



# **Rubber Processing and Profiting**

**Compounding, Mixing,  
Vulcanization, Extrusion,  
Materials, Principles  
Rubber Products, Natural Rubber  
Processing, Rubber Reclaiming**



# Introduction

The production of rubber and rubber products is a large and diverse industry. The rubber product manufacturing industry is basically divided into two major sectors: tyre and non-tyre. The tyre sector produces all types of automotive and nonautomotive tyres whereas the non-tyre sector produces high technology and sophisticated products like conveyor belts , rubber seals etc. The wide range of rubber products manufactured by the rubber industry comprises all types of heavy duty earth moving tyres, auto tyres, tubes, automobile parts, footwear, beltings etc.



Rubber is a polymer which is majorly classified as natural rubber and synthetic rubber. Natural rubber only contains the monomers of isoprene whereas; the synthetic rubber may contain different types of monomers. Natural rubber is coagulated latex obtained from certain types of trees that are grown in the tropics. Whereas, synthetic rubber is obtained by mixing butadiene and styrene which are two by-products of petroleum refining. About 70% of rubber consumed belongs to the category of synthetic rubbers. Manufacturers of synthetic rubbers can adapt to different chemical formulations in order to meet specific requirements of end-use industries. Rubber is processed using several chemicals to manufacture useful products such as rubber mats and automobile tires.

The rubber processing chemicals help in improving the resistance of rubber against effects of heat, oxidation, sunlight, ozone and mechanical stress. Rubber processing chemicals also improve the overall process of vulcanization. Rubber processing chemicals include a wide range of products such as antidegradants, accelerators and processing aids among others.

The global rubber processing chemicals market is expected to reach USD 6.11 billion by 2024, increasing demand for rubber products, both tire, and non-tire, exhibiting excellent durability, and superior performance under extreme weather conditions, is expected to augment rubber processing chemicals demand.

There are many reasons for the growth of the rubber additives market, such as the rising number of automobiles, footwear and consumer goods industries. The automobiles sector is growing faster with an impressive CAGR owing to rise in demand for two- and four-wheelers, with rising population as the key factor for the growth of the rubber additive industry, as automobiles mainly require the rubber for manufacturing of tires. There are a number of applications of rubber, like it's used in making soles of shoes, use in tape manufacturing which is acts as a thermal insulation material and so on. Methods for processing rubber include mastication and various operations like mixing, calendering, extrusion, all processes being essential to bring crude rubber into a state suitable for shaping the final product.

The former breaks down the polymer chains, and lowers their molecular mass so that viscosity is low enough for further processing. After this has been achieved, various additions can be made to the material ready for cross-linking. Rubber may be masticated on a two-roll mill or in an industrial mixer, which come in different types.

## Compounding

- Rubber is always compounded with additives
- Compounding adds chemicals for vulcanization, such as sulfur
- Additives include fillers which act either to enhance the rubber's mechanical properties (reinforcing fillers) or to extend the rubber to reduce cost (non-reinforcing fillers)
- It is through compounding that the specific rubber is designed to satisfy a given application in terms of properties, cost, and process ability

The rubber industry has been growing tremendously over the years. The future of the rubber industry is tied to the global economy. Rapidly growing automotive sector in developing economies and increased demand for high-performance tyres are expected to contribute to the growth of the global industrial rubber market. The current scenario reveals that there is a tremendous scope for the development of rubber processing industries. The global market for industrial rubber products is projected to increase 5.8 % per year. Investment in rubber industry is expected to offer significant opportunities in the near future and realizing returns to investors willing to explore this sector.

This book deals with all aspects of rubber processing; mixing, milling, extrusion and molding, reclaiming and manufacturing process of rubber products. The major contents of the book are rubbers materials and processing, mixing technology of rubber, techniques of vulcanization, rubber vulcanization, rubber compounding, rubber reclaiming, manufacture of rubber products, latex and foam rubber, silicone rubber, polybutadiene and polyisoprene, styrene butadiene rubber, rubber natural etc. The book contains addresses of plant & machinery suppliers with their Photographs.

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 rubber processing technology.

