BRM
Bally Ribbon Mills

Glossary of Common Textile Terms

A

Abrasion Resistance – The ability if a fiber or fabric to withstand surface wear and rubbing.

Air Jet Spinning – A spinning system in which yarn is made by wrapping fibers around a core stream of fibers with compressed air.

Air Permeability – The porosity, or the ease with which air passes through material. Air Permeability determines such factors as the wind resistance of sailcloth, the air resistance of parachute cloth, and the efficiency of various types of air filtration media. It is also a measure of warmness, or coolness of a fabric.

Alternating Twist – A texturing procedure in which S and Z twist are alternately inserted in the yarn by means of a special heating apparatus.

Aramid Fiber – A manufactured fiber in which the fiber-forming material is a long chain synthetic polyamide having at least 85% of its amide linkages (-NH0CO-) attached directly to two aromatic rings.

Autoclave – An apparatus for the carrying out of certain finishing operations, such as pleating and heat setting, under pressure in a superheated steam atmosphere.

B

Balanced Cloth - A term describing a woven fabric with the same size yarn and the same number of threads per inch in both the warp and the fill direction.

Basket Weave – A variation of the plain weave in which two or more warp and filling threads are woven side to side to resemble a plaited basket.

Beam – A cylinder of wood or metal, usually with a circular flange on each end, on which warp yarns are wound for slashing, weaving and warp knitting.

Beaming – The operation of winding warp yarns onto a beam usually in preparation for slashing, weaving or warp knitting. This process is also called warping.

Beating –Up – The last operation of the loom in weaving, in which the last pick inserted in the fabric is "beat" into position against the preceding pick, usually by a "comb- like" device called a reed.

Bicomponent Yarns – Spun or filament yarns of two generic fibers or two variants of the same generic fiber.

Bi-directional Fabric – A fabric having reinforcing fibers in two directions, i.e., in the warp (machine) direction and filling (cross-machine) direction.

Bleeding – Loss of color by a fabric or yarn when immersed in water, a solvent, or similar liquid medium, as a result of improper dying or the use of dyes of poor quality.

Blend – 1. A yarn obtained when two or more staple fibers are combined in a textile process for producing spun yarns. 2. A fabric that contains a blended yarn in both the warp and filling direction.

Blending - The combining of staple fibers of different physical characteristics to assure a uniform distribution of these fibers throughout the yarn.

Boil Off – see scouring.

Braid – 1. A narrow textile band, often used as trimming or binding, formed by plaiting several strands of yarn. The fabric is formed by interlacing the yarns diagonally to the production axis of the material. 2. In aerospace textiles, a system of three or more yarns which are interlaced in such a way that no two yarns are twisted around each other. Biaxial Braid - Braided structure with two yarn systems running in one direction and the other in the opposite direction. Triaxial Braid - a braided structure with axial yarns running in the longitudinal direction.

Braid Angle – The acute angle measured from the axis of the fabric or rope to a braiding yarn.

Braided Fabric – A narrow fabric made by crossing a number of strands diagonally so that each strand passes alternately over or under one or more of the other strands.

Braiding – The interwinding of three or more strands to make a cord or narrow fabric.

Break Factor – A measure of yarn strength calculated as: 1) the product of breaking strength times the indirect yarn number. 2) The product of breaking strength tomes the reciprocal of the direct yarn number.

Breaking Strength – 1. The maximum resultant internal force that resists rupture in a tension test. 2. The load (or Force) required breaking, or rupturing, a specimen in a tensile test made according to a specified standard procedure.

Breaking Tenacity – 1. The tensile stress at rupture of a specimen expressed as Newton's per Tex (cN/tex).

Broadcloth – A fabric so named because it was woven in widths exceeding 29 inches.

Broad Goods – Woven fabrics 18 inches or more in width.

Broken End – A broken, untied warp thread in a fabric. Broken ends can result from: slubs, knots, improper shuttle alignment, shuttle hitting the warp shed, excessive warp tension, faulty sizing, and rough reeds, heddles, dropwires and shuttles.

Broken Pick – A broken filling thread in a fabric. Broken Picks can result from: excessive shuttle tension, weak yarn, or filling coming in contact with a sharp surface.

C

Cabled Yarn – A yarn formed by twisting together two or more plied yarns.

Cabled Twist – A construction of thread, yarn, cord, or rope in which each successive twist is in the same direction opposite the preceding twists; i.e., an S/Z/S, or Z/S/Z construction.

Calender - A machine used in finishing to impart a variety of surface effects to fabrics. A calender essentially consists of two or more heavy rollers, sometimes heated, through which the fabric is passed under heavy pressure.

Calendering – A mechanical finishing process for fabrics used to produce special effects, such as high luster, glazing, moiré', and embossed effects.

Carbon Fiber – A high-tensile fiber or whisker made by heating rayon or polyacrylonitrile fibers or petroleum residues to appropriate temperatures. Fibers may be 7 to 8 microns in diameter and more than 90% carbonized.

