



Textile Testing Instruments

Textile Training Institution

Yarn, Fabric, Textile Chemicals &
Garments Testing Reports

Traceable to NPL Calibration Certificate

Golden Jubilee Award

R & D in Textile

National Achievement

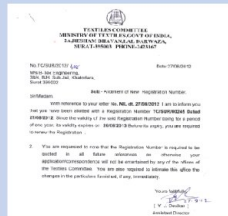
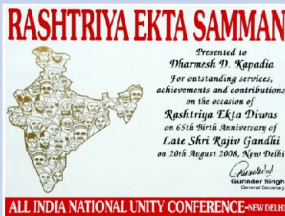
Rajiv Gandhi Award

B-TEX Laboratory
Engineering

C/o. M/s. Mohanlal Nagindas Kapadia (Estd.-1957)

As per
ISO 9001 : 2008

Our Achievements



UNIVERSAL TENSILE TESTER

Universal Tensile Strength Testing Machine is suitable for carrying out tensile test on variety of materials such as yarns, fabrics, lea, elastomers, papers.



- Micro Controller based Panel-incorporating State of Art Technology.
 - Digital Display of Force, Elongation & Speed values on large Back lit LCD Display Unit.
 - Load @ specific elongation and Elongation @ specific Load
 - Choice of multiple load cells select via keyboard.
 - Peak Force & Maximum Elongation Memory Facility.
 - Variable Testing Speed.
 - Closed loop servo system with variable speed drive.
 - Displacement measurement using Optical Encoder.
- Safety interlocks for overload and over travel.
 - USB Communication port to interface instrument with any computer or laptop.
 - Software for computer control of machine with online graphic display & test report.
 - 2 Pneumatic Grips & Fixtures for variety of materials and also available optionally.
 - One set of pneumatic grips for yarn, wire, cable, etc & one pneumatic grip for fabric, sheet, paper, etc come as standard supply.

Standards : BS EN ISO 13934, Parts 1&2 ASTM D-5034:1995, ASTM D-5035:1995

SINGLE FIBER STRENGTH TESTER

Single Fibre Strength Tester is used to determine the tensile strength & elongation of Single Fibre.



- Tensile strength and elongation of Fibre can be effectively determined.
- Force rating up to 999.9 gm with 0.1 gm accuracy, 99.99 gm with 0.01 gm accuracy.
- Cross head speed is 5 to 300 mm per minute variable.

Standards : ASTM D1445 / D1445M-12

YARN STRENGTH TESTER

Yarn Strength Tester is used to determine the tensile strength & elongation of Single Yarn or Doubling Yarn with peak value & elongation facilities.



- Tensile strength & elongation of Yarn can be effectively determined.
- Force rating up to 10 kg with 1 gm accurate
- Cross head speed is 240 mm per minute.
- Extremely powerful interactive software makes the machine versatile.

Standards : BS EN ISO 13934, Parts 1&2 ASTM D-5034:1995, ASTM D-5035:1995

PUSH PULL

To determine the Button Pull Snap Strength, Neck Stretch Grip and even any of force or Pull Gauge Testing. Motorised Equipment is easy to operate and Digital unit will save maximum force.



- Double Range machine 10kg by 1gm, 1ton by 10gms.
- Digital Display of Force, Elongation & Speed values on large Back lit LCD Display Unit.
- Peak Force and Maximum Elongation Memory Facility.
- Safety interlocks for overload and over travel.
- 2 Pneumatic Grips & Fixtures for variety of materials and also available optionally.

DENIER WRAP REEL 12 LEA

Denier Wrap Reel is use for rapid preparation of accurate lengths of yarn, in hank form, for subsequent weighing and determination of count and strength of the yarn.



- The equipment consists of solidly constructed swift / wheel with collapsible arm.
- It has traverse mechanism.
- Wrap reel is fitted with a digital counter.
- It is powered by a special geared motor with break.
- Cone stand with tension device.

DENIER WRAP REEL 3 - 6 LEA

Denier Wrap Reel is used to check Denier / Count of Yarn or to Prepare Lea.



- The equipment consists of solidly constructed swift / wheel.
- It has traverse mechanism.
- Wrap reel is fitted with a digital counter.
- It is powered by a special geared motor.
- It is automatic.
- Cone and sensationing device.

GSM ROUND CUTTER

GSM Round Cutter are used to determine accurately the GSM (Grams per square meter) of any type of fabrics.



- Reliable rapid, and easy to use.
- 100 Square Centimeters cutting area.
- Depth of cutting up to 2 mm.
- Special finishes for contacting surfaces to avoid of specimen slippage.

DENIER WEIGHING SCALE

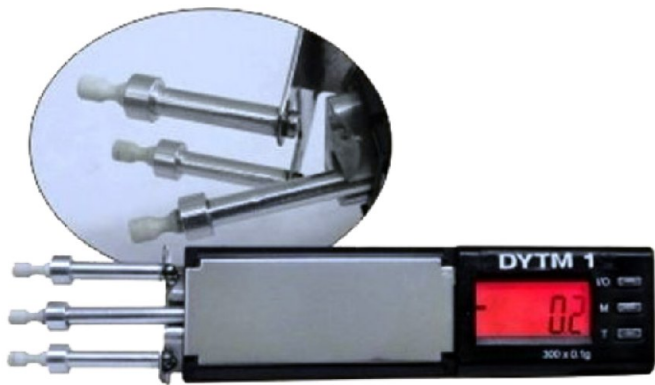
The GSM Scale is used for the determination of the Weight of Yarn, Fabric or Garment.