# Table of Contents

## **1 RUBBERS: MATERIALS AND PROCESSING TECHNOLOGY**

Natural Rubber Plantation

Tapping of Rubber Latex

Preservation and Coagulation of Latex

Chemical Nature of Natural Rubber Hydrocarbon

Hydrogenated Rubber

Cyclized Rubber

Chlorinated Rubber

Rubbers from Stereo-regular Polymerization of Isoprene and Butadiene

Styrene-Butadiene Rubber (SBR)

Polychloroprene Rubber (CR)

Nitrile Rubber (NBR)

Butyl Rubber (IIR)

Ethylene-Propylene-Diene Terpolymer (EPDM)  
Polysulphide Rubber (PSR)  
Polyacrylic Rubber or Acrylate Rubber (ACR)  
Fluorocarbon Rubber (FKM)  
Introduction  
Mastication and Mixing  
Open Mill  
Internal Mixers  
Reclaimed Rubber  
Fillers  
Antidegradants  
Accelerators  
Retarders  
Activators  
Tyres  
Belting and Hoses  
Cellular Rubber Products  
Miscellaneous Applications of Rubber

Passenger Tyre  
Tube Compound for Car tyres  
Conveyor Belts  
Insulation Compound for Cables  
Shoe Soles

## **2 MIXING TECHNOLOGY OF RUBBER**

Two-roll Mills  
Internal Batch Mixers  
Continuous Mixers  
Advantages of continuous mixing  
Disadvantages of continuous mixing  
Development of the Banbury Mixer  
Operating Variables  
Ram Pressure  
Rotor Speed  
Batch Size  
Coolant Temperature

Unit Operations in Mixing  
Single-Pass Versus Multiple-Pass Mixing  
Types of Mix Cycle  
Late Oil Addition  
Upside-down Mixing  
Sandwich Mixes  
Analysis of Changes to the Mix Procedure  
Acceleration of First-pass Compound  
Mill Mixing of Speciality Compounds  
Acceleration in Line with Internal Mixing  
Testing of Raw Materials  
Elastomers as Raw Materials  
Fillers  
Plasticisers and Process Oils  
Small Ingredients  
Control of Composition  
Tracking the Mix Cycle

Compound Testing  
Basic SPC Charting  
Rheometer Data and its Meaning  
Mixing Control Software  
Peptisers in Natural Rubber  
Effects of Temperature  
Effects of Time  
Effects of Use Level  
Effects of Other Additives  
Peptisers in SBR  
Peptisers in Sulphur-containing Polymers  
Additives to Increase Viscosity  
Preventing Unwanted Chemical Reactions  
Filler Treatments  
Bin Storage Problems  
Inspection of Banbury Mixers  
Inspection at the Mezzanine Level  
Side Cooling

Rotor Cooling  
Rotors and Bearings  
Rotor Bearing Lubrication  
Dust Stops  
Drop Door and Latch  
Hydraulic System  
Grease System  
Dust Stop Lubrication  
Drive Gears  
Couplings  
Inspection of the Banbury Platform  
Ram and Cylinder  
Heating Weight  
Piston Rod  
Weight Pin Assembly  
Hopper Door  
Air Line Filter  
Hopper Operation

## Mixer Maintenance and Lubrication

Each time the mixer is started

Once per shift

Once per day

Once per week

Once per month

Every six months

## Anticipating Required Service

Dust Stop Maintenance

SSA Dust Stops

Assembly

Lapping

Running

Banbury Mixer Hydraulic Dust Stops

Assembly

Run-in

Lapping

Production

Flushing

EPDM Expansion Joint Cover

Expansion Joint Intermediate Layer

Traffic Counter Treadle Cover

SBR/IR Belt Cover

EPDM Low Voltage Electrical Connector

Peroxide-cured Black-filled EPDM Compounds

EPDM Concrete Pipe Gasket

Injection-moulded NBR Gasket

CR/SBR Blend

Low Durometer CR/SBR Blend

Non-black CR for Injection Moulding

Hard Rubber Industrial Wheel

High Durometer NBR Masterbatch

NBR/PVC Cable Jacket

NBR/PVC/SBR Blend

Butyl Masterbatch

Butyl Masterbatch, Heat Interacted

Chlorobutyl/NR Blend  
CSM CORD Jacket  
Non-black Millable Urethane  
Some Major Changes  
Tempered Water  
Power-controlled Mixing  
Energy Conservation  
Composition of EPDM Elastomers  
Variables in EPM and EPDM Elastomers  
Average Molecular Weight  
Molecular Weight Distribution  
Ethylene/Propylene Ratio  
Type of Diene  
Diene Level  
How Processing Relates to Structure and Rheology  
Practical Guidelines for Mixing EP Elastomers  
Using Internal Mixers