Cloth - A generic term embracing all textile fabrics and felts. Cloth may be formed out of any textile fiber, wire, or material.

Coated Fabric – A fabric to which a substance such as lacquer, plastic, resin, rubber, or varnish has been applied in firmly adhering layers to provide certain properties, such as water impermeability.

Coating – The application of a semi-liquid material such as rubber, polyvinyl chloride, or polyurethane to one or both sides of the textile material. Once the coating has dried (cured) it forms a bond with the fabric.

Color Abrasion – Color changes in localized areas of a garment resulting from differential wear.

Colorfastness – resistance to fading, i.e., the ability of a dye to retain its color when the dyed, or printed textile material is exposed to conditions or agents such as light, perspiration, atmospheric gases or washing that can remove of destroy color.

Composite – 1. An article or substance of two or more constituents, generally, with reinforcing elements dispersed in a matrix or continuous phase. 2. Hard or soft constructions in which the fibers themselves are consolidated to form structures rather then being formed into yarns.

Conditioning – A process of allowing textile materials to reach equilibrium with the surrounding atmosphere.

Cone – A conical package of yarn, usually wound on a disposable paper core.

Coning – The transfer of yarn from skeins or bobbins or other types of packages to cones.

Converter – An individual or organization that buys greige fabrics and sells them as a finished product to cutters, wholesalers, retailers, and others. The converter arranges for the finishing of the fabric.

Core Spinning – The process of making a core-spun yarn. It consists of feeding the core yarn into the front delivery roll of the spinning frame and of covering the core yarn with a sheath of fibers during the spinning operation.

Core-Spun Yarn – A yarn made by twisting fibers around a filament or a previously spun yarn, thus concealing the core.

Creel – 1. A framework arranged to hold slivers, roving or yarns so that many ends can be withdrawn smoothly and evenly without tangling.

Creeling – The mounting of supply packages in a creel to feed fiber to a process, i.e., beaming, warping or weaving.

Crimp – 1. The waviness of a fiber expressed as crimps per unit length. 2. The difference in distance between two points on an unstretched fiber and the same two points when the fiber is straightened under tension. 3. The difference in the distance between two points when the yarn has been removed from the fabric and straightened under specific tension expressed as a percentage of the distance between the two points as the yarn lies in the fabric.

Crocking – The rubbing-off of dye from a fabric as a result of insufficient dye penetration of fixation, the use of improper dyes or dying methods or insufficient washing and treatment after the dying operation. Crocking can occur under either wet or dry conditions.

D

Density – Mass per unit volume usually expressed as grams per cubic centimeter (g/cc). Also known as specific gravity.

Denier - Officially, the weight, in grams, of 9000 meters of yarn. Denier is a direct numbering system in which the lower the numbers represent the finer sizes and the higher the numbers the courser sizes. In countries other than the USA, Denier is replaced by the Tex system.

Denier per filament (dpf) – The denier of an individual continuous filament or an individual staple fiber if it were continuous.

Yarn Denier – The denier of filament yarn. It is the product of the denier per filament and the number of filaments in the yarn.

Total Denier – The product of the denier per filament and the number of filaments in the tow.

Denier Variation – Usually variation in diameter, or other cross-sectional dimension, along the length of a filament or bundle of filaments. Malfunction or lack of process control in fiber manufacturing causes denier variation.

Dent – On a loom, the space between the wires of a reed.

Dimensional Stability – The ability of textile material to maintain or return to its original geometric configuration.

Dobby – A mechanical attachment on a loom that controls the harness to permit the weaving of geometric figures.

Doff – A set of full packages, bobbins, spools, etc. produced by one machine.

Doffing – The operation of removing full packages, bobbins, spools, etc. from a machine and replacing them with empty ones.

Double End – Two ends woven as one in a fabric. It may be intentional or accidental.

Drape – A term to describe the way a fabric falls while it hangs; the suppleness and ability of a fabric to form graceful configurations.

Drawing-in – In weaving the process of threading warp ends through the eyes of the heddles and the dents of the reed.

Drop Wires – A stop-motion device utilizing metal wires suspended from warp or creeled yarns. When a yarn breaks, the wire drops, activating the switch that stops the machine.

Dyeing – A process of coloring fibers, yarns, or fabrics with either a natural or synthetic dyes. A partial list of dyeing methods follows:

- **Pad Dying – A form of dyeing whereby a dye solution is applied by means of a pad or mangle.**
- **Pressure Dyeing – Dying by means of forced circulation of dye through packages of fiber, yarn, or fabric under pressure.**
- **Skein Dyeing – The dyeing of yarn, fiber, or fabric in the form of skeins, or hanks.**
- **Yarn Dyeing – The dyeing of yarn before the fabric is woven or knit.**

E

Elastomers – Synthetic polymers having properties of natural rubber such as stretchability and recovery.

Electrical Conductivity – a measure of the ease of transporting electric charge from one point to another in an electric field.

