

# Leather Processing & Tanning Technology Handbook

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**ISBN:** 9788190568593

**Code:** NI143

**Pages:** 592

**Price:** Rs. 1,400.00 US\$ 150.00

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within **3** days

Leather Industry has been one of the traditional industries operating at present. The hides and skins of animals are the source of leather and preserving hides and tanning them into leather has become an important industry. Leather-making is now a scientifically based industry, but still retains some of the charm and mystery of the original craft. Animal skin that has been processed to retain its flexibility, toughness, and waterproof nature is known as leather. "Leather tanning" is a general term for the numerous processing steps involved in converting animal hides or skins into finished leather.

Tanning is the final process in turning hides and skins into leather. Tanning involves a complex combination of mechanical and chemical processes. The heart of the process is the tanning operation itself in which organic or inorganic materials become chemically bound to the protein structure of the hide and preserve it from deterioration. The main chemical processes carried out by the tanner are the unhairing, liming, tanning, neutralizing and dyeing.

This indispensable handbook provides a detailed insight into the leather industry, leather processing and tanning technology with manufacturing of different forms of leather products. The book contains the manufacturing process of different forms and type of leather products like box and willow sides, glazed kid, sole leather, lace leather, belting and bag leather, chamois leather, upholstery leather, antique leather, light and fancy leather, etc. to name a few. This book will be very helpful to its readers, upcoming entrepreneurs, scientists, existing industries, technical institutions, technocrats, etc.

## Contents

1. FROM CRAFT TO INDUSTRY
2. WHAT LEATHER IS AND HOW IT IS MADE
  - Early Methods of Preparing Leather
  - The Sources of Hides and Skins
  - The Nature of Hides and Skins
  - Preparation for Tanning
  - Tanning
  - Dressing and Finishing
  - Colouring
3. THE BOOMING LEATHER INDUSTRY
  - Market

Leather Footwear Industry

#### 4. LEATHER: PUTTING BEST FOOT FORWARD

Major Importing Countries of Indian Leather and  
Leather Products

#### 5. INDIAN LEATHER INDUSTRY SHINING BRIGHT

Tanning Industry

Leather Product Industries

Role of Training Institutions

#### 6. CLARI PROCESSOR

Innovation through Engineering

Conventional Wooden Drum

Practical Wise Limitation

CLaRI Processor

#### 7. HIDES AND SKINS

Kips

Slaughtered and Fallen (Dead) Hides

Flaying

#### 8. CURING AND PRESERVATION OF HIDES AND SKINS

Wet Salting

Dry salting or Plaster Curing

Curing by Drying

Common Defects of Hides

Common Defects of Goat Skins

Defects of Sheep Skins

#### 9. OPERATIONS PRELIMINARY TO TANNING

Soaking

Liming

Deliming

Pickling

Tanning

#### 10. FINISHING OF LEATHER

Finishing of Vegetable tanned Leather

Finishing of Chrome Leather

#### 11. MANUFACTURE OF BOX AND WILLOW SIDES BY THE SINGLE BATH PROCESS OF CHROME

TANNING

Raw Hides

Green Fleshing

Soaking

Liming

Bating

Pickling

Tanning

A Combined Double and Single Bath Tannage Using Farina Liquor

Shaving

Sorting for Dyeing

Neutralization

Dyeing

Method of Making Different Types of Fat liquor

Striking Out

Setting

Drying

Damping in Sawdust

Staking

Nailing on Board

Pigmenting, Seasoning and Glazing

Boarding or Graining

Manufacture of a Cheap Class of Box and Willow Sides Known as China Chrome in Calcutta

