CHAPTER 1

Materials

This section details what garments are made of.

1.1 Fiber

Fiber is a rope or string used as component of composite materials or matted into sheets to make products such as paper or felt.

Fibers are most often used in the manufacture of other materials.

A fiber must be at least 100 times longer than it is wide.

A spun fiber is called a yarn.

Weaving yarns together produces a textile.

Until the 19th century, only plant and animal fibers were used to make clothes and textiles.

Half the products produced today are artificially produced.

Fibers are either:

1. natural (e.g. wool, cotton)
2. synthetic (e.g. nylon, polyester, acrylic)

1.1.1 Natural Fibers

Natural fibers include those produced by plants, animals, and geological processes. They are biodegradable over time. They can be classified according to their origin:

1. animal (hair, fur, wool, silk)
2. plant (cotton, flax, jute)
3. mineral (asbestos, glass fiber)
Animal

Alpaca Hair

Angora

Angora hair or Angora fiber refers to the downy coat produced by the Angora rabbit.

Camel Hair

Silk

Silk is an animal textile made from the fibers of the cocoon of the Chinese silkworm which is spun into a smooth fabric prized for its softness.

There are two main types of the silk: ‘mulberry silk’ produced by the Bombyx Mori, and ‘wild silk’ such as Tussah silk. Silkworm larvae produce the first type if cultivated in habitats with fresh mulberry leaves for consumption, while Tussah silk is produced by silkworms feeding purely on oak leaves. Around four-fifths of the world’s silk production consists of cultivated silk.

- soft
- lightweight
- adds luster

Wool

Wool refers to the hair of the domestic goat or sheep, which is distinguished from other types of animal hair in that the individual strands are coated with scales and tightly crimped, and the wool as a whole is coated with a wax mixture known as lanolin (sometimes called wool grease), which is waterproof and dirtproof.

> The quality of wool is determined by its fiber diameter, crimp, yield, color, and staple strength. Fiber diameter is the single most important wool characteristic determining quality and price.

- warm
- study
- durable

Wool is commonly used for warm clothing. Cashmere, the hair of the Indian cashmere goat, and mohair, the hair of the North African angora goat, are types of wool known for their softness.

##### Cashmere

Cashmere is obtained from shearing cashmere goats.

The word cashmere derives from an old spelling of Kashmir.

- fine in texture
- strong
- light
- soft
- warm
##### Merino Wool

Merino wool does not strictly apply to wool only from Merino sheep. The term now applies to the softest, finest wool - known for breathability and being almost itch-free. The result is a fabric that is thin, soft and luxurious.

- Merino wool is less than 24.5 micrometres (microns) in diameter.
- Fine merino wool is less than 21.5 µm in diameter.
- Extra-fine merino is under 19.5 µm in diameter.

##### Mohair

Mohair usually refers to a silk-like fabric or yarn made from the hair of the Angora goat.

##### Pashmina

Pashmina refers to a type of fine cashmere wool and the textiles made from it.

Pashmina was first invented in India.

### Plant

**Bamboo**

**Coir**

**Cotton**

Cotton is a soft, bluffly staple fiber. Cotton is the most widely used natural fiber cloth in clothing today.

**Properties:**

- soft
- warm
- high moisture absorbency
- breathable
- shock absorbency

**Uses:**

- bath towels and robes
- denims for blue jeans
- corduroy
- seersuck
- twill
- socks, underward, t-shirts
- bed sheets
- knitting
Types:
There are four commercial grown species of cotton:

##### Upland cotton
- 90% of world production
- native to Central America

##### Extra long staple cotton
Some types of ELS cotton are American Pima, Egyptian Giza, Indian Suvin, Chinese Xinjiang, Sudanese Barakat, and Russian Tonkvoloknistiy.

The term Egyptian cotton is usually applied to the extra long staple cotton produced in Egypt.

Pima cotton, also called extra long staple (ELS), is a type of cotton grown primarily in Peru, the southwestern United States and Australia.

Pima cotton is considered to be one of the superior blends of cotton and is extremely **durable** and **absorbent**.

This type of cotton is named after the Pima, a group of American Indians who first cultivated the plant in the U.S., but the cotton’s origins are its cultivation in Peru.
- 8% of world production
- native to tropical South American

##### Tree cotton
- <2% of world production
- native to India

##### Levant cotton
- <2% of world production
- native to Africa

Flax
- Two to three times as strong as cotton
- Naturally smooth and straight
- Was used for cloth until 19th century when cotton overtook flax

Hemp

Jute

Linen
- strong
- durable
- lightweight
- high moisture absorbency
Linen is most often added to socks to increase their strength.
Pina

Piña is a fiber made from the leaves of a pineapple plant and is commonly used in the Philippines. It is sometimes combined with silk or polyester to create a textile fabric. Piña’s name comes from the Spanish word piña which literally means pineapple.