Elongation – The deformation in the direction of load caused by a tensile force. Elongation is measured in units of length (inches, millimeters) or calculated as a percentage of the original specimen length. Elongation may be measured at a specific load, or at the breaking point.

Elongation at Break – The increase in length when the last component of the specimen breaks. Usually expressed as %.

End - An individual warp yarn. A warp is composed of a number of ends.

End Out – A void caused by a missing warp yarn.

Entering – The process of threading each warp yarn on a loom beam through a separate drop wire, heddle, and reed space in preparation for weaving.

Extractables – The material that can be removed from textiles by means of a solvent (water can often be a solvent).

Extraction – Removal of one substance from another, often accomplished by a solvent.

F

Fabric – A planar textile structure produced by interlacing yarns, fibers, or filaments.

Fabric Construction – The details of structure of fabric. These include such information as style, width, type of weave, or knit, threads per inch in warp and fill, and weight of goods.

Fabric Crimp – The angulation induced between a yarn and a woven fabric via the weaving, or braiding process.

Fibers – A unit of matter, either a natural, or manufactured that form the basic element of fabrics and other textile structures.

Fiber Number – The linear density of a fiber expressed in units such as denier, or Tex.

Filament – A fiber of an indefinite or extreme length such as found naturally is silk. Manufactured fibers are extruded into filaments that are converted into filament yarn, staple, or tow.

Filament Count – The number of individual filaments that make up a thread, or yarn.

Filament Yarn – A yarn composed of continuous filaments assembled with, or without twist.

Filling – In woven fabric, the yarn running from selvage to selvage at right angles to the warp. Each crosswise length is called a pick. In the weaving process, a shuttle, rapier, or other type of yarn carrier carries the filling yarn.

Finish – 1. A substance or mixture of substances added to textile materials to impart desired properties. 2. A process, physical, or chemical performed on textile

materials to produce a desired effect. 3. A property, such as smoothness, drape, luster, water repellency, flame retardancy, or crease resistance that is produced by 1 and/or 2.

Finished Fabric – fabric that is ready for the market, having passed through the required finishing process.

Finishing – All the processes through which fabric is passed after bleaching, dyeing, or printing in preparation for the market, or use.

Flame Resistant – A term used to describe a material that burns slowly, or is self-extinguishing after removal of an external source of ignition.

Flame Retardant – A chemical compound that can be incorporated into a textile fiber during manufacture, or applied to a fiber, fabric, or other textile item during processing to reduce its flammability.

Flammability Tests – Procedures have been developed for access the flame resistance of fabrics. Three common tests follow:

- **Diagonal Flame Test – In this test for flame resistance, a specimen is mounted at a 45-° angle and exposed to an open flame for a specific time. The test measures the ease of ignition and the rate of burning.**
- **Horizontal Flame Test – A test for flame resistance in which a specimen is mounted in a horizontal holder and exposed to an open flame for a specific time to measure the burning rate and char-hole diameter.**
- **Vertical Flame Test – A test for flame resistance in which a specimen is mounted in a vertical holder and exposed to an open flame for a specific time. The open flame is then extinguished and continued flaming time and char-length of the sample are measured.**

Float – A weaving defect consisting of an end lying, or floating on the fabric surface instead of being properly woven in.

G

Gauge – A generic term for various measurement instruments such as pressure of thickness gauges, also the thickness of a knitting needle, and the number of wales per inch in a knitted fabric.

Gauge Wire – Used with an extra filling yarn during weaving, this type of standing wire controls the height of fabric pile.

Geotextiles – Manufactured fiber products made into fabrics of various constructions for use in a wide variety of civil engineering applications. Examples include Erosion Control Fabrics, Drainage Fabrics and Asphalt Overlay Fabrics.

Glass Fiber – A manufactured fiber in which the fiber-forming substance is glass. These fibers are incombustible and will tolerate heat up to 1000° F. However, the resulting fabric is brittle and fracture points may develop.

Graphite Fiber – Although the terms carbon and graphite are used interchangeably, to describe these fibers, graphite fibers are more accurately defined as fibers that are 99+% carbonized, while the term carbon is used for any fiber carbonized to 93 to 95 %, or more.

Greige Fabric – (pronounced gray) An unfinished fabric just off the loom, or knitting machine.

Grosgrain – A heavy fabric with prominent ribs, grosgrain has a dressy appearance and is used in ribbons, vestments and ceremonial cloths.

H

Hand – The tactile qualities of a fabric, e.g., softness, firmness, elasticity, fineness, resilience and other qualities perceived by touch.

Heat Resistance – A property of certain fibers, or yarns whereby they resist degradation at high temperatures. Heat resistance can be a quality inherent in a yarn, or it may be imparted by additives or treatment of the resulting fabric.

Heat Setting – The process of conferring dimensional stability and other desirable properties (wrinkle resistance and improved heat resistance) by means of either moist or dry heat.

Heat Stabilized – A term to describe fiber, or yarn heat-treated to reduce the tendency of the fiber to shrink, or elongate under a load, or at elevated temperatures.