Polymer Composition and Form  
Filler/Oil Levels and Types  
Cure Systems  
Processing Aids  
Mixing Process  
Mixing Instructions  
Fill Factor  
Mixing Temperature  
Machine Parameters  
Ram Pressure  
Coolant Temperature  
Automation  
Machine Condition  
Downstream Processing Equipment  
Using Two-roll Mills  
Summary  
Rework

Phase Mixing  
Natural Rubber Viscosity Reduction  
Measurement of Mixing Efficiency  
Special Considerations  
Raw Materials  
Typical Formulations  
Internal Mixing  
Mill Mixing  
Summary  
Accounting Methods  
Farrel Continuous Mixer  
Operating Principles of the FCM  
Commercial Applications for the FCM  
Farrel Mixing Venting Extruder (MVX)  
Designing the Rotor  
Analysis of Dispersive Mixing

### **3 TECHNIQUES OF VULCANIZATION**

Pressureless Vulcanization

Rubber Moulding

Factors of Moulding

Mouldin

Compression Moulding

Transfer Moulding

Injection Moulding

Helicure

Buffed Tread Crumb

Incineration and Pyrolysis of Tyres

Reclaimed Rubber

### **4 RUBBER VULCANIZATION**

Physical Property Tests

Free Sulphur Determination

Solvent-swell Method

Mooney-Rivlin Equilibrium Modulus  
Differential Scanning Calorimetry  
Determination of Spring Constant  
Sulphur Vulcanization  
Peroxide Crosslinking  
Resin Vulcanization  
Electron Beam Vulcanization  
Nitroso Compounds  
Metal Oxides

## **5 RUBBER COMPOUNDING**

General Compounding Principles  
Tensile Strength  
Tear Resistance  
The Crescent Tear Test  
The Hardness of Rubber  
Set

Abrasion Resistance  
Flex Cracking Resistance  
Resilience  
Heat Build-up  
Temperature Resistance  
Tyres  
Retreading Materials  
Conveyor Belting, Transmission Belting and Hose  
Footwear  
Rubber Roller  
Medical Applications  
rings and Seals  
Rubber Blends  
Master Batches  
Choice of Rubber  
Fillers  
Vulcanizing Agents

Peptizers  
Accelerators  
Activators  
Anti-oxidants  
Retarders  
Softeners and Plasticizers  
Rubber Crumb  
Factice  
Processing Aids  
Special Purpose Additives  
Unvulcanized compound properties  
Vulcanized compound properties

## **6 RUBBER RECLAIMING**

## **7 MANUFACTURE OF RUBBER PRODUCTS**

Classification  
Components

**Parts of a Conveyor Belt**

**Cover rubber**

**Manufacturing Process**

**Finished belt testing**

**PVC Belting**

**Steel Cord Belting**

**Design of Hoses**

**Hose Manufacture**

**Braided/spiralled hoses**

**Testing of Hose**

**Constructions**

**V-Belt Manufacture**

**Main Types of Power Transmission Belts**

**Preparation of Ingredients**

**Stability of Latex Compounds**

**Manufacture of Latex Products**

Foaming and Gelling  
Vulcanization  
Classification and Terminology  
Fabric Lined Water-proof Shoes  
Canvas Shoes  
Micro-cellular Soling  
Manufacturing procedure  
Types of Mountings

## **8 LATEX AND FOAM RUBBER**

Selection of Raw Materials  
Preparation of Raw Materials  
Compounding and Design  
Maturation  
Processing and shaping  
Dipped Goods  
Latex Thread  
Vulcanisation

**Hot Air Cure**  
**Hot Water Vulcanisation**  
**Autoclave Vulcanisation**  
**Radiation Vulcanisation**  
**Ultrasonic Wave Curing**  
**Testing of Rubber Products**  
**Packing and Marketing**  
**Conclusions and Recommendations**

**Manufacture of Latex Foam**  
**Dunlop Process**  
**Mechanism of Gelling**  
**Compounding**  
**Foaming and Gelling**  
**Construction of Moulds**  
**Curing**  
**Washing**  
**Drying**