Ramie

Ramie is one of the strongest natural fibers. It exhibits even greater strength when wet. Ramie fiber is known especially for its ability to hold shape, reduce wrinkling, and introduce a silky lustre to the fabric appearance. It is not as durable as other fibers, and so is usually used as a blend with other fibers such as cotton or wool. It is similar to linen in absorbency, density and microscopic appearance. However it will not dye as well as cotton. Because of its high molecular crystallinity, ramie is stiff and brittle and will break if folded repeatedly in the same place; it lacks resiliency and is low in elasticity and elongation potential.

Sisal

Sisal is an agave that yields a stiff fiber traditionally used in making twine and rope, and also dartboards.

1.1.2 Synthetic Fibers

Synthetic fibers can often be produced very cheaply and in large amounts compared to natural fibers.

Acrylic

Acrylic is a fiber used to imitate wools, including cashmere, and is often used in replacement of them.

- warm
- lightweight
- keeps shape well
- wicks perspiration from foot
- soft
- easy care
- minimal shrinkage
- rich coloration

Acrylic is cheap relative to wool.

Aramid

Aramid fiber (e.g. Twaron) is used for flame-retardant clothing, cut-protection, and armor.

Ingeo

Ingeo is a polylactide fiber blended with other fibers such as cotton and used in clothing. It is more hydrophilic than most other synthetics, allowing it to wick away perspiration.
Kevlar

Developed at DuPont in 1965.
Currently, Kevlar has many applications, ranging from bicycle tires and racing sails to body armor because of its high tensile strength-to-weight ratio; by this measure it is 5 times stronger than steel on an equal weight basis.

Lurex

Lurex is a metallic fiber used in clothing embellishment.

Nylon

Nylon is a fiber used to imitate silk; it is used in the production of pantyhose. Thicker nylon fibers are used in rope and outdoor clothing.

- strong
- abrasion resistance
- soft
- dimensional stability
- elasticity
- easy-washing
- quick drying

It is used in men’s dress socks, and as reinforcement with other fibers.
It is a durable, shrink-resistant fiber often used in blends to add stretch and strength to socks.

Olefin

Olefin fiber is a fiber used in activewear, linings, and warm clothing. Olefins are hydrophobic, allowing them to dry quickly. A sintered felt of olefin fibers is sold under the trade name Tyvek.

Polyester

Fabrics woven or knitted from polyester thread or yarn are used extensively in apparel and home furnishings, from shirts and pants to jackets and hats, bed sheets, blankets, upholstered furniture and computer mouse mats.

While synthetic clothing in general is perceived by many as having a less natural feel compared to fabrics woven from natural fibers (such as cotton and wool)[citation needed], polyester fabrics can provide specific advantages over natural fabrics, such as improved wrinkle resistance, durability and high color retention. As a result, polyester fibers are sometimes spun together with natural fibers to produce a cloth with blended properties. Synthetic fibers also can create materials with superior water, wind and environmental resistance compared to plant-derived fibers, and are sometimes renamed so as to suggest their similarity or even superiority to natural fibers (for example, China silk, which is a term in the textiles industry for a 100% polyester fiber woven to resemble the sheet and durability of insect-derived silk).
Rayon

- soft
- high moisture absorbency
- washable
- easily dyed

Spandex

Spandex (trade name Lycra) is a polyurethane product that can be made tight-fitting without impeding movement. A synthetic fiber made from polyurethane. It is lightweight, highly elastic, strong, durable and non-absorbent to water and oils. A great alternative for people allergic to latex.

Used to make:
- activewear
- bras
- swimsuits

Elastane is another name for spandex.

1.2 Leather

Leather is a durable and flexible material created by the tanning of animal rawhide and skin, often cattle hide. It can be produced through manufacturing processes ranging from cottage industry to heavy industry.

1.2.1 Full-grain

Full-grain leather refers to hides that have not been sanded, buffed, or snuffed (as opposed to top-grain or corrected leather) to remove imperfections (or natural marks) on the surface of the hide. The grain remains allowing the fiber strength and durability. The grain also has breathability, resulting in less moisture from prolonged contact. Rather than wearing out, it will develop a patina over time. High quality leather furniture and footwear are often made from full-grain leather. Full-grain leathers are typically available in two finish types: aniline and semi-aniline.