Heddle – A cord, round steel wire, or thin flat steel strip with a loop, or eye near the center through which one or more warp threads pass on the loom, so that the thread movement may be controlled in weaving. The heddles are held at both ends by the harness frame. They control the weave pattern and shed as the harnesses are raised and lowered during weaving.

Herringbone – A broken twill weave characterized by a balanced ziz-zag effect produced by having the rib run first to the right, and then to the left for an equal number of threads.

High Modulus – A term that refers to a material with a higher then normal resistance to deformation.

Hollow Filament Fibers – Manufactured, continuous filament fibers, having voids created by introduction of air, or other gas in the polymer solution, or melt spinning through specially designed spinnerets.

Homespun – Course plain-weave fabric of uneven yarns that have a handspun appearance.

Hopsacking – A course, open, basket-weave fabric that gets its name from the plain-weave fabric of jute, or hemp used for sacking in which hops are gathered.

I

Impregnated Fabric – A fabric in which the interstices between the yarns are completely filled, as compared to sized or coated materials where the interstices are not completely filled.

Industrial Fabric – A broad term for fabrics used for non-apparel and non-decorative uses. They fall into the following classes:

- **Fabrics employed in industrial processes (e.g., filtration, polishing and absorption).**
- **Fabrics combined with other materials to form a different material (e.g., rubberized fabric for hose, belting, tires, timing gears, bearings, and electrical parts).**
- **Fabrics impregnated with an adhesive and dielectric compounds.**
- **Fabrics incorporated directly in a finished product (e.g., sales, tarps, tents, awnings and specialty belts for agricultural machinery, airplanes and conveyers)**

Fabrics developed for industrial use cover a wide variety of widths, weights and construction. In many cases, they have been painstakingly developed to meet a specific application.

Inspection – The process of examining textiles for defects at any stage of manufacturing and finishing.

J

Jacquard - A system of weaving that utilizes a highly versatile pattern mechanism to permit the production of large, intricate designs and (at Bally Ribbon Mills) shapes. The weave controls the action of one warp thread for the passage of one pick. Each card perforation machine may carry a large number of cards, depending upon the design, because there is a separate card for each pick in the pattern.

Jet Loom – A shuttleless loom that employs a jet of water, or air to carry the filling yarn through the shed.

K

Kink – In fabrics, a place where a short length of yarn has spontaneously doubled back on itself. Kinking – The doubling back of a yarn on itself to relieve torque imparted by twisting or texturing.

Knit Fabric – A structure produced by interlooping one or more ends of yarn or comparable material.

Knitting – A method of constructing fabric by interlocking series of loops of one or more yarns. Knitting Types:

- **Warp Knitting – A type of knitting in which the yarns generally run lengthwise in the fabric. The yarns are prepared as warps on beams with one or more yarns for each needle. Examples include; Rachel (a plain or lacy knit) and Tricot (run resistant) Knitting.**
- **Weft Knitting – A common type of knitting, in which one continuous thread runs crosswise in the fabric making all of the loops in one course. An example is Circular Knitting, where the fabric produced on the knitting machine is in the form of a tube, the threads running continuously around the fabric.**

L

Lace – Ornamental openwork fabric, made from a variety of designs by intricate manipulation of the fiber by machine or hand.

Leno Weave – A weave in which the warp yarns are arranged in pairs with one twisted around the other between picks of filling yarn. This type of weave gives firmness and strength to an open-weave fabric and prevents slippage and displacement of warp and filling yarns.

Let-Off Motion – A device for controlling the delivery and tension of the warp during weaving.

Leveling – Migration leading to uniform distribution of dye in a dyed material. Leveling may be a property of the dye or it may require chemical assistance.

L.O.I – An abbreviation for Limiting Oxygen Index, or a relative measure of flammability. The higher the value, the lower the flammability.

Loom – machines for weaving fabric by interlacing a series of vertical parallel threads (the warp) with a series of horizontal parallel threads (the filling). The warp yarns from a beam pass through the heddles and reed, and the filling is shot through the "shed" of warp threads by means of a shuttle, or other device and is

settled into place by the reed and lay. The primary distinction between different types of looms is the manner of filling insertion.

Loom-Finished – A term describing fabric that is sold in the condition in which it comes off the loon (see greige).

Lot – A unit of production, or group of other units, or packages that is taken for sampling, or statistical examination, having one, or more common properties and being separable from other similar lots.

Lubricant – An oil, or emulsion finish applied to fibers to prevent damage during textile processing, or to knitting yarns to make them more pliable.

M

Machine Direction – The long direction within the plane of the fabric, i.e., the direction in which the fabric is being produced by the machine.

Manufactured Fiber – A class name for various genera of fibers (including filaments) produced from fiber forming substances which may be polymers synthesized from chemical compounds (acrylic, nylon, polyester, polyethylene), modified, or transformed natural polymers (cellulose-based fibers like acetate and rayon) and minerals, e.g., glasses. The term manufactured usually refers to chemically produced fibers to distinguish them from truly natural fibers such as cotton, wool, silk and flax.