- A standard laboratory / Industrial grade testing scale model.
- Effectively measures GSM of fabric and other products like yarn and garment.
- A tool is offered to cut fabric of specific size and if weighed on the scale offered, the reading displayed is the GSM of that fabric.
- Gives precise readings.
- Has durability and enhanced longevity.

DIGITAL YARN TENSION METER

Digital Yarn Tension Meter Ceramic Guided, popularly known as Yarn Tension Meter is used to determine tension of moving yarn in knitting & weaving machines.



- This instrument is manufactured in an easy to handle design, size and weight.
- Gives accurate results.
- Range 300gms with 0.1gm accuracy.

SCHMIDT GERMAN TENSION METER

Schmidt German Tension Meter popularly known as Raller type, Dial type Yarn Tension Meter is used to determine tension of moving yarn in knitting & weaving industries.



00 - 12
02 - 20
05 - 50
10 - 100
20 - 300

- This instrument is manufactured in an easy to handle design, size and weight.
- Gives accurate results.

CABLE TENSION METER

Cable Yarn Tension Meter is used to determine tension of moving cable yarn by Cable / Yarn / Wire Manufacturer.



- This instrument is manufactured in an easy to handle design, size and weight.
- Range 10kg with 1gm accuracy.
- Max. hold Facility.

YARN PACKAGE SHORE HARDNESS

Digital Yarn Package Hardness Tester are used to check the hardness of yarn packages such as cone, beam, etc. Hardness may be defined as a material's resistance to permanent indentation.



Digital



Analogue

- Very useful for spinning mills
- Latest design with elegant look.
- Handy, easy to operate.
- Duly packed in a wooden case for safety.
- With calibrated precision digital reading in degree shore.
- Smooth precision-engineered components for exceptional performance.
- Supplied with calibration & inspection certificates
- Easy access to sample table.

AUTOMATIC YARN TWIST TESTER

Automatic Yarn Twist Tester is used for accurate measurement of TPM (Twist per meter) or TPI (Twist per inch) of the twisted yarn.

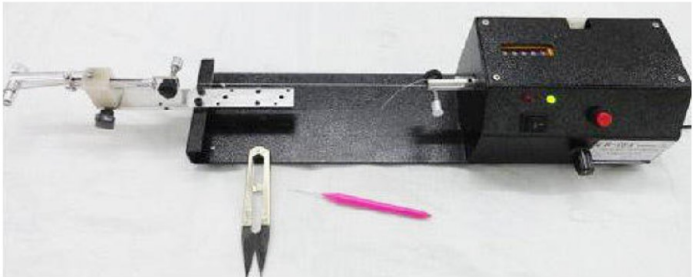


- Micro-controller based electronic twist tester.
- Motor driven fully automatic instrument.
- Auto stop facility for motor.
- In-built sensor.
- Alphanumeric backlit LED display unit.
- Manual option available.
- Computer connectivity and analysis software available.

SEMIAUTO TWIST TESTER

Double Yarn Twist Tester is used to check the twist in yarn.

It is used to determine the twist per inch/cm in double or plied yarns.



- Ergonomically latest design with modern aesthetics.
- Smooth precision-engineered mechanism.
- With analogy re-settable twist counter.
- Complete with all accessories along with proper tension device.
- Supplied with calibration & inspection certificates.

HTHP BEAKER DYEING MACHINE

HTHP Beaker Dyeing Machine is ideally suitable for sample dyeing of fabric and yarn at high temperature and pressure.



**250 ml x 12 beakers,
550 ml x 6 beakers,
8 liter x 1 beaker**

- The machine comprises of tank, beaker and gear box.
- The beakers are capable of withstanding pressure upto 6.0 Kg/cm square.
- The machine is complete in stainless steel.
- Ensures a sound free and smooth working.
- Microprocessor based programmer is provided which ensures temperature control.
- Promises long life and leak proof service even after many years of use.

DYEING - COLOR MATCHING CABINET

Color Matching Cabinet with Remote measures the color difference between two samples.



D-65
CWF
TL-83
TL-84
T.F.L.
U.V.
UL-30
INCA

- Cabinet is made of Teakwood, Ply Board & Sun mica, with strict adherence to international standards.
- Supplied with major tube lights & bulbs for quick and accurate color assessment.
- Fitted with Electronic / ballasts for Instant start & power saving to safeguard the expensive & sensitive tube lights & bulbs.
- No warm-up, No flick, No heat emission.
- Energy Saving, Efficient illumination.
- Compact, High quality with low price.
- Modular Switches with Remote Control & 450 angle viewer.

Standards : ISO 3664, BS 950, ASTM D 1729, DIN 6173

PERSPIROMETER

Perspirometer is used for determining the resistance of the color of textiles of all kinds and in all forms to the action of human perspiration.



- Can also be used for testing color fastness against sea water and water.
- Made of stainless steel frame.
- AATCC and ISO both standard included.
- User friendly and corrosion resistant.
- Smooth precision engineered components for excellent performance.

Standards : ISO 105, BS 1006, BSEN 20105, AATCC 15, 106, 107, 165, IS 971

SUBLIMATION TESTER

Sublimation Fastness Tester is a suitable instrument for dyestuff manufacturers as well as textile processors for checking effects of dry heat on dyestuff.



- Testing the effect of direct heat on the dyestuff.
- up to 250°C temperature range.
- 3 pairs, 6 heat pads.
- 10 to 60 seconds contact timer.
- Can test entire range of temperature in a single test.
- Individual 6 temperature controllers with sensors.