Full Grain Leather is the best leather money can buy.

It comes from the top layer of the hide which has ALL of the grain, therefore, _full_ grain.

The natural surface of full grain leather burnishes and beautifies with use. Some companies sort of spray paint their inferior leather to try to make it look like full grain leather, but it just ends up looking like someone spray painted some cheap leather. From what I’ve seen, maybe 2% of all bags are made of Full Grain. This leather is expensive for me to buy and very difficult to work.

Marks and scrapes and scars are all natural. Where the cow had been gored scraped by barbed wire, cactus or mesquite thorns ... bitten by a coyote ... or branded, the color sets in deep and stands out a bit. You’ll be able to see the full grain running through the hide in the form of veins too.

Your bag may have a few small scars and imperfections, but those just lend a tremendous amount of character to it. Some bags have parts of the cow’s brand here and there. Ride it hard; it’ll look better.
1.2.2 Top-grain

Top-grain leather (the most common type used in high-end leather products) is the second-highest quality. It has had the "split" layer separated away, making it thinner and more pliable than full-grain. Its surface has been sanded and a finish coat added to the surface which results in a colder, plastic feel with less breathability, and it will not develop a natural patina. It is typically less expensive and has greater resistance to stains than full-grain leather, so long as the finish remains unbroken.

Top Grain Leather is the second highest grade because it is split from the top layer of blemished hide then sanded and refinished. This is how they get rid of scars and scrapes and light cow brands. Top grain leather does not age nicely with use. It is strong and durable, but not good enough for Saddleback. They sanded off the strongest fibers of the hide leaving mainly the horizontal (easily pulled apart) fibers. By the way, did you know that leather shavings are used as filler in cheap dog food? The bigger the pile of shavings in the dog food, the bigger the piles elsewhere.

Top grain leather has often been sanded to remove scars and then sprayed or pasted to “cover up” the work. Top grain is not the same as “Full Grain” leather.

1.2.3 Genuine

Genuine Leather is the third grade of leather and is produced from the layers of hide that remain after the top is split off for the better grades. The surface is usually refinished (spray painted) to resemble a higher grade. It can be smooth or rough.

Ever heard of suede? Suede is tougher than cloth and is excellent for lining, but it’s not a good idea to use it in areas where it gets stress.

### Suede

Leather that has been sanded to produce a nap.

Suede is a type of leather with a napped finish, commonly used for jackets, shoes, shirts, purses, furniture and other items. The term comes from the French “gants de Suède”, which literally means “Swedish gloves”.[1]

Suede leather is made from the underside of the skin, primarily lamb, although goat, calf and deer are commonly used. Splits from thick hides of cow and deer are also sueded, but, due to the fibre content, have a shaggy nap.

Because suede does not include the tough exterior skin layer, suede is less durable but softer than standard (“full-grain”) leather. Its softness, thinness, and pliability make it suitable for clothing and delicate uses; suede was originally used for women’s gloves.

Suede leather is also popular in upholstery, shoes, bags, and other accessories, and as a lining for other leather products. Due to its textured nature and open pores, suede may become dirty and quickly absorb liquids.

1.2.4 Split

Split leather is leather created from the fibrous part of the hide left once the top-grain of the rawhide has been separated from the hide. During the splitting operation, the top-grain and drop split are separated. The drop split can be further split (thickness allowing) into a middle split and a flesh split. In very thick hides, the middle split can be separated into multiple layers until the thickness prevents further splitting. Split leather then has an artificial layer applied to the surface of the split and is embossed with a leather grain (bycast leather). Splits are also used to create suede. The strongest suedes are usually made from grain splits (that have the grain completely removed) or from the flesh split that has been shaved to the correct thickness. Suede is “fuzzy” on both sides. Manufacturers use a variety of techniques to make suede from full-grain. A reversed suede is a grained leather that has been designed into the leather article with the grain facing away from the visible surface. It is not considered to be a true form of suede.
This refers to the undersection of a piece of leather that has been split into two or more thicknesses. Splits are usually embossed with a design and finished or sueded.

### 1.2.5 Bonded

Bonded Leather is the most economical type that uses leftovers of organic leather that are bonded together with polyurethane binders on top of a fiber sheet. The varying degree of organic leather in the mix (between 60% to 100%) affect the smell and the texture of such product. Due to its reduced cost it is becoming a popular choice for furniture upholstery, especially for commercial use, where durability is needed.