Finishing

Common Defects in Foam Making

Shrinkage

Foam Collapse

Setting

Complete Distortion of the Foam

Protein estimation protocol

Conclusion

## **9 SILICONE RUBBER**

Electronics and Electrical Industries

Silicone Rubbers to Mimic Flesh

Silicone Polymers

Silicone Rubber Elastomers

Reinforcing Fillers

Semireinforcing or Extending Fillers

Additives

Curing Agents

Mixing  
Freshening  
Moulding  
Extrusion  
Calendering  
Dispersion Coating of Fabric  
Heavy-duty Hose  
Bonding  
Bonding Unvulcanised Silicone Rubber  
Bonding Vulcanised Silicone Rubber  
Post-baking  
Condensation Cure One-component  
Condensation Cure Two-component  
Addition Cure

## **10 POLYBUTADIENE AND POLYISOPRENE**

Polyisoprene  
Cyclopolyisoprene

Gel and Branching  
Polybutadiene  
Isoprene  
Butadiene

## **11 STYRENE BUTADIENE RUBBER (SBR)**

Raw Materials  
Production of Hydrocarbon Rubber  
Manufacture of Emulsion SBR  
Vinyl Content and Blockiness  
Molecular Weight and Branching  
Manufacture of Solution SBR  
Property Control  
Branching  
Blending  
Properties  
T<sub>g</sub> Measurement  
Molecular-weight Measurement

# Dynamic Mechanical Measurements

## Applications of SBR

### **12 RECLAIMED RUBBER**

Whole Tyre Reclaim

Drab and Coloured Reclaims

Butyl Reclaim

Scrap-rubber Preparation

Reclaimed Rubber

Digester Process

Reclaimator Process

Pan Process

Engelke Process

Testing and Evaluations of Reclaimed Rubber

Millroom Operations

Special Strengths Through Reclaiming

Further Advantages of Reclaiming - Applications

## Major Uses of Reclaimed Rubber

Automobile floor mat

Semi-pneumatic tyre

Butyl inner tube

Innerliner

Carcass

Applications

Process

Characterisation of Reclaimed Waste Latex Rubber (WLR)

## 13 NITRILE AND POLYACRYLIC RUBBER

Uses of Nitrile Rubber

Mixing and Processing

Latest Developments

Composition

Raw Polymer Characteristics

Physical Characteristics

**Heat, Fluid, Low-temperature Resistance**

**Applications**

**Cure Systems**

**Reinforcing Agents**

**Plasticisers**

**Process Aids**

**Antioxidants**

**Mixing**

**Extrusion/Calendering**

**Compound Storage Stability**

**Vulcanisation**

**Bonding Characteristics**

**Solution Characteristics**

**Blends**

**Future Developments**

## **14 RUBBER NATURAL**

Agriculture  
Exploitation  
Latex Composition  
Types and Grades  
Production  
Latex Concentrate  
Processing  
Chemistry  
Physical Properties  
Economic Aspects  
Applications

## **15. ADDRESSES OF PLANT & MACHINERY SUPPLIERS**

## **16. PLANT & MACHINERY PHOTOGRAPHS**

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**Niir Project Consultancy Services**

**106-E, Kamla Nagar, New Delhi-110007, India.**

**Email: [npcs.ei@gmail.com](mailto:npcs.ei@gmail.com) , [info@entrepreneurindia.co](mailto:info@entrepreneurindia.co)**

**Tel: +91-11-23843955, 23845654, 23845886**

**Mobile: +91-9811043595**

**Fax: +91-11-23841561**

**Website :**

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**Thorough analysis of the project**



**Economic feasibility study of the Project**



**Market potential survey/research**



**Report Compilation**

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- *Activated Carbon & Activated Charcoal*
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- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*

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- *Building Materials And Construction Projects*
- *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*
- *Fertilizers & Biofertilizers*
- *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*

- *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*
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- *Organic Farming, Neem Products Etc.*

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- *Printing Inks*
- *Packaging Based Projects*
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- *Plantations, Farming And Cultivations*
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## Sectors We Cover *Cont...*

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- *Rubber And Rubber Products*
- *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)*
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## Contact us

**Niir Project Consultancy Services**

**106-E, Kamla Nagar, New Delhi-110007, India.**

**Email: [npcs.ei@gmail.com](mailto:npcs.ei@gmail.com) , [info@entrepreneurindia.co](mailto:info@entrepreneurindia.co)**

**Tel: +91-11-23843955, 23845654, 23845886**

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