Standards : ISO 105, BS 1006, AATCC 92, 114, 117, 133, IS 975

CROCK METER

Crockmeter is used for testing the transference of color from the surface of one material to another by either wet or dry rubbing. Also known as Rubbing Fastness Tester.



- To determine the Color Fastness of Textiles.
- The equipment consists of a counter.
- It is provided with a flat peg.
- It also consists of an operating handle.
- Tests the color fastness of the textile in a very accurate manner.
- It gives not only accurate but quick results also.

Standards : ISO 105, BS 1006, AATCC 8, BS EN 20105

LIGHT FASTNESS TESTER

Light Fastness Tester is used to determine the color fastness of textiles against sunlight.

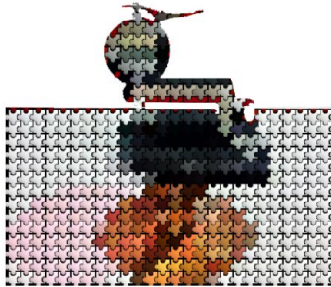


- Light Source : 500W, MBTL Fading Lamp
- Test Chamber Temperature : Ambient to 50° C
- Maximum Number of Type : 12 Nos. 'A' Rectangular Cells, 40 Nos. 'C' Cylindrical Cells
- 110 x 50 mm 'A' Rectangular Cells
- Specimen Thickness : Up to 15 mm, Size: 100 x 50 mm
- Operating Conditions : 50%-65% Relative Humidity, 20°-24°C Temperature

Standards : BS 1006 UK-TN, IS 2454-1985

DIGITAL FABRIC THICKNESS GAUGE

Digital Fabric Testing Instrument determines the thickness of jari, yarn, fabric, paper and film samples etc accurately.



- Range of Measurement : 0 - 10mm
- Least count of dial Gauge : 0.001mm
- Diameter of Anvil : 60mm
- Diameter of Pressure Foot : 2.5mm dia for film, 10mm dia for paper & 25mm dia for fabric
- Load on Pressure Foot - 100g/sq. cm : without weight for 10 mm & with weight for 25mm
- Throat Depth : 22mm
- Optional Dia of Pressure foot & Anvil available 50mm, 60mm, 100mm

Standards : ISO 3616/5084/9073 ASTM D 1777

DIGITAL FILM COATING THICKNESS GAUGE

Digital Film Coating Thickness Gauge determines the Thickness of Jari, Film, Coating, Fabric, Paper samples accurately.



- Determines the thickness of yarns, fabrics, paper, film, jari, coating, etc.
- Range of measurement : 0.1 Micron - 3 mm.
- Thickness is accurately measured in Micron through digital gauge.
- Supplied with calibration & inspection certificates.
- Accurately and conveniently performs thickness measurement.
- Consists of a digital meter with a flat pressure foot and a calibration kit.

MARTINDALE ABRASION CUM PILLING TESTER

Martindale Abrasion cum Pilling Tester is used to check the abrasion as well as pilling resistance of the fabric.



- Effective speed ratio of outer pegs to inner pegs.
- 4 specimen can be tested simultaneously.
- Maximum load (corresponding to pressure of 12KN / m²) : 790g.
- Comprised of stainless steel balls.

Standards : ASTM D4966-12 / D4966-98

PILLING TESTER

Digital Pilling Tester is used to check the pilling resistance of the fabric.



- Consists of two wooden cubical Boxes with inside surfaces lined with special standard cork sheet and outside surfaces beautifully laminated.
- Consists of geared motor which rotates the boxes about their central axis.
- Pre-set Digital Counter stops the motor automatically after the desired number of revolutions
- Can be used for all types of fabric and weave patterns.
- Eliminates subjective assessment.
- More accurate.
- User friendly.
- Adopted universal standard testing procedure.

Standards : ASTM D3512

FABRIC STIFFNESS TESTER

Stiffness Tester is used to determine the stiffness of fabrics.



- It has a solid aluminum base with nylon foot-rest to keep the base horizontal.
- The equipment's parts are made of stainless steel.
- It has a calibrated scale.

Standards : ASTM D1388

CREASE RECOVERY TESTER

Crease Recovery Tester determines the property of textiles to recover from creases by measurement of the recovery angle.



- Made of heavy cast base with all parts of stainless steel.
- To make the movement smooth the Dial moves in a Brass bush.
- The same base has both the Steel Creasing Load and two Round Steel Plates for pressing the specimen.

Standards : ISO 2313

SHRINKAGE TESTER

Shrinkage Template & Scale is used for finding accurate Shrinkage in fabric and Garments.



- To determine directly the % dimensional change (shrinkage) in all types of fabrics.
- Fine calibrated Shrinkage Template with 6" x 6", 10" x 10", 14" x 14" & 18" x 18" benchmarks length-wise & width-wise.
- Calibrated scale to evaluate shrinkage & stretch directly Up to 6" +/- 1", 9" +/- 2", 12" +/- 2" & 15" +/- 2" area with ready % readings.
- Fine tipped fabric marker supplied for accurate marking on light & dark colour fabrics.

Standards : ASTM D6207-03(2015)

OPEN BATH

Open Bath / Water Bath / Beaker Dyeing Machine is ideally suitable for sample dyeing of fabric and yarn at low temperature.



- Open Bath / Water Bath / Beaker Dyeing Machine are fabricated out of 304 quality stainless steel.
- Beaker body and lid made of 316 quality stainless steel.
- Buzzer to indicate the completion of the process cycle or step.
- Equipped with controller in order to control Time v/s Temperature profile.