![bonded leather](http://upload.wikimedia.org/wikipedia/commons/0/04/Bonded_leather.jpg)

Bonded Leather is the PT Cruiser of the leather world... pure junk. Leftover scraps are ground together with glue and resurfaced in a process similar to vinyl manufacture. Bonded leather is weak and degrades quickly with use. Most Bibles are covered with this.

### 1.2.6 Corrected-grain

Corrected-grain leather is any leather that has had an artificial grain applied to its surface. The hides used to create corrected leather do not meet the standards for use in creating vegetable-tanned or aniline leather. The imperfections are corrected or sanded off, and an artificial grain impressed into the surface and dressed with stain or dyes. Most corrected-grain leather is used to make pigmented leather as the solid pigment helps hide the corrections or imperfections. Corrected grain leathers can mainly be bought as two finish types: semi-aniline and pigmented.

### 1.2.7 Shell cordovan

Shell cordovan (or cordovan) is a type of leather commonly used in shoemaking. Cordovan is an equine leather made from the fibrous flat muscle (or shell) beneath the hide on the rump of the horse.[1] The leather derives its name from the city of Cordoba, Spain, where it was originally prepared by the Moors.

### 1.3 Nacre

Nacre, also known as mother of pearl, is an organic-inorganic composite material produced by some molluscs as an inner shell layer; it is also what makes up the outer coating of pearls. It is strong, resilient, and iridescent (change colors as the angle of view or illumination changes).
This section details how garments are made.

2.1 Weave

Weaving is a textile production method which involves interlacing a set of longer threads (called the warp) with a set of crossing threads (called the weft). This is done on a frame or machine known as a loom, of which there are a number of types. Some weaving is still done by hand, but the vast majority is mechanised.

Weaving is a method of fabric production in which two distinct sets of yarns of threads are interlaced at right angles to form a fabric or cloth.

The method in which threads are interwoven affects the characteristics of the cloth.

The longitudinal threads are called the warp and the lateral threads are the weft or filling.

The way the warp and filling threads interlace with each other is called the weave. The majority of woven products are created with one of three basic weaves: plain weave, satin weave, or twill.

2.1.1 Process

In general, weaving involves using a loom to interlace two sets of threads at right angles to each other: the warp which runs longitudinally and the weft (older woof) that crosses it. One warp thread is called an end and one weft thread is called a pick. The warp threads are held taut and in parallel to each other, typically in a loom. There are many types of looms.

2.1.2 Kinds

Basket weave

A variation of the plain weave usually basket or checkerboard pattern. Contrasting colors are often used. Inexpensive, less durable than plain weave. Basket weave is the amplification in height and width of plain weave. Two or more yarns have to be lifted or lowered over or under two or more picks for each plain weave point. When the groups of yarns are equal, the basket weave is termed regular, otherwise it is termed irregular.

~ wall hangings ~ pillows
Basket weave fabrics:
  • monk’s cloth
  • oxford

Chavret

Coverlet

Dobby

Double weave

Even-weave

Lampas

Pile weave

Extra sets of warps or fillings are woven over ground yarns of plain or twill weave to form loops. Pile fabrics have been defined as fabrics(s) with cut or uncut loops which stand up densely on the surface. Pile fabrics may be created by weaving or through other construction techniques, such as tufting, knitting, or stitch through. To create the loops that appear on the surface of woven pile fabrics, the weaving process.
  • frieze
  • terry clot
  • corduroy
  • velvet
  • velveteen

Uses:
~ upholstery ~ towels ~ carpet ~ area rugs ~ stage draperies

Plain weave

The plain weave is the most simple and most common type of construction.
~ simple ~ inexpensive ~ durable ~ flat surface. Conducive to printing. ~ tight surface

Plain weave fabrics:
  • chiffon
  • Georgette
  • shantung
  • seersucker

Uses:
~ draperies ~ tablecloths ~ upholstery
Satin weave

Shot

Twill

Twill is a type of textile weave with a pattern of diagonal parallel ribs (in contrast with a satin and plain weave).

Twill creates a diagonal, chevron, hounds tooth, corkscrew, or other design. The design is enhanced with colored yarn is strong and may develop a shine. Twill weave is characterized by diagonal ridges formed by the yarns, which are exposed on the surface. These may vary in angle from a low slope to a very steep slope. Twill weaves are more closely woven, heavier and stronger than weaves of comparable fiber and yarn size. They can be produced in fancy designs.

