Woollen Spinning, Weaving, Knitting, Dyeing, Bleaching and Printing Technology

(Mule Spinning, Woollen Yarns, Woollen and Worsted Weaves, Steep and Reclining Twills, Wool Dyes, Ring Dyeing, Ring Dyeing, Fluorochemicals, Mothproofing, Soluble Vat Dyes, Bisulfite Bleach, Bleaching Wool, Hank Dryers, Dyeing Wool Mixtures, Chlorinated Wool, Ring Dyeing)
Introduction

Spinning is a major industry; it is part of the textile manufacturing process where three types of fibre are converted into yarn, then fabric, then textiles. The textiles are then fabricated into clothes or other artifacts. The fundamental operations for the stocks of fibers from which a woollen yarn is made are opening, cleaning, mixing, forming a slubbing or roving and finally thinning the roving to the required yarn number and twisting it to produce a yarn possessing the requirements for subsequent processing such as warping, winding, weaving, finishing and dyeing.
These demands vary with the different conditions confronted in manufacturing but include the following features: strength, elasticity, uniformity in weight per unit length and even distribution of twist. Woollen spinning involves three principal operations, irrespective of whether the mule or the frame or ring spinner is used, namely: Drafting, final drawing out, Twisting, or insertion of twist, Winding on, or packaging. Weaving constitutes the actual production of cloth or fabric, i.e., to combine the essentially one dimensional textile structure thread or yarn in such a way as to result in an essentially two dimensional structure of cloth of certain appearance, hand and strength.
Knitting is the art and science of constructing a fabric by interlacing loops, there are two types of knitting: warp and weft knitting. In recent years whole new classes of dyes such as fiber reactive, disperse, cationic basic, neutral dying premetalized have been discovered and produced for the dyeing of the natural and new synthetic, hydrophobic fibers. Bleaching improves whiteness by removing natural coloration and remaining trace impurities from the cotton; the degree of bleaching necessary is determined by the required whiteness and absorbency.
Cotton being a vegetable fibre will be bleached using an oxidizing agent, such as dilute sodium hypochlorite or dilute hydrogen peroxide. If the fabric is to be dyed a deep shade, then lower levels of bleaching are acceptable, for example. However, for white bed sheetings and medical applications, the highest levels of whiteness and absorbency are essential.
Wool fiber production technology necessitates full understanding of its growth, pristine structure, physical, chemical and functional properties as well as processes involving manufacture of textile fibers.
Market Outlook

India’s wool and woollen textile industry is the seventh-largest in the world. India’s wool and woollen industry can broadly be divided into 10 major product categories: worsted yarn, woollen yarn, wool tops, fabric (woollen/worsted), shoddy yarn, shoddy fabrics, blankets, knitwear, hand-made carpets and machine-made carpets.
## Woollen Fabrics

### Demand: Past and Future

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## Market Growth Rates of Woolens

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1. WOOLLEN SPINNING

- Mule Spinning
- The Self-acting Mule
- The Operations of Mule Spinning
- General Mechanical Details
- Production of a Mule
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- Woollen Ring Frame Spinning
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• Finishing Helanca Ski Cloth
• Water Repellent, Stain Resistant Treatments for Worsted and Woollen Fabrics
• Silicones
• Chromium Compounds
• Fluorochemicals
• Mothproofing
Tags

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- Aluminium And Aluminium Extrusion Profiles & Sections,
- Bio-fertilizers And Biotechnology
- Breakfast Snacks And Cereal Food
- Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling
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- Bamboo And Cane Based Projects
- 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
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- 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
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- 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
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- 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
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- Organic Farming, Neem Products Etc.
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- Paints, Pigments, Varnish & Lacquer
- Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- Perfumes, Cosmetics And Flavours
- Power Generation Based Projects & Renewable Energy Based Projects
- Pharmaceuticals And Drugs
- Plantations, Farming And Cultivations
- Plastic Film, Plastic Waste And Plastic Compounds
- Plastic, PVC, PET, HDPE, LDPE Etc.
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- Printing And Packaging
- Real Estate, Leisure And Hospitality
- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals
Sectors We Cover

- Township & Residential Complex
- Textiles And Readymade Garments
- Waste Management & Recycling
- Wood & Wood Products
- Water Industry (Packaged Drinking Water & Mineral Water)
- Wire & Cable
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