WATER IMPACT PENETRATION TESTER

Water Impact Penetration Tester tests water penetration resistance of the garment fabrics.



- Equipment is portable.
- Very convenient to use.
- White AATCC textile blotting paper is used for testing.
- Ensures accurate results.

Standards : AATCC 42-2000

WATER REPELLENCY TESTER

Water Repellency Tester measures the resistance of fabrics to wetting by water.



- The tester is suitable for measuring the water-repellent efficiency of finishes applied to fabrics, particularly plain woven fabrics.
- Evaluation is accomplished by comparing the wetted pattern with pictures on a standard chart.

Standards : AATCC 22, ISO 4920

DIGITAL MICROSCOPE

*Digital Microscope
Microscope & Ends Counting Equipment.*



- 5x, 10x, 20x, 40x & 100x lenses Trinocular biological microscope with fibre cross section kit, high resolution CCD camera and imaging software with measurement facilities. Scope of use cross section of fibre or yarn, analysis of any fibre, yarn and fabric.

USB MICROSCOPE



- USB Digital Microscope have 5x to 500x view, pc connectivity to analysis of image through software with micron measurements and used for yarn and fabric design.
- Stand kit with upper and lower lights, smart moving jaws stand with high resolution CCD camera and imaging software to measure in micron areas.

CRIMP RIGIDITY

Crimp Rigidity Tester is used to determine the bulking potential of texturized yarns.



- The instrument is based on test method.
- The tester can be used for both polyamide and polyester texturized yarns.
- Instrument mounted on a sturdy metal base. Compact and portable.

CRIMP TESTER

Crimp Tester is basically use for Crimp of yarn from finished fabric.



- Crimp is an important property that determines processing behaviour in yarn during various finishing processes. Crimp frequency, amplitude, crimp stability, crimp elongation, decrimping point are some of the important properties that determine crimp.
- The instrument is based on test method.
- The tester can be used for both polyamide and polyester texturized yarns.
- Instrument mounted on a sturdy metal base. Compact and portable.

REED PICK GLASS

Handy Reed Pick glass helps in checking the reed pick of the fabric. It also helps in checking the weaving, dyeing & printing defects in the fabric if any is made.



- Handy Reed Pick check fabric reed picks.
- It visualizes (8x)
- It enables counting of needle one by one.
- Possess light & adjustable lenses to see fabric clearly.

REED PICK GLASS

Reed Pick glass helps in checking the reed pick of the fabric. It also helps in checking the weaving, dyeing & printing defects in the fabric if any is made.



- Mini Reed Pick check fabric reed picks.
- It visualizes (8x)
- It enables counting of needle one by one.
- Possess light & Lenses to see fabric clearly.

REED PICK GLASS

Reed Pick glass helps in checking the reed pick of the fabric. It also helps in checking the weaving, dyeing & printing defects in the fabric if any is made.



- Reed Pick check fabric reed picks.
- It visualizes (8x)
- It enables counting of needle one by one.
- Possess light & adjustable lenses to see fabric clearly.

DIGITAL THERMOMETER

***Contact Thermometer used to check temperature in laboratory during test.
It gives results digitally.***



- The digital contact thermometer & buzzer with timer for laboratory has three key bottoms.
- Sets the maximum 99 minutes 59 seconds 200°C .
- The digital buzzer with timer can be set on table or hang on the wall.
- The digital oven thermometer & buzzer with timer for laboratory can be equipped with magnet on the back and can be absorbed on the surface of steel parts.
- Stainless probe, Digital LCD display temperature values clear and intuitive.

MOISTURE METER

Moisture Meter is used to measure the percentage of water in a given textile material.



- It carries powerful 1pc 9V battery.
- The instrument also has 2x Extra Pins.
- Comprehensive Instruction Manual.
- Protective Carrying Bag.

COTTON MOISTURE METER

Cotton Moisture Meter used to check moisture in all kind of raw cotton to finished procedure, from farming to finished yarn spinning stage.



- The Cotton Moisture Meter is a valuable testing instrument during the cotton collection, processing and when buying or selling cotton.
- The newly designed Cotton Moisture Meter utilizes the relationship between moisture content and electrical resistance to effectively measure the moisture content of cotton, seed-cotton and lint quickly and accurately.

TACHOMETER

Tachometer is a Process Monitoring Equipment, used to assess or measure the speed of textile production.



- Contact and Non-contact Type
- Portable
- Accuracy of $\pm(0.05\%n+1d)$
- Built-in memory stores maximum, minimum and last reading for recall to the display.
- Low battery indicator

BURSTING STRENGTH

Digital Bursting Strength Tester is widely used to measure the resistance to rupture in various materials.



- Digital indication of readings
- Manual Clamping
- Enhanced storage facility allows building a vast data library of all tests carried out at various points
- Simple to operate
- This tester evaluates material test & provide reliable data.

Standards : ISO 2758/2759/3303/3689, BS 3424/3137, ASTM 3786, IS 1966

FLEXING TESTER

Flexing Tester is used to check the bending ability of Leather or Coated Material used for Bags, Belts, Shoes, Jackets, etc.