This is done by passing the weft thread over one or more warp threads and then under two or more warp threads and so on, with a “step” or offset between rows to create the characteristic diagonal pattern.[1]

Because of this structure, twills generally drape well.

Twills fabrics have a back and front side, unlike plain weave whose two sides are the same.

The front side of the twill is the technical face; the back is called the technical back. The technical face side of a twill weave fabric is the side with the most pronounced wale; it is usually more durable, more attractive, most often used as the fashion side of the fabric, and the side visible during weaving.

Soil and stains are less noticeable on the uneven surface of twills than on smooth surfaces, such as plain weaves. Thus, twills are often used for sturdy work clothing or durable upholstery.

The fewer interlacings in twills allow the yarns to move more freely, and thus they are softer, more pliable, and drape better than plain-weave textiles. Twills also recover from wrinkles better than plain-weave fabrics do. When there are fewer interlacings, yarns can be packed closer together to produce high-count fabrics. In twills and higher counts, the fabric is more durable and air- and water-resistant.

Twill fabrics:

- **denim**
  A Strong Warp Face Cotton Cloth used for overall, Jeans skirts etc. Largely made in 3/1 twill weave. Generally warp yarn is dyed brown or blue and crossed with white weft.

- **gabardine**
  A Warp Face cloth mostly woven 2/2 twill, 27/2 tex warp, 20/2 tex cotton weft. Here cotton weft is yarn dyed but the wool warp may be dyed in piece.

- **tweed**

- **chino**

There are even-sided twills and warp-faced twills. Even-sided twills include foulard or surah, herringbone, houndstooth, serge, sharkskin, and twill flannel. Warp-faced twills include cavalry twill, chino, covert, denim, drill, fancy twill, gabardine, and lining twill.

2.2 Textile

A textile or cloth is a flexible woven material consisting of natural or artificial fibers often referred as thread or yarn. Textile refers to any material made of interlacing fibers.
Textiles are formed by weaving, knitting, crocheting, knotting, or pressing fibers together. Textiles are made in various strengths and degrees of durability, from the finest gossamer to the sturdiest canvas. The relative thickness of fibers in cloth is measured in deniers. Microfibre refers to fibers made of strands thinner than one denier.

### 2.2.1 Kinds

**Canvas**

Canvas is an extremely heavy-duty plain-woven fabric used for making sails, tents, marquees, backpacks, and other items for which sturdiness is required.

**Corduroy**

Corduroy is a textile composed of twisted fibers that, when woven, lie parallel (similar to twill) to one another to form the cloth’s distinct pattern, a “cord.” Modern corduroy is most commonly composed of tufted cords, sometimes exhibiting a channel (bare to the base fabric) between the tufts. Corduroy is, in essence, a ridged form of velvet.

![Corduroy](http://upload.wikimedia.org/wikipedia/commons/4/48/Mansestr.jpg)

**Chambray**

**Chino**

Chino cloth is a twill fabric, originally made of 100% cotton. The most common items made from it, trousers, are widely called chinos. Today it is also found in cotton-synthetic blends.

![Chino](http://i201.photobucket.com/albums/aa145/godoffeces/Fabric/Chino.jpg)

Developed in the mid-19th century for British and French military uniforms, it has since migrated into civilian wear. Trousers of such a fabric gained popularity in the U.S. when Spanish-American War veterans returned from the Philippines with their twill military trousers.

**Denim**

Denim is a sturdy cotton twill textile in which the weft passes under two or more warp threads. This twill weaving produces the familiar diagonal ribbing of the denim that distinguishes it from cotton duck.

![Denim](http://upload.wikimedia.org/wikipedia/commons/f/fb/Denim_jacket_cuff_closeup.jpg)

It is a characteristic of any indigo denim that only the warp threads are dyed, whereas the weft threads remain plain white. As a result of the warp-faced twill weaving, one side of the textile then shows the blue warp threads and the other side shows the white weft threads. This is why blue jeans are white on the inside. This type of dyeing also creates denim’s fading characteristics, which are unique compared to every other textile.

**Duck Canvas**

Cotton duck (from Dutch: doek, “linen canvas”), also simply duck, sometimes duck cloth or duck canvas, commonly called “canvas” outside the textile industry, is a heavy, plain woven cotton fabric. There is also linen duck, which is less often used.