Melt Index – The weight in grams of a thermoplastic material that can be forced through a standard orifice within a specified period of time.

Melting Point – The temperature at which the solid and liquid states of a substance are in equilibrium; generally the temperature at which a substance changes from a solid to a liquid.

Microdenier – refers to fibers having less than 1 denier per filament, or 0.1 Tex per filament.

Mill Run – A yarn, fabric, or other textile product that has not been inspected, or does not come up to standard quality.

Mispick – A weaving defect in which a pick is improperly interlaced, resulting in a break in the weave pattern.

Mock Leno – A combination of weaves having interlacing that tend to form the warp ends into groups in the cloth. This gives the imitation of an open structure that is characteristic of leno fabrics.

Modulus – The ratio of change in stress to change in strain following the removal of crimp from the material being tested, i.e., the ratio of the stress expressed in either force per unit leaner density, or force per unit area of the original specimen, and the strain expressed as either a fraction of the original length, or percentage elongation.

Moiré' – A wavy, or watered effect on a textile fabric. It is produced by passing the fabric between engraved cylinders that press the design into the material, causing the crushed and uncrushed parts to reflect light differently.

Moisture Regain – A measure of the increase in weight due to the adsorption of water by a fiber vs. its initial dry weight. Usually expressed as %.

Monofilament – Any single filament of a manufactured fiber, usually of a denier higher than 14. Rather than a group of filaments being extruded through spinnerets to form a yarn, Monofilaments generally are spun individually.

Monomer – the simple, unpolymerized form of a compound from which a polymer can be made.

Mullen Bursting Strength – An instrument test method that measures the ability of a fabric to resist rupture by pressure exerted by an inflated diaphragm.

Multifilament – A yarn consisting of many strands, as opposed to Monofilament, which is one strand. Most textile yarns are multifilament.

N

Narrow Fabric – Any non-elastic woven fabric, 12 inches, or less in width, having a selvage on either side.

Natural Fiber – A class name for various genera of fibers of animal (wool and silk), mineral (asbestos) or vegetable (cotton, flax, and jute).

Needle Loom – A high-speed narrow fabric-weaving machine (loom) that uses a needle to insert filling across a warp. A Needle loom uses a catch cord system to make a selvage on one edge of the weave and to return the pick after anchoring it within the selvage.

Nylon Fiber – A manufactured fiber in which the fiber-forming substance is and long chain synthetic polyamide having recurring amide groups (-NH-CO-) as an integral part of the polymer chain.

O

Olefin Fiber – A manufactured fiber in which the fiber-forming substance is any long chain synthetic polymer composed at least 85% by weight of ethylene, polyethylene, or other olefin unit. Olefin fibers combine lightweight with high strength and abrasion resistance.

Orientation – In linear polymeric structures, the degree of parallelism of the chain molecules.

Orifice – Generally, an opening. Used specifically to refer to the small holes in spinnerets through which the polymer flows in the manufacture of fibers.

P

Packages – A large selection of forms for winding yarn onto. Examples include A Cone, Cheese, and pineapple package.

Pattern – 1. An arrangement of form, or weaving designs; a decoration such as the design of woven or printed fabrics. 2. A model, or guide, or plan used in making things, such as a garment pattern.

Pick – A single filling thread carried by one trip of the weft-insertion device across the loom. The picks interface with the warp ends to form a woven fabric.

Pick Count – The number of filling picks per inch, or per centimeter of fabric. Pick and End Counts are two fabric specifications needed to design a fabric.

Pick Counter – 1. A mechanical device that counts the picks as they are inserted during weaving. 2. A mechanical device equipped with a magnifying glass used for counting picks (and/or ends) in finished fabrics.

Pirn - 1. A wood, paper, or plastic support, cylindrical, or slightly tapered, with, or without a conical base, on which yarn is wound. 2. The double-tapered take-up yarn package from drawtwisting of nylon, polyester and other melt spun yarns.

Plain Weave – One of the three fundamental weaves: plain, satin and twill. Each filling yarn passes successfully over and under each warp yarn, alternating each row.

Ply – 1. The number of singles yarns twisted together to form a plied yarn, or the number of plied yarns twisted together to form a cord. 2. One of a number of layers of fabric.

Polyester Fabric – A manufactured fiber in which the fiber forming substance is any long chain synthetic polymer composed of at least 85% by weight of an ester of

dihydric alcohol and terephthalic acid. They are high is strength and are resistant to shrinking and stretching.

Polyethylene Fiber – A manufactured fiber made of polyethylene, often in monofilament form as well as in filament form. The fibers have low specific gravity, very low retention of moisture, the same tensile weight wet or dry, are resistant to mildew and insects.

Polyamide Fiber – Fully imidized, manufactured fiber formed from the condensation polymer of an aromatic anhydride and an aromatic diisocyanate. A polyamide fiber is a high shrinkage fiber.