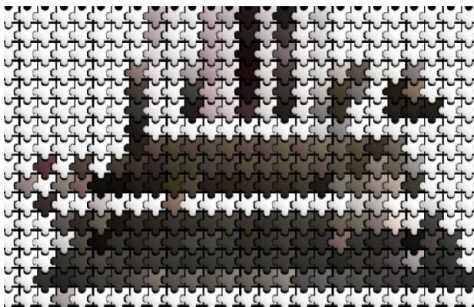


- Very useful for leather or coated material used for bags, belts, shoes, jackets, etc
- Latest design with elegant look.
- Easy to operate.
- With calibrated precision digital reading in 9999 digital preset-able counter.
- Smooth precision-engineered components for exceptional performance.
- Supplied with calibration & inspection certificates
- Easy access to sample table.

Standards : ISO 7854, BS 3424-9

YARN APPEARANCE BOARD WINDER

Yarn Appearance Board Winder, Yarn Evenness Tester is used for wrapping the yarn in equally spaced parallel wraps over a board for visual examination.



- Manually operated.
- Checks the evenness & appearance of yarn.
- Precise preparation for accurate assessment of imperfection to grade the yarn against photographic comparison standards.
- Is used for winding the yarn on the blackboard for visual examination & grading the yarn as per ASTM standards.
- Choices of wide range of rectangular & tapered boards.

Standards : ASTM D 2255-96

GREY SCALE

***SDC Grey Scale For Change in Colour
as per ISO standards.***



- The grey scale consists of nine pairs of non-glossy neutral grey coloured chips, which illustrate the perceived colour differences. These give a corresponding fastness rating of 5, 4-5, 4, 3-4, 3, 2-3, 2, 1-2, and 1. They are used in the assessment of colour change occurring in fastness tests as described in ISO 105-A02. They are also essential in the grading of light fastness tests when using the Light Fastness Standards.

Quality Particulars of Some Popular Fabric Varieties

Quality	Warp	Weft	Total Ends	Reed Space	Reed x Pick	Weight		
						Warp	Weft	Cloth
Poonam	62/36/1770 '2S2Z' Semi Dull Crimp Poly	Same as Warp	3840	51.1"	72 x 2 x 68	3100	2500	5600
Dani Chiffon	20/6/1400 Full dull Nylon 'S' & 'Z'	Same as Warp	4080	40"	96 x 2 x 80	1.050	0.750	1.800
100 X 100 Georgette	100/44/1770 Viscose 'S' & 'Z'	Same as Warp	3276	50"	64 x 2 x 60	4.300	3.600	7.900 7.800
Marble Chiffon	50/48/2800 'S' Semi Dull Flat Poly	50/48/3025 'Z' Semi Dull Flat Poly	4600	58"	76 x 2 x 76	3.100	3.000	6.100 6.200
China Yoryu Saree	50/36 Bright Flat Poly Sized	50/36/2800 Semi Dull Flat Poly	6000	59"	100 x 2 x 80	3.900	2.900	6.800
Dechine Dress	50/36 Bright Flat Poly Sized	75/36/2150 Semi Dull Crimp Poly	6000	49"	80 x 3 x 80	3.900	3.600	7.500
Fuji Chiffon	30/12/1000 Bright Flat Poly	50/36/2800 Semi Dull Flat Poly	6100	58"	100 x 2 x 84	2.200	3.000	5.200
Silver Matt	84/34/400 Semi Dull Crimp Poly	84/34/'0' Twist Semi Dull Crimp Poly	4080	50"	80 x 2 x 80	4.200	3.700	7.900

Quality Particulars of Some Popular Fabric Varieties

Quality	Warp	Weft	Total Ends	Reed Space	Reed x Pick	Weight		
						Warp	Weft	Cloth
Bolting Cloth	30/1 Semi Dull Mono Poly	Same as Warp	7360	51.25"	280 x 1 x 140	2.700	2.400	5.100
Metal Chiffon	30/12/1000 Bright flat Poly.	50/54/2800 Catonic Poly.,	6080	58"	100 x 2 x 88	2.300	3.200	5.500
Nara Chiffon	30/12/1000 Bright flat Poly.	30/12/3400 Bright flat Poly.	6736	61.75"	104 x 2 x 92	2.600	2.000	4.600
Pure Silk Chiffon	20/22 Pure Silk Twist 1800 'S'	'Z' 20/22 Pure Silk Twist 3600 (One Side)	7620	61"	120 x 2 x 100	2.000	1.500	3.500
Organzine	2/20/22 Pure Silk Twist 400	2/20/22 Pure Silk Twist 400	5100	48"	104 x 2 x 112	2.700	2.500	5.200
Kosa Silk	50/36 Bright flat Poly. Sized	50/36 Bright Flat I.M. or 450-T	5400	50.75"	104 x 2 x 80	3.500	2.300	5.800
Kora Silk	50/36/1800 'S' & 'Z' Semi dull crimp Poly.	50/36 Bright flat 450-T	4920	50"	96 x 2 x 80	3.200	2.300	5.500
Masoor Silk	50/36 Bright flat Poly. Sized	50/36/1200 'S' & 'Z' Semi dull crimp Poly.	6000	49.5"	80 x 3 x 72	3.900	2.000	5.900 5.800