**Flannel**

Flannel is a soft woven fabric, of various fineness. Flannel was originally made from carded wool or worsted yarn, but is now often made from either wool, cotton, or synthetic fibre. Flannel may be brushed to create extra softness or remain unbrushed. The brushing process is a mechanical process where a fine metal brush rubs the fabric to create fine fibers from the loosely spun yarns. Typically, flannel has either a single- or double-sided nap. Double-napped flannel refers to a fabric that has been brushed on both sides. If the flannel is not napped, it gains its softness through the loosely spun yarn in its woven form. Flannel is commonly used to make tartan clothing, blankets, bed sheets, and sleepwear.

![flannel](http://upload.wikimedia.org/wikipedia/commons/6/66/D_3472.jpg)

**Gabardine**

Gabardine is a tough, tight woven fabric.

The fibre used to make the fabric is traditionally worsted wool, but may also be cotton, texturized polyester, or a blend. Gabardine is woven as a warp-faced steep or regular twill, with a prominent diagonal rib on the face and smooth surface on the back. Gabardine always has many more warp than weft yarns.

Clothing made from gabardine is generally labeled as being suitable for dry cleaning only, as is typical for wool textiles.

Gabardine was invented in 1879 by Thomas Burberry, founder of the Burberry fashion house in Basingstoke, and patented in 1888. The original fabric was water-proofed before weaving and was worsted or worsted/cotton, tightly woven and water-repellant but more comfortable than rubberized fabrics.[3] The fabric takes its name from the word “gaberdine”, originally a long, loose cloak or gown worn in the Middle Ages, but later signifying a rain cloak or protective smock-frock.[4][5]

Gabardine is used to make:

~ suits ~ overcoats ~ trousers ~ uniforms ~ windbreakers

![gabardine](http://upload.wikimedia.org/wikipedia/commons/d/d5/Gabardine.jpg)

**Gingham**

Gingham is a medium-weight balanced plain-woven fabric made from dyed cotton or cotton-blend yarn.[1] It is made of carded or combed, medium or fine yarns, where the colouring is on the warp yarns and always along the grain (weft). Gingham has no right or wrong side with respect to colour.

![gingham](http://upload.wikimedia.org/wikipedia/commons/3/36/Greengingham.jpg)

**Oxford**

Oxford is a type of woven dress shirt fabric, employed to make a particular casual-to-formal cloth in Oxford shirts.

![oxford](http://upload.wikimedia.org/wikipedia/commons/1/1c/Oxford_cloth.jpg)

**Satin**

Satin is a weave that typically has a glossy surface and a dull back. It is usually a warp-faced weaving technique in which warp yarns are “floated” over weft yarns, although there are also weft-faced satins.[2] If a fabric is formed with a satin weave using filament fibres such as silk, nylon, or polyester, the corresponding fabric is termed a satin, although some definitions insist that the fabric be made from silk.[3] If the yarns used are short-staple yarns such as cotton, the fabric formed is considered a sateen.
Tweed

Tweed is a rough, unfinished woollen fabric, of a soft, open, flexible texture, resembling cheviot or homespun, but more closely woven. It is made in either plain or twill weave and may have a check or herringbone pattern. Subdued, interesting colour effects (heather mixtures) are obtained by twisting together differently coloured woollen strands into a two- or three-ply yarn.

Tweeds are desirable for informal outerwear,[1] being moisture-resistant and durable. Tweeds are commonly worn for outdoor activities such as shooting and hunting, in both Ireland and the United Kingdom. “Lovat” is the name given to the green used in traditional Scottish tweed. In Ireland, tweed manufacturing is most associated with County Donegal in the Province of Ulster.

Velvet

Velvet is a type of woven tufted fabric in which the cut threads are evenly distributed, with a short dense pile, giving it a distinctive feel.

Traditionally, velvet is associated with nobility.

Fleece is a general term for a soft fabric

Examples of pile textiles are carpets, corduroy, velvet, plush, and Turkish towels.
This section details the different kinds of garments.

3.1 Belt

A belt is a flexible band or strap, typically made of leather or heavy cloth, and worn around the waste. A belt support trousers or other articles of clothing.

3.1.1 History

Before the 1920s, belts served mostly a decorative purpose, and were associated with the military. Men started belts in the 1920s as trouser waists fell to a lower line. The first recorded use of belt loops on trousers is 1922, when a jean company added them.

3.1.2 Analysis

A belt consists of:

- A buckle

Buckle

The buckle should be minimalist, polished, somewhat narrow, and single pronged. A buckle may be round or flat, small or large, matte or polished. The more casual the occasion, the less elegant the buckle required. The buckle may be single pronged or double pronged.
3.1.3 Style

The formal belt should match your shoes in color, contrast, hue, and tone, and ideally leather. Casual belts do not have to perfectly match, but should not be more than a shade different.