Polypropylene Fiber – A manufactured olefin fiber made from polymers or copolymers of polypropylene. This is a very tough fiber with a tenacity of 8.0 to 8.5 grams/denier and a melting point of 165° C. It is so light in weight that it floats and is highly resistant to mechanical abuse and chemical attack.

Polytetrafluoroethylene (PTFE) Fiber – A fluoride containing manufactured fiber characterized by high chemical stability, relative inertness and high melting point. The fiber has moderate tensile strength, resistance to chemicals and the effects of high temperature. It has very low frictional characteristics and has a slippery hand. It works well in filtration, packaging and in combination with other fibers in self lubricating bearings.

Prepreg – A ready to mold, reinforcing material, either fiber, fabric, or mat that is fully impregnated with resin and in some cases partially cured. Prepregs are then used by fabricators in laying-up and molding composites after which curing is completed.

Primary Colors – Magenta, yellow and cyan (red, yellow, blue). These are the subtractive primaries used when mixing dyes and paints to make other colors.

Projectile Loom – A shuttleless loom that uses small, bullet like projectiles to carry the filling yarn through the warp shed. Fill is inserted on the same side of the loom and a tucked selvage is formed.

Put-Up – A term used to describe how a fabric is supplied. Put-Up is usually described in terms of length, on rolls, or bulk supplied and may have standards as to how many "cuts" are allowed per roll, or box.

Q

Quartz Fiber – Pure silica that has been melted and drawn into glass-like fibers. Used for heat resistance and high dielectric strength.

Quill – A light, tapered tube of wood, metal, paper, or plastic on which the filling yarn is wound for use in the shuttle during weaving.

Quilling – The process of winding filling yarns onto filling bobbins, or quills, in preparation for use in the shuttle for weaving.

R

Rapier Looms – Looms in which either a double or single rapier (thin metallic shaft with a yarn-gripping device) carries filament through the shed. In a single rapier machine, the yarn is carried across the fabric by the rapier. In a double rapier machine, the yarn is passed from one rapier to the other in the middle of the fabric.

Raw Fiber – A textile fiber in its natural state, such as silk, and or cotton as it comes from the bale.

Rayon Fiber – A manufactured fiber composed of regenerated cellulose as well as manufactured fibers composed of regenerated cellulose in which the substituents have replaced not more than 15% of the hydrogen's of the hydroxyl group. Rayon yarns may be white or solution dyed. The process itself and the structure of the yarn regulate their strength.

Reed – A comb like device on a loom that separates the warp yarns and also beats each succeeding filling thread against that already woven. The space between two adjacent wires of the reed is called a dent. The fineness of the reed is calculated by the number of dents to the inch. The more dents to the inch, the finer the reed.

Roll Goods – fabric rolled up on a core after it has been produced. It is describes in terms of weight and width of the roll and length of the material on the roll.

S

Sailcloth – Any heavy, strongly made woven canvas, linen, jute, polyester, nylon, aramid, etc. that is used for sails.

Satin Weave – One of the basic weaves, plain, satin, and twill. The face of the fabric consists almost completely of warp, or filling floats produced in the repeat of the weave. Satin weave fabric has a characteristic smooth, luxurious surface and has a considerably greater number of yarns in the set of threads (either the warp or filling) that forms the face than in the other set.

Scouring – An operation to remove the sizing and tint used on the warp yarn in weaving and, in general, to clean the fabric prior to dying.

Scrim – 1. A lightweight, open weave, course fabric. 2. Fabric with open construction used as base fabric in the production of coated or laminated fabrics.

Seamless – A term that describes a tubular knit, or woven fabric without seams, e.g., seamless hosiery, or seamless woven tube.

Section Beam - 1. A large flanged roll upon which warp yarn is wound at the beam warper in preparation for slashing. 2. Small flanged or unflanged beams placed side by side on the shaft of a warp beam for further processing.

Selvage – The narrow edge of woven fabric that runs parallel to the warp. It is made with stronger yarns in a tighter construction than the body of the fabric to prevent raveling. A fast selvage encloses all, or part of the picks, and a selvage is not fast when the filling threads are cut at the fabric edge after each pick.

Served Yarn – In aerospace textiles, a reinforcing yarn such as graphite, or glass around which two different yarns is wound. The intent is to protect, or compress the yarn bundle.

Shot – The number of filling yarns per row of tufts.

Shuttle – A boat-shaped device usually made of wood with a metal tip that carries filling yarns through the shed in the weaving process.

Shuttless Loom – A loom in which some other device than a shuttle is used for weft insertion.

Sinker – In weaving design, a blank square indicating a filling thread over a warp thread at the point of insertion.

Sizing – 1. A generic term for compounds that are applied to warp yarn to bind the fiber together and to stiffen the yarn to provide better abrasion resistance. 2. The process of applying sizing compounds.

Skein – A continuous strand of yarn, fabric, or cord in the form of a collapsed coil. It may be any specified length and is usually obtained by winding a definite number of turns on a reel under prescribed conditions.