Quality Particulars of Some Popular Fabric Varieties

Quality	Warp	Weft	Total Ends	Reed Space	Reed x Pick	Weight		
						Warp	Weft	Cloth
Moss / Licy Georgette	70/68/2200 'S' & 'Z' Semi dull flat Poly.		7560	51.5"	72 x 4 x 76	6.900	3.300	10.200
Chirmin	50/36 Bright flat Poly. Sized,	50/36/1770 'S' Semi dull crimp poly & 1880 - 'Z' (2x2)	5400	55"	96 x 2 x 76	3.500	2.500	6.000
Poonam Brasso	50/36/1770 'S' & 1880 'Z' Semi dull crimp poly	(2x2) & 120 Denier Viscose Sized Same as Warp	4320 & 3960	51"	80 x 4 x 76	2.800 5.700	8.500 2.300	10.800
C. x C. Poonam	50/24/1600 'S' & 1400 'Z' Catonic Crimp Poly.	Same as Warp	4320	51"	80 x 2 x 72	3.200	2.400	5.600
84 x 84	84/48/1250 'S' & 1000 'Z' Semi dull crimp Poly.,	Same as Warp	3880	52"	72 x 2 x 76	4.200	3.300	7.500
70 x 68	70/68/2000 'S' & 'Z' Semi dull flat Poly.,	Same as Warp	3640	54"	64 x 2 x 64,	3.400	2.800	6.200
Leon Georgette	80/72/1200 'S' 80/72/1800 'Z' Roto Poly.,	Same as Warp	4560	54"	80 x 2 x 72	4.800	3.700	8.500
75 x 108	75/108/2000 'S' & 'Z' Semi dull flat Poly.,	Same as Warp	4400	53"	80 x 2 x 72	4.400	3.400	7.800

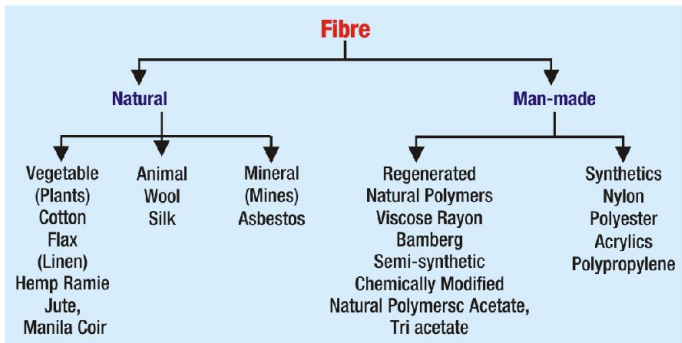
Quality Particulars of Some Popular Fabric Varieties

Quality	Warp	Weft	Total Ends	Reed Space	Reed x Pick	Weight		
						Warp	Weft	Cloth
Sumo Satin	50/36/600 S' Bright Flat Poly. / Sized,	50/24/1000 'S' Catonic Crimp Poly.	8800	51"	68 x 5 x 80	5.700	2.500	8.200
Summer \Cool	62/36/2200 'S' & 'Z' Semi dull crimp Poly.	Same as Warp	7200	53"	88 x 3 x 72	5.800	2.700	8.500
Catonic Dupion	50/24/800 'S' Catonic Crimp Poly.	160 Denier Dupion	3520	49"	68 x 2 x 60	2.500	5.300	7.800
Japan Crape	50/36/600 'S' Bright Flat Poly.	50/48 Crape 'S' & 'Z'	12000	52"	92 x 5 x 92	7.500	3.000	10.500
Italian Crape	60/100 Semi dull flat Poly. Sized	50/48 Crape 'S' & 'Z' 6000		55"	104 x 2 x 80	4.700	2.700	7.400
Pearl Silk	50/36 N.S.Y. Poly.	62/36/1400 'S' & 1560 'Z' Semi dull crimp Poly.	6000	49"	80 x 3 x 72	3.500	2.500	6.000

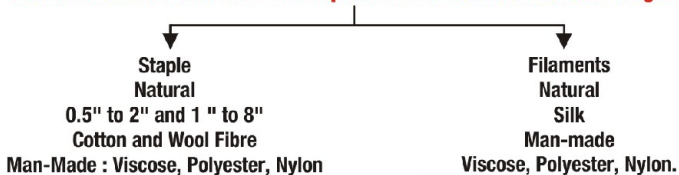
WHAT IS TEXTILE?

For a common man, textiles means a fabric which he buys to wear but he does not know that made-ups, various garments and different type of yarns are also considered under the word "Textiles". Means any material made from the yarn either by weaving or knitting process. Basically the process of converting fibre into fabric consists of four stages. (1) Production of fibre (raw material for yarn). (2) Conversion of fibre into yarn (raw material for gray fabric). (3) Conversion of yarn into gray fabric (raw material for finished cloth). (4) Conversion of gray fabric into finished fabric. (raw material for garment).

FIBRES : Many kinds of textile fibres have been used to make different types of fabrics. The present textile fibres can be classified according to their origin.



Textile fibres are classified into staple & filament on the bases of length.



- **SPUN YARN** : Yarn is manufactured by spinning process during which the fibres are converted into continuous length of thread. During spinning process, the twists are also inserted to hold the fibre together. To manufacture blended yarn, continuous filaments are cut into fixed length and mixed with natural or any staple fibre as the requirement and requisite blend ratio. • Continuous filament yarns having one or more filaments are known as mono or multi filaments respectively.

■ **YARN MANUFACTURING PROCESS FOR FILAMENT YARN**

The filament yarn mean synthetic continuous filament yarn suitable for clothing purpose, like polyester, nylon, acrylics, etc. generally man made fibre in its liquid or molten state is forced through the holes of a spinneret and emerges as a long, smooth, rod-like filament.

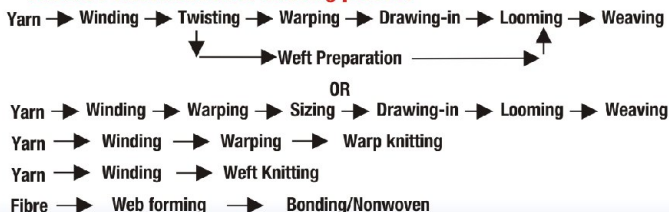
INDIRECT YARN NUMBERING SYSTEM : In an indirect system the yarn number of count is the number of 'unit of length' per 'unit of weight'.

