastomers, Thermoplastic Rubber (A-B-A Block Copolymers) in Adhesives, Adhesives based on Resorcinol, Adhesives based on Phloroglucinol for Medical Applications, Pressure Sensitive Adhesives for Medical Applications, Adhesives based on Fibrin, Wood Adhesives, Wood Pyrolysis or Adhesives Liquefaction, Silance and Other Adhesions, Adhesive based on Polyurethane, Adhesive Based on Vinyl Acetate (Fevicol Type), B.O.P.P. Self Adhesive Taps, Ester Gums (Food Grade), Leather to Leather Adhesive Latex based Adhesives, Synthetic Adhesive for Decorative Laminates Bonding, Liquid Adhesive for Corrugated Board & Boxes, Melamine Formaldehyde Powder, Rubber Adhesive, Thermosetting Adhesive

RUBBER BONDING AND THERMOPLASTIC ELASTOMERS

- The Solution
- Adhesive Information
- Elastomer Information
- Cure process Effects
- Bond Design Information
- Cyanoacrylate Adhesives
- Chemistry
- Advantages
- Disadvantages
- Epoxy Adhesives
- Chemistry
- Advantages
- Disadvantages
- Hot Melt Adhesives
- Chemistry
- Advantages
- Disadvantages
- Light Curing Acrylic Adhesives
- Chemistry
- Advantages
- Disadvantages
- Polyurethane Adhesives
- Chemistry
- Advantages
- silicone Adhesives
- Chemistry
- Advantages
- Disadvantages
- No Mix and Static Mix Acrylic Adhesives
- Application Method
- Chemistry
- Advantages
- Disadvantages
- Butyl rubber
- General Properties
- Typical Applications
- Chlorosulfonated polyethylene
- General Properties
- Typical Applications
- Copolyester
- General Properties
- Typical Applications
- Epichlorohydrin Rubber (CO, ECO, GCO, GECO)
- General Properties
- Typical Applications
- Ethylene Acrylic Rubber (EEA)
- General Properties
- Typical Applications
- Ethylene Propylene Rubber (EPM, EPDM)
- General Properties
- Typical Applications
- Ethylene Vinyl Acetate Copolymer (EVA)
- General Properties
- Typical Applications
- Fluorocarbon Rubber (FKM)
- General Properties
- Typical Applications
- Fluorosilicone Rubber (FVMO)
- General Properties
- Typical Applications
- Halogenated Butyl Rubber (BIIR, CIIR)
- General Properties
- Typical Applications
- Hydrogenated Nitrile Rubber (H-NBR, HSN)
- General Properties
- Typical Applications
- Melt Processible Rubber (MPR)
- General Properties
- Typical Applications
- Natural Rubber (NR)
- International Types of Natural Rubber
  - General Properties
  - Typical Applications
- Neoprene Rubber (Polychloroprene CR)
  - General Properties
  - Typical Applications
- Nitrile Rubber (NBR, XNBR)
  - General Properties
  - Typical Application
  - Typical Applications
- Polyether Block Amide (PEBA)
  - General Properties
  - Typical Applications
- Polyacrylate Rubber (ACM)
  - General Properties
  - Typical Applications
- Polytetrafluoroethylene (PTFE, TEFLON®)
  - General Properties
  - Typical Applications
- Polysulfide Rubber
  - General Properties
  - Typical Applications
- Silicone Modified EPDM
  - General Properties
  - Typical Applications
- Polyisoprene (IR)
  - General Properties
  - Typical Applications
- Polyacrylate Rubber (ACM)
  - General Properties
  - Typical Applications
- Polyol Elastomers (POE)
  - General Properties
  - Typical Applications
- Polyurethane (PU)
  - General Properties
  - Typical Applications
- Polyolefin Elastomers (POE)
  - General Properties
  - Typical Applications
- Poly(propylene oxide) Rubber (GPO)
  - General Properties
  - Typical Applications
- Silica Modified EPDM
  - General Properties
  - Typical Applications
- Silica Modified SBR
  - General Properties
  - Typical Applications
- Polyurethane Elastomers (PU)
  - General Properties
  - Typical Applications
- Styrene Butadiene Rubber (SBR)
  - General Properties
  - Typical Applications
- Styrene Terpolymers (S-TPS, S-I-S, S-EB-S)
  - General Properties
  - Typical Applications
- Thermoplastic Vulcanizates (TPV)
  - General Properties
  - Typical Applications

**THERMOPLASTIC RUBBER (A-B-A BLOCK COPOLYMERS) IN ADHESIVES**

- Formulations
- Hot Melt Pressure Sensitive Adhesives
- Pressure Sensitive Adhesive Based on S-B-S
- Hot Melt Applied Assembly Adhesives
- Heat Activated adhesives
- Contact Type Assembly Adhesives
- Contact Adhesives
• Contact Adhesive Effect of heat reactive resin
• High viscosity construction mastic
• Hot Melt Assembly Adhesive
• Sealant for concrete joints
• Binder for Carpet Backing

ADHESIVES BASED ON RESORCINOL

• Chemistry of RF Resins
• Wood Laminating and Fingerjointing Adhesives
• Resorcinol-Formaldehyde Adhesive
• Phenol-Resorcinol formaldehyde Adhesive and Powder, Liquid, or Sludge hardener
• Urea-Resorcinol Formaldehyde Adhesive
• Phenol Resorcinol Formaldehyde and Liquid hardener
• Phenol Resorcinol Formaldehyde and Liquid Hardener
• Special Adhesives of Reduced Resorcinol Content
• East Setting Adhesive for Fingerjointing and Glulam
• Branched PRF Adhesives
• Cold Setting PF Adhesives Containing no Resorcinol
• Formulation for Adhesives of Type-2