The belt should be 1 1/4” - 1 3/8” wide and approximately 1/8” thick.

The belt should be long enough that it goes under the first belt loop after the buckle. The belt should not be so long that is not laying flat against itself. The belt should be no longer than 3 inches beyond that loop.

The belt should lack all excessive styling.

• D-ring buckles are very casual.

3.1.4 Brands

You can find some exceptional casual leather belts from:

• Leather Goods Connection,
• Corter
• Equus
• Narragansett
• Worcestershire
• Tanner leather.

Note, many shoemakers make casual leather belts.

3.1.5 Materials

• Canvas
• Webbed
• Leather

3.1.6 Kinds

Needlepoint Belt

• Work
• Casual
• Dress

3.1.7 Care

3.2 Sock

A sock is an item of clothing worn on the feet.

The foot is among the heaviest producers of sweat in the body, as it is able to produce over 1 US pint (0.47 l) of perspiration per day.
3.2.1 Function

Socks help to absorb this sweat and draw it to areas where air can evaporate the perspiration.
In cold environments, socks decrease the risk of frostbite.
Formal attire traditionally requires long / dress socks (to prevent any flashes of visible skin, and because they’re less prone to bunching/falling).

3.2.2 Material

Socks should be made of wool, not cotton, because wool is effective at wicking and cotton is less so. Wool is also more durable. Blends can be helpful to add specific properties.
SmartWool is a brand of merino wool treated with a few of the “washable wool” processes which prevents shrinkage. Regular wool socks should be hang-dried.

3.2.3 Styles

Argyle Socks
Athletic Socks
Boot Socks
Crew Socks
Casual Socks
Sports Socks
Thermal Socks

3.3 Watch

A watch is a timepiece, typically worn either around the wrist or attached on a chain and carried in a pocket.

3.3.1 Terms

- Movement
- Crystal
- Dial
- Case
- Crown
- Bezel
- Lugs
• Buckle
• Vintage
    – Means at least 30 years old
    – Less accurate, require lots of servicing

3.3.2 Style

Occasions to wear a watch:
• Dress
• Casual
• Sport

3.3.3 Kinds

Quartz
• Basically mean watch runs on a battery
• Ticking hand indicates a quartz movement

Mechanical
• More traditional
• Automatic
    – Fully mechanical movement
    – Metal rotor rotates around movement, winding the watch
    – Rotor will move when watch is in motion
    – Watch will run off various motions of wrist
    – Second hand should move a few times a second
    – “Self winding”

3.3.4 Considerations

• Size
• Material
• Price
    – Less than $300 is something replaceable
    * Should pay over $100.
        · A watch is a man’s only real accessory.
    – More than $2000 is precious enough to maintain
    – Anything else is garbage
– If needed for utility, spend $30 or less

### 3.3.5 Brands

- **Low End**
  - Timex
  - Casio
  - Swatch
- **Low - to Mid Level**
  - Sekio
  - Skagen
  - Citizen
- **High end**
  - Rolex
  - IWC
  - Cartier
  - Breitling
- **Recommended**
  - **Low End**
    - Sekio 5
    - Citizen Eco-drive
    - Timex Easy Reader
  - **Mid/Low end**
    - ETA-based hamiltons
    - Tissots
    - Longines

### 3.3.6 Tips

- Avoid replicas

- **Watches are a depreciating asset**
  - Luxury watches however will always be worth something
This section details how to take care of garments.

4.1 Cleaning

4.1.1 Dry cleaning

Dry cleaning is any cleaning process for clothing and textiles using a chemical solvent other than water. The solvent used is typically tetrachloroethylene (perchloroethylene), which the industry calls “perc” or “PERC”. It is used to clean delicate fabrics that cannot withstand the rough and tumble of a washing machine and clothes dryer; it can also eliminate labor-intensive hand washing.
This section details how to buy garments.

5.1 Brand

A brand is a ...