DIRECT SYSTEM : In a direct yarn counting system the yarn number or count is the weight of a unit length of yarn.

■ **DIRECT TO DIRECT OR INDIRECT AND INDIRECT TO DIRECT OR INDIRECT :**

System	To Convert to					
	English Ct.	French Ct.	Metric Ct.	Worsted	Tex	Denier
English Count (Ne)	1	Ne x 0.84	Ne x 1.69	Ne x 1.5	590.5/Ne	5315/Ne
French Count (Nf)	Nf x 1.18	1	Nf x 2	Nf x 1.77	500/Nf	4500/Nf
Metric Count (Nm)	Nm x 0.59	Nm x 0.5	1	Nm x 0.88	1000/Nm	9000/Nm
Worsted (W)	W x 0.6667	W x 0.5645	W x 1.129	1	885.8/W	7972/W
Tex (T)	590.5/T	500/T	1000/T	885.8/T	1	T x 9
Denier (D)	5315/D	4500/D	9000/D	7972/D	D/9	1

■ **FABRIC : Classification of weaving process**

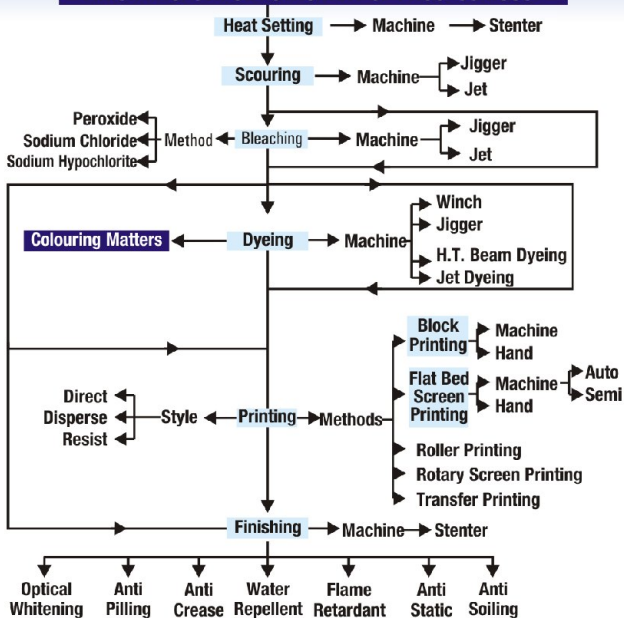


■ CLASSIFICATION OF WEAVING TECHNIQUE WITH MACHINE AND RESULTING :

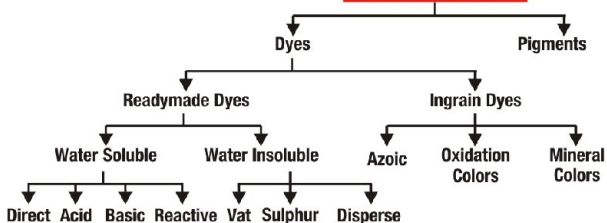
Technique	Machine used	Resulting
Weaving	Ordinary/automatic shuttle loom, shuttle less loom.	Interlacement of warp and weft
Warp knitting Weft knitting	Circular knitting machine, Tricot knitting machine	The single yarn is looped to make a chain of stitches.
Non-woven Dry processes	Stitch bonding machine Cotton-carding machine Wool-carding machine Pneumatic system (Random Webber)	Textile fibre held together by an applied bonding agent or by the fusing of self-contained thermoplastic fibre. Used as disposable cloths or durable fabrics according to the process.
Non-woven Wet process	Spun bonding machine Roto former machine	
Paper making	Foudrinier machine Paper machine.	By dry process (using dry laid webs) and wet process (modified paper).

- **DESCRIPTION OF STEAM :** Steam is the process to remove torque of twist temporarily from the yarn for the proper weaving. In process house after recreation of torque we can create georgette /chiffon feel in fabric. If we give high temperature steam to yarn, then it will remove yarn twist torque permanently.
- Steam is used for polyester, nylon, viscose and bamberg yarns. Some times doubling, covering and other fancy yarns also need steaming procedure.

FINISHED CLOTH'S FLOW CHART OF PROCESS HOUSE



COLOURING MATTERS



PROCESSING

Wet processing means fabric goes under several chemical processes with the help of high equipped m/c. First of all we would discuss about cotton, synthetics and cationic fabrics. Processes given below :

Singeing Process : In this process mended fabric passes on Gas flame which supplied by perforated steel pipe in open width form at 60 to 80 Meter per minute. Perforated steel pipe fit in singeing m/c. Itself. **Desizing process** : Removing of sizing material from fabric is known as desizing process. **Cotton desizing** : Cotton desize process can take place in desizing machine where fabric treated by desize chemical like amibzyme, c-salt at 80°C to 90°C, 60 meters per minute speed of the fabrics. Then wash fabric by hot and cold water according to market fabric goes for other treatment also. **Scouring** : Washed cotton fabrics treated in this small J box with 2-3 gm/ltr. HCL, need room temp. Hold time 2-3 hr's only. Then wash fabric by hot and cold H₂O. **Chemicking** : In this process chemist can be used for better fabric performance -2-3 gm/ltr. Caustic, Room Temperature, 6 Hr's hold time, then wash fabric with hot & cold water. **Peroxide bleach**: In this process also we need small J box, H₂O-ltr/4-5gm, Silicate-1 gm/ltr, Soda-0.05 gm/ltr, Temp.-50° to 60°C, Hold time- Eight Hour's, Wash Fabric by hot and cold water.

