SOORTY'S RESPONSIBLE MATERIALS & MANUFACTURING MATRIX

THE FUTURE POSSIBILITIES

SOORTY

World Of Denim

1.

RESPONSIBLE MATERIALS

Responsible materials makes the core of Soorty responsible design.

Organic Cotton // BCI // Post Industrial Waste

Post Consumer Waste // Recycled Polyester

Repreve // Bio-degradable Nylon

Coolmax Eco-made // T-400 Eco-made // Tencel

Dupont Sorona // Dyneema // X-water // Herbal Indigo