ADHESIVES BASED ON PHLOROGLUCINOL FOR MEDICAL APPLICATIONS

• Materials and methods
• Materials
• Adhesive preparation
• Adhesion properties
• Degradation of alginate
• Toxicity and biocompatibility testing
• Results and discussion

PRESSURE SENSITIVE ADHESIVES FOR MEDICAL APPLICATIONS

• Cardiac Surgery
• Thoracic Surgery
• Vascular Surgery
• Oncologic Surgery
• Plastic Surgery
• Neurosurgery
• Ophthalmologic Surgery
• Orthopedic Surgery
• Trauma Surgery
• Head and Neck Surgery
• Gynecologic and Urologic Surgery
• Gastrointestinal Surgery
• Dental Surgery
• Drug Delivery and Tissue Engineering
• Application techniques
• Available Products
• Applications

WOOD ADHESIVES
• Adhesive application to wood
• Wood adhesion
• Formaldehyde Adhesives
• Phenol Formaldehyde Adhesives
• Resorcinol and Phenol Resorcinol Formaldehyde Adhesives
• Urea Formaldehyde and Mixed Urea Formaldehyde Adhesives
• Melamine Formaldehyde Adhesives
• Isocyanates in Wood Adhesives
• Polymeric Diphenylmethane Diisocyanate
• Emulsion Polymer Isocyanates
• Polyurethane Adhesives
• Epoxy Adhesives
• Polyvinyl and ethylene vinyl acetate dispersion adhesives
• Biobased Adhesives
• Protein Glues
• Tannin Adhesives
• Lignin Adhesives
• Miscellaneous Composite Adhesion
• Construction Adhesives
• Hot Melts
• pressure Sensitive Adhesives
• Other Adhesives
• Environmental Aspects

WOOD PYROLYSIS OR ADHESIVES LIQUEFACTION

• Non adhesive Bonding
• Solid Wood Bonding by Wood welding
• Hardboard Composites

SILANE AND OTHER ADHESIONS

• Evidence for Coupling Activity
• Mechanism of Adhesion Promotion
• Chemical Bond Theory
• Deformable Layer Theory
• Surface Wettability Theory
• Restrained Layer Theory
• Reversible Hydrolytic Bond Theory
• Oxide Reinforcement
• Acid Base Reactions
• Methods of Use in Adhesive Technology
• Silanes
• Silane Coupling Reactions
• Hydrolysis of the silane group
• Condensation with the surface
• Polymerization
• Reaction with the polymer
• Nature of Silane Films on Metals and Glass
• Performance of Silanes in Adhesive Technology
• Zirconates
• Titanates
- Chromium containing Promoters
- Other Adhesion Promoters
- Phosphorus Containing Compounds
- Amines
- Organic Resins
- Miscellaneous Promoters
- Effects other than Adhesion Promotion
- Conclusions

ADHESIVE BASED ON POLYURETHANE

- Introduction
- Manufacturing Process
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum

ADHESIVE BASED ON VINYL ACETATE (FEVICOL TYPE)

- Introduction
- Manufacturing Process
- Dispersion
- Polymerization
- Addition of other ingredients
- Packing
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum

B.O.P.P. SELF ADHESIVE TAPES

- Introduction
- Manufacturing Process
- Preparation of Adhesive Mass
- Primer coat Formulation
- Primer Coal Formulation
- Adhesive Coat
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum
ESTER GUMS (FOOD GRADE)

- Introduction
- Operation
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum

LEATHER TO LEATHER ADHESIVE LATEX BASED ADHESIVES

- Introduction
- Process of Manufacture
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum

SYNTHETIC ADHESIVE FOR DECORATIVE LAMINATES BONDING

- Introduction
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum

LIQUID ADHESIVE FOR CORRUGATED BOARD & BOXES

- Introduction
- Manufacturing Process
- Formulation
- Manufacturing Process
- Manufacturing of Part A
- Manufacturing of Part B
- Mixing of Part A & Part B
- Plant Economics
- Plant & Machinery
- Fixed Capital
- Raw Materials
- Total Working Capital/Month
- Total Capital Investment
- Turn Over/Annum
MELAMINE FORMALDEHYDE POWDER

• Introduction
• Melamine Formaldehyde
• Process of Manufacture
• Melamine formaldehyde
• Raw Material Requirements
• Plant Economics
• Plant & Machinery
• Fixed Capital
• Raw Materials
• Total Working Capital/Month
• Total Capital Investment
• Turn Over/Annum

RUBBER ADHESIVE

• Introduction
• Manufacturing Process
• Plant Economics
• Plant & Machinery
• Fixed Capital
• Raw Materials
• Total Working Capital/Month
• Total Capital Investment
• Turn Over/Annum

THERMOSETTING ADHESIVE

• Introduction
• Polyvinyl Butyral Adhesives
• Formulations of Polyvinyl Butyral Based Adhesive
• Formulation No.1
• Formulation No. 2
• Plant Economics
• Plant & Machinery
• Fixed Capital
• Raw Materials
• Total Working Capital/Month
• Total Capital Investment
• Turn Over/Annum

Disadvantages