Slasher – A machine used to apply size to the warp ends, while transferring the warp yarns from section beams to the loom beam.

Slit Tape – A fabric, 12 inches, or less in width made by cutting wider fabric to the desired width.

Slub – A yarn defect consisting of a lump, or thick place on the yarn caused by lint, or small lengths of yarn adhering to it.

Slug – A thick place in a yarn, or a piece of lint entangled in yarn, cord, or fabric.

Spinneret – A metal disc containing numerous minute holes used in manufactured fiber extrusion. The spinning solution or melted polymer is forced through the holes to form fiber filaments.

Splicing – The joining together of two ends of yarn or cordage.

Staple – Natural fibers, or cut lengths from filaments. The staple lengths of natural fibers vary from less that 1-inch, as with some cotton fibers, to several feet for some hard fibers. Manufactured staple fibers are cut to definite length, from 8 inches down to 1-½ inches. The term staple (fiber) is used in the textile industry to distinguish natural, or cut length manufactured fibers form filament.

Static- The accumulation of negative, or positive electricity on the surface of fibers, or fabrics because of inadequate electrical dissipation during processing.

Stiffness – The property of a fiber, or fabric to resist bending, or to carry a load without deformation.

Stop Motion – Any device that automatically stops a textile machine's operation on the occurrence of a yarn break, high defect count, etc.

Strand – A single fiber, filament, or Monofilament.

Stuffers – Extra yarns running I the warp direction through a woven fabric to increase the fabric's strength and weight.

Surfactant – A surface-active agent, i.e., a product that acts by modifying the surface or boundary between two phases.

Swelling – In textile usage, expanding of a fiber caused by the influence of a chemical, solvent or agent. A property often used to facilitate dying.

T

Taffeta - A plain-weave fabric with a fine, smooth, crisp hand usually lustrous appearance. Taffeta fabric usually has a fine cross rib made by using a heavier filling yarn than warp yarn.

Take-up (Twist) - the change in length of a filament, yarn, or cord caused by twisting, expressed as a percentage of the original (untwisted) length.

Take-up (Yarn in Fabric) – The difference in distance between two points in a yarn as it lies in a fabric and the same two points after the yarn has been removed from

the fabric and straightened under specified tension, expressed as a percentage of the straightened length.

Tape – A narrow woven fabric not over 8 inches in width.

Tear Strength – The force required beginning, or continuing a tear in a fabric under specified conditions.

Tensile Strength – In general, the strength shown by a specimen subjected to tension as distinct from torsion, compression or shear.

Tensile Test – A method of measuring the resistance of yarn, or fabric to a force tending to stretch the specimen in one direction.

Tenter Frame – A machine that dries fabric to a specified width under tension. The machine consists essentially of a pair of endless chains on horizontal tracks. The fabric is held firmly at the edges by pins, or clips on the two chains that diverge as they advance through the heated chamber, adjusting the fabric to the desired width.

Tex – 1. A unit for expressing linear density, equal to the weight in grams of one kilometer of yarn, filament, fiber or other textile strand. 2. The system of yarn numbering based on the use of Tex units.

Textile - Originally, woven fabric; now applied generally to any one of the following; Staple Fibers and filaments able to be converted into woven, knit, or braided fabrics, or yarns made from natural of manufactured fibers.

Textile Materials – A general term for fibers, yarn intermediates, yarn, fabrics, and products made from fibers.

Textile Processing – Any mechanical operation used to translate a textile fiber or yarn to a fabric, or other textile material. This includes such operations as opening, carding, spinning plying, twisting, texturing, coning, quilling, beaming, slashing, weaving, braiding and knitting.

Texture – A term describing the surface effect of a fabric such as dull, lustrous, wooly, stiff, soft, fine, course, etc.

Textured Yarns – yarns that develop stretch and bulk on subsequent processing.

Thermal Shrinkage – The amount shrinkage of a fiber measured in dry air vs. that measured in its saturated state. Usually expressed as a %.

Thermoplastic – A term used to describe a plastic material that is permanently fusible, i.e. manufactured fibers that will soften at higher temperatures.

Thermoset – A term used to describe a plastic that, once formed, will not melt.

Thread – 1. A slender, strong strand, or cord, especially one designed for sewing, or other needlework. 2. A general term for yarns used in weaving and knitting i.e. Thread Count and Warp Count.

Thread Count – The number of ends (wales) and picks (courses) per inch in a woven (Knitted) fabric.

Three-dimensional Weaving – To produce three-dimensional textiles, yarns are simultaneously woven in three directions (length, width and thickness), rather than in the conventional two.

Throwing – The operation of doubling or twisting silk or manufactured filament yarn.

Throwster – A company that specializes in putting additional twist in yarn.

Transition Temperature – A temperature at which some radical change, usually a phase change, in the appearance or structure of a substance occurs. I.e. melting point, boiling point.