5.1.1 A.P.C.

5.1.2 Aeropostale

5.1.3 Alden

• $75-150 belts

5.1.4 Allen Edmonds

• $75-150 belts

5.1.5 American Eagle Outfitters

5.1.6 Armani

Luxury

5.1.7 Banana Republic

Banana Republic is a clothing and accessories retailer owned by American multinational corporation Gap Inc. It was founded in 1978 by Mel and Patricia Ziegler with a safari theme; in 1983, Gap purchased the company and gave it a more upscale image.[1]

Founded: 1978 by Mel and Patricia Ziegler in Mill Valley California Parent: Gap Locations: 642 Revenue:
5.1.8 Brooks Brothers

Brooks Brothers is the oldest men’s clothier chain in the United States and is headquartered on Madison Avenue in Manhattan, New York City. Founded in 1818 as a family business, the privately owned company has been owned by Retail Brand Alliance since 2001 and now also features clothing for women.

Luxury clothing

Founded: 1818 by ? in Manhattan Locations: Revenue:

5.1.9 Burberry

Burberry Group plc is a British luxury fashion house, distributing clothing and fashion accessories and licensing fragrances. Its distinctive tartan pattern has become one of its most widely copied trademarks. Burberry is most famous for its trench coat, which was designed by founder Thomas Burberry.[3] The company has branded stores and franchises around the world and also sells through concessions in third-party stores. Queen Elizabeth II and the Prince of Wales have granted the company Royal Warrants. The Chief Creative Officer is Christopher Bailey. The company is listed on the London Stock Exchange and is a constituent of the FTSE 100 Index.


5.1.10 Calvin Klein

5.1.11 Club Monaco

Club Monaco is a mid-priced, high-end casual clothing retailer.

Club Monaco alternates between casual styles during the northern spring and summer and more formal offerings during autumn and winter. The company is best known for its classic “black and white” styles, from which pieces of colour are paired.

Founded: Toronto, Ontario, 1985 Parent: Polo Ralph Lauren

Socks are cotton, not wool.

5.1.12 Cole Haan

5.1.13 Forever 21

5.1.14 Gap Inc.

Gap,[3] commonly known as Gap Inc. or The Gap, is an American multinational clothing and accessories retailer. It was founded in 1969 by Donald G. Fisher and Doris F. Fisher and is currently headquartered in San Francisco, California. The company operates five primary divisions: the namesake banner, Banana Republic, Old Navy, Piperlime, and Athleta. Gap Inc. was surpassed by Spanish-based Inditex Group as the world’s largest apparel retailer,[4] though it remains the largest specialty retailer in the United States. As of September 2008, the company has approximately 135,000 employees and operates 3,076 stores worldwide, of which 2,551 are located in the U.S.

5.1.15 H&M

5.1.16 Horween Leather

5.1.17 J.Crew

5.1.18 Kenneth Cole

5.1.19 Land’s End

5.1.20 Levi Strauss & Co.

5.1.21 L.L. Bean

L.L. Bean is an American privately held mail-order, online, and retail company founded in 1912 by Leon Leonwood Bean and currently based in Freeport, Maine, United States. It specializes in clothing and outdoor recreation equipment.

Founded: 1912 by Leon Leonwood Bean
Revenue: $1.52 billion (2012)
Size: 115 stores

Notable items:
- Socks are merino wool

5.1.22 Naked & Famous

Jeans.

5.1.23 Nordstrom

5.1.24 Old Navy

Old Navy is a clothing and accessories retailer owned by American multinational corporation Gap Inc.

Founded: 1944
Revenue: $1.52 billion (2012)
Size: 1027

5.1.25 Orion

Leather

5.1.26 Prada

Prada is an Italian luxury fashion house, specialized ready-to-wear, leather and fashion accessories, shoes, luggage, perfume etc.

Founded: 1913 by Mario Prada.
Revenue: $2.15 billion (2010)
Size: 250 stores
5.1.27 Ralph Lauren

Polo Ralph Lauren is the corporation’s flagship brand.

Ralph Lauren Corporation also manages several other brands, including Ralph Lauren Black Label, Ralph Lauren Purple Label, Ralph Lauren Blue Label, Lauren Ralph Lauren, Club Monaco and Chaps.


- RRL and RL Purple is overpriced for quality
- Polos seem to be okay
- Socks are cotton, not wool.

5.1.28 Red Wing

Known for their boots.

5.1.29 Saddleback Leather

Leather bags.

5.1.30 Sperry’s

Boat shoes.

5.1.31 Tanner

Leather

5.1.32 Uniqlo

Uniqlo is a Japanese casual wear designer, manufacturer and retailer. The company, originally a division of Fast Retailing Co., Ltd., has been a wholly owned subsidiary since November 2005, listed on the First Section of the Tokyo Stock Exchange.

Founded: 1959 by Revenue: Size:

5.1.33 Wolf vs. Goat

5.1.34 Wolverine