Synthetics Scouring Process : Roto, Tex-Tex, Woolly, Polyester need only mild caustic treatment in Jet Dyeing machine. 0.05 gm per ltr. NaOH, 0.05 gm/ltr. Soda, 0.001 gm/ltr. NID, Temperature 80°-110° Then Neutralize with HCL, Oxalic Acid, Some qualities Liza, Lazor, Orient, need weight Reduction Process. **Weight Reduction Process** : As per quality used caustic for W.R. purpose in Jet Dyeing machine. In synthetics scouring process takes place only in Jet Dyeing Machine. **Nylon Quality** : Simply wash by hot water and then you can dye the fabrics. **Cotton Dyeing Process** : J box, jigger dyeing machine, Hot flue dyeing machine, Float drier machine, shaper's machine are generally used in process of dyeing cotton fabrics. **Synthetic Dyeing** : Beam dyeing machine and jet dyeing machine are required for dyeing synthetics fabrics. Load fabric in the machine. Add dispersing agent and leveling agent. At Temperatures 60°-80°. Pressure 3 to 4kg. Then add dyes in dye bath, Temp. Raise 10-20 per min. For **light shade** : 110°C - 30 min., **Medium shade** : 120°C - 45 min. **Dark shade** : 130°C - 60 to 90 min. Acidic media is necessary for dyeing synthetic fabrics.

■ We are facing general problems/variations created in yarn

No.	Variations	Causes
1	Denier	Drawing variation (tension, speed).
2	Temperature	Break the use of A/C plant. Improper maintenance.
3	Crimp	Speed used more than M/C capacity.
4	Drawing	Break the use of A/C plant, which make temp & humidity Variation.
5	Intermingling	Improper maintenance, Improper work of nozzle.
6	Oil	Oil property variation or improper contact of passing yarn.

We are facing general problems/variations created in fabrics

No.	Variations	Causes
1	Denier	Yarn property variation / different merge.
2	Twist	Improper balanced Spindle / RPM / Belt sleep
3	Filament	Different yarn mix.
4	Reed / Pick	Reed is not proper or not fitted proper on M/C Eccentricity variation / Bush-Damage. Let-off & take-up variation.
5	Temperature	Yarn property variation. Steam variation during steaming. Processed over heating or big lot in single job.

- To get better results in texturising unit use humidity system with temperature controlling system.
- In the case of power failure always use to reload machine by discontinue existing paper tubes/cones.
- Meaning of L.B.S. yarn : Low shrinkage property of yarn in boiling water.

ENERGY AUDIT

TO SAVE ELECTRIC ENERGY :

- Stabilized electricity (stabilizer/inverter/capacitor).
- Use motor capacity as per your m/c requirement.
- Cut off the extra load and save over quotation of electricity bill and save minimum bill expenses of electricity.
- If there is no inverter connected check the load of motor once in a month.
- Take the maintenance of motor once in a year.
- Apply good quality oil to reduce breakdown, to reduce load of machine, etc.
- Use of properly balanced pulley and standard bearings.
- Use low weighted and high strength pulley.
- Apply proper tension to belts.
- Use exhaust fans attached with timer/temperature controller.
- Use several wind operated exhaust fans in your factory.
- Use transparent roofs as per requirement.
- Use limited lights to save power. Also use reflectors and clean them regularly.
- Use more ventilation if possible in particular area.
- Do not use heavy capacity m/c (extra width) to produce normal width fabric.

TO SAVE THERMAL ENERGY :

- Fix solar water heating plant to save thermal energy. Reuse hot water.
- Do not use heavy capacity boiler instead of your requirement.
- Check steam line regularly and cover pipes with perfect insulation to avoid temperature loss.
- Make proper valve maintenance for steam line.
- Avoid leakages and unnecessary bands in line, don't use angular bands.
- Check water hardness regularly.
- Automation of steam lines to machinery will help to avoid accidents.
- Test regularly - coal, lignite for calorific value to avoid loss.
- Use turbine high pressure to low pressure line and generate electricity.

NECESSITY OF IN HOUSE LAB :

- You can check yarn or grey coming in your unit so you can stop problem before creating the same.
- You can check during your process so you can check mistake in calculation or variation during process, warping or twisting.
- By deciding quality of ready yarn or fabric you can get maximum income.
- You can develop new yarn or fabric.

Service

- Testing Instruments
- Training Institution
- Paper Plastic Rubber & Textile Testing Reports
- Traceable to NPL Calibration Certificate

Our VISION and MISSION

Important things that keep us moving towards achieving excellence in whatever we choose to do are our basic principles of VISION & MISSION.

Our VISION to exceed our customer's expectations by continuously providing of cost effective products & services with special emphasis on quality - safety and environmental stewardship. We serve our vision as the framework for our Roadmap and guide every aspect of our business by describing what we need to accomplish in order to continue achieving sustainable, quality growth.

Our MISSION is to continually come up with winning ideas of business which can enhance valuable customers for life long. Our Roadmap starts with our mission, which is enduring. It declares our purpose as a company & serves as the standard against which we weigh our actions & decisions.

***World-class Quality Instruments
at Economical Prices.***



GSM ROUND CUTTER



DENIER WRAP REEL (AUTO)



DIGITAL YARN TENSION METER



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EVENT

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