Traveler – A C-shaped, metal clip that revolves around the ring on a ring spinning frame. It guides the yarn onto the bobbin as twist is inserted into the yarn.

Twill Weave – A fundamental weave characterized by diagonal lines produced by a series of floats staggered in the warp direction.

Twist – The number of turns about its axis per unit of length of a yarn, or textile strand. Twist is expressed as turns per inch (tpi), turns per meter (tpm) or turns per centimeter (tpc).

Twist, Direction of – The direction of twist in yarns and other textile strands is indicated by the capital letters S and Z. Yarn is S-twisted if when it is held vertically, the spirals around its central axis slope in the same direction as in the middle portion of the letter S (i.e. to the right) and Z twisted if they slope to the left, i.e. middle section of the Z.

Twist Multiplier – The ratio of turns per inch to the square root of the yarn count.

Twist Setting – A process for fixing the twist in yarns to deaden torque and to eliminate kinking during further processing. This process usually involves using steam.

Two-For-One Twister – A twister that inserts twist at a rate of twice the spindle speed.

U

Ultraviolet Degradation – Weakening, or deterioration caused by exposure to ultraviolet rays of sunlight, or artificial light.

Ultraviolet Resistance – Ability to retain strength and resist deterioration on exposure to sunlight.

Undrawn Yarn – Extruded yarn (filaments), the component molecules of which are substantially unorientated. An undrawn yarn exhibits predominantly plastic flow in the initial stages of stretching and represents an intermediate stage in the production of a manufactured yarn.

Uneven Dying – A fabric dying that shows variations in shade resulting from incorrect processing, or dying methods, or from the use of faulty materials.

UV Absorbers – polymer additives that absorb light in the UV region, or that trap radicals produced in fiber during photoxidation.

V

Vectran® Fiber - Manufactured fiber spun from Hoechst Celanese Vectra® liquid crystal polymer. These fibers have high-temperature resistance, high strength and modulus, and a high resistance to moisture and chemicals, with good property retention in hostile environments.

W

Warp – The set of yarn in all woven fabrics, that runs lengthwise and parallel to the selvage and is interwoven with the filling.

Warp Beam – A large spool, or flanged cylinder around which the warp threads, or ends, are wound in a uniform and parallel arrangement.

Warp Drawing – A process in which a number of threadlines, are orientated under essentially equal mechanical and thermal conditions by a stretching stage using variable speed rolls, then directly wound onto the beam. This process gives uniform end to end properties.

Waterproof – A term applied to materials that re impermeable to water; waterproof fabrics have all of their pores closed and are also impermeable to air and very uncomfortable.

Water-Repellent – A term applied to fabrics that can shed water, but are permeable to air and comfortable to wear.

Wear Test – A test for fabric wear, abrasion, flexibility, washing, crushing, creasing, etc., in which the fabric is made into a garment, warn for a specific length of time and then assessed for performance.

Weather-Ometer – An instrument used in measuring the weather resistance of textiles. It can simulate various weather conditions as sunlight, rain, dew, and thermal-shock.

Weave – A system, or pattern of intersecting warp and filling yarns. There are three basic two-dimensional weaves: Plain, twill and Satin.

Weaving – The method, or process of interlacing two yarns of similar materials so that they cross each other at right angles to produce woven fabric.

Webbing – Strong, narrow fabric, closely woven in a variety of weaves and principally used for belts and straps that can withstand strain.

Weft Insertion – Any one of various methods, shuttle, rapier, water jet, etc. for making a pick during weaving.

Width – A horizontal measurement of a material. In woven fabric, it is the distance from selvage to selvage, and in knitted fabric, from edge to edge.

Winding – Winding is the process of transferring yarn, or thread from one type of package to another,

Wind Ratio – The number of wraps that an end, or ends make in traversing from one side of a wound package to the other side and back to the first side.

Woven Fabric – Generally used to refer to a fabric composed of two sets of yarns, warp and filling, that is formed by weaving, which is the interlacing of these sets of yarns.

Y

Yardage – The amount, or length of a fabric expressed in yards.

Yard Goods – Fabric sold on a retail basis by the running yard.

Yarn – A generic term for a continuous strand of textile fibers, filaments, or material in a form suitable for knitting, weaving, braiding, or otherwise intertwining to form a textile fabric.

Yarn Construction – A term used to indicate the number of singles yarns and the number of strands combined to form each successive unit of plied yarn, or cord.

Yarn Number – A relative measure of the fineness of yarns.

Yarn Quality – Various grades of yarn designated by the producer with respect to performance characteristics.

Yield – 1. Number of linear or square yards of fabric per pound of fiber, or yarn. 2. The number of finished square yards per pound of greige fabric.

Young's Modulus – A property of perfectly elastic materials, it is the ratio of change in stress to change in strain within the elastic limits of the material. The ratio is calculated from the stress expressed in force per unit cross-sectional area, and the strain expressed as a fraction of the original length.

Z

Zero Twist – twistless, devoid of twist.

Z Twist – See Twist, Direction of.

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