Manufacture of Embossed Chrome Leather for Ammunition Boot Uppers

Chrome Retanned Leather for Army Boots

## 12. MANUFACTURE OF GLAZED KID

Raw Material

Soaking

Pasting for Unhairing

Liming

Deliming

Puering or Bating

Scudding

Pickling

Tanning

Neutralizing

Dyeing and Fat liquoring

Setting and Drying

Damping for Staking

Staking

Nailing the Skins

Buffing

Re staking

Clearing

Seasoning

Glazing

Ironing

Measuring

Grading and Bundling

## 13. MANUFACTURE OF CHROME SOLE LEATHER

Raw Materials

Soaking

Unhairing and Liming

Deliming

Pickling

Tanning

Neutralizing

Fat liquoring or Oiling

Process of Making Chrome Sole White

Waxed or Stuffed Chrome Sole Leather

## 14. MANUFACTURE OF CHROME PICKING BAND AND LACE LEATHER

Raw Material

Soaking

Rounding

Unhairing and Liming

Deliming

Pickling

Tanning

Samming and Shaving

Neutralizing

Fat liquoring and Stuffing

Setting, Drying and Cutting into Straps

Colouring Picking Band

Hairy Bands

Further Processes for Picking Band Leather

Chrome Tanning of Lace Leather

Chrome Belting Leather

#### 15. MANUFACTURE OF VEGETABLE TANNED SOLE LEATHER

Raw Material

Soaking

Liming

Rounding

Deliming

Tanning

Pit Tanning Process

Liquor Process of Pit Tannage

Leaching and Leach Pits

Carrying Out the Process of Liquor Tannage

Drum Tannage of Sole Leather

Finishing of the Usual Pit Tanned Sole Leather

Bag Tannage of Sole Leather

Deliming

Tanning

#### 16. MANUFACTURE OF HARNESS, SADDLERY, BELTING AND BAG LEATHER

Raw Material

Soaking

Liming

Deliming

Tanning

Yield

Currying

Rolling

Glassing

Tallowing in

Finishing

Currying and Finishing of Strap Butts

Finishing Black Harness from Crust Condition

Belting Leather

Drum Stuffing Belting Butts

Leather for Bags, Trunks, Suit cases, etc

Tanning

Finishing

#### 17. MANUFACTURE OF CHAMOIS LEATHER

Theories to Explain Chamoising

Tanning or Chamoising

Oiling and Stocking

Degreasing

Bleaching

Dyeing

Staining

Finishing

Water proofing

Combination Formaldehyde and Oil tannage of

Chamois Leather

#### 18. MANUFACTURE OF JAPANNED AND ENAMELLED LEATHER

Preparation of Leather for Japanning  
Preparation of Japan  
Villon s Formula of Japan  
Davis Recipe  
Use of Nitro cellulose in Patent Leather  
Manufacture of Chrome Patent Leather  
Rough Patent or Varnished Leather Manufactured in Calcutta  
Manufacture of Chrome Patent Leather with Various Metallic Lustres  
Abu Varnish  
Alternative Methods  
Abu Varnish (Alternative Method)

19. MANUFACTURE OF UPHOLSTERY LEATHER  
Morocco Leather for Upholstery Work:  
Manufacture of  
Upholstery Hides  
Upholstery Leather Prepared with Kepolac Coloured Lacquers  
Leather for Furniture, Carriage and Automobile Upholstery

20. MANUFACTURE OF ANTIQUE LEATHER  
Chrome Tanned Antique Leather

21. MANUFACTURE OF LIGHT AND FANCY LEATHERS  
Leathers from Calf Skins  
Velvet or Suede Calf  
Leathers from Goat Skins  
Leather from Sheep Skins  
General Method of Treating Sheep Skins  
Suede Leather from Chrome Tanned Sheep and  
Goat Skins

22. MANUFACTURE OF HALF TANNED LEATHER FOR EXPORT  
Different Barks Used in Tannage  
Methods followed in Madras for the Manufacture of  
Half tanned or Crust Leather for Export

23. TANNING OF REPTILE SKINS BY THE VEGETABLE PROCESS  
Sizes of Lizard Skins  
Dyeing and Finishing of Lizard Skins  
Other Reptile Skins  
Bleaching of Reptile Skins  
A German Process of Vegetable Tanning Reptile Skins

24. ALUM TANNING  
Typical Recipes  
Tawing and Ageing  
Calf Kid  
Clove Kid  
Dressing of Wool Rugs and Skins with Hair on

25. FORMALDEHYDE TANNING

26. WATER PIGMENT FINISHES FOR LEATHER  
Materials in Composition of Pigment Finishes  
A Few Recipes of Pigment Finishes  
Black  
Medium Brown  
Ox Blood  
White  
Names of Some Pigment Finishes on Market  
Application of Pigment Finishes

Directions for Using Eukesol Dyes  
Carpenol Pigment Finishes  
Finishing of Box and Willow Sides, i.e.,  
Full Chrome Kip Sides  
Finishing of Fully Chromed Coloured Calf Skins  
Finishing of Fully Chromed Black Box Calf  
Finishing Instructions for Hard Grain Goats  
Finishing Instructions for Glazed Goat and Sheep  
Finishing Instructions for Grain Bellies  
Finishing Instructions for E. I. Tanned Kip  
Application on Cheap Grade Leather  
Recipe of Tung Oil Emulsion  
Pigments Suitable for Leather  
27. CELLULOSE LACQUERS FOR LEATHER  
Manufacture of Cellulose Lacquers  
Solvents  
Direct Solvents  
Cellulose Nitrate Non solvents  
Thinners  
Plasticisers  
Gums and Resins  
Dyes and Pigments  
Grinding the Pigment  
Final Mixing  
Application of the Cellulose Finish  
APPENDIX I  
Principal Materials Required for Chrome Tanning  
Principal Materials Required for Vegetable Tanning  
Appendix II  
Appendix III  
Appendix IV  
Appendix V  
Appendix VI  
Appendix VII  
Measurement of the Thickness of Leather  
Appendix VIII  
Appendix IX  
Appendix X  
Solid chrome extract  
Appendix XI  
Appendix XII  
Appendix XIII  
Appendix XIV  
GLOSSARY  
ABC of Leather Industry

## 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.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

---

**NIIR PROJECT CONSULTANCY SERVICES** , 106-E, Kamla Nagar, New Delhi-110007, India. **Email:** [npcs.india@gmail.com](mailto:npcs.india@gmail.com) **Website:** [NIIR.org](http://NIIR.org)

Mon, 22 Apr 2019 14:16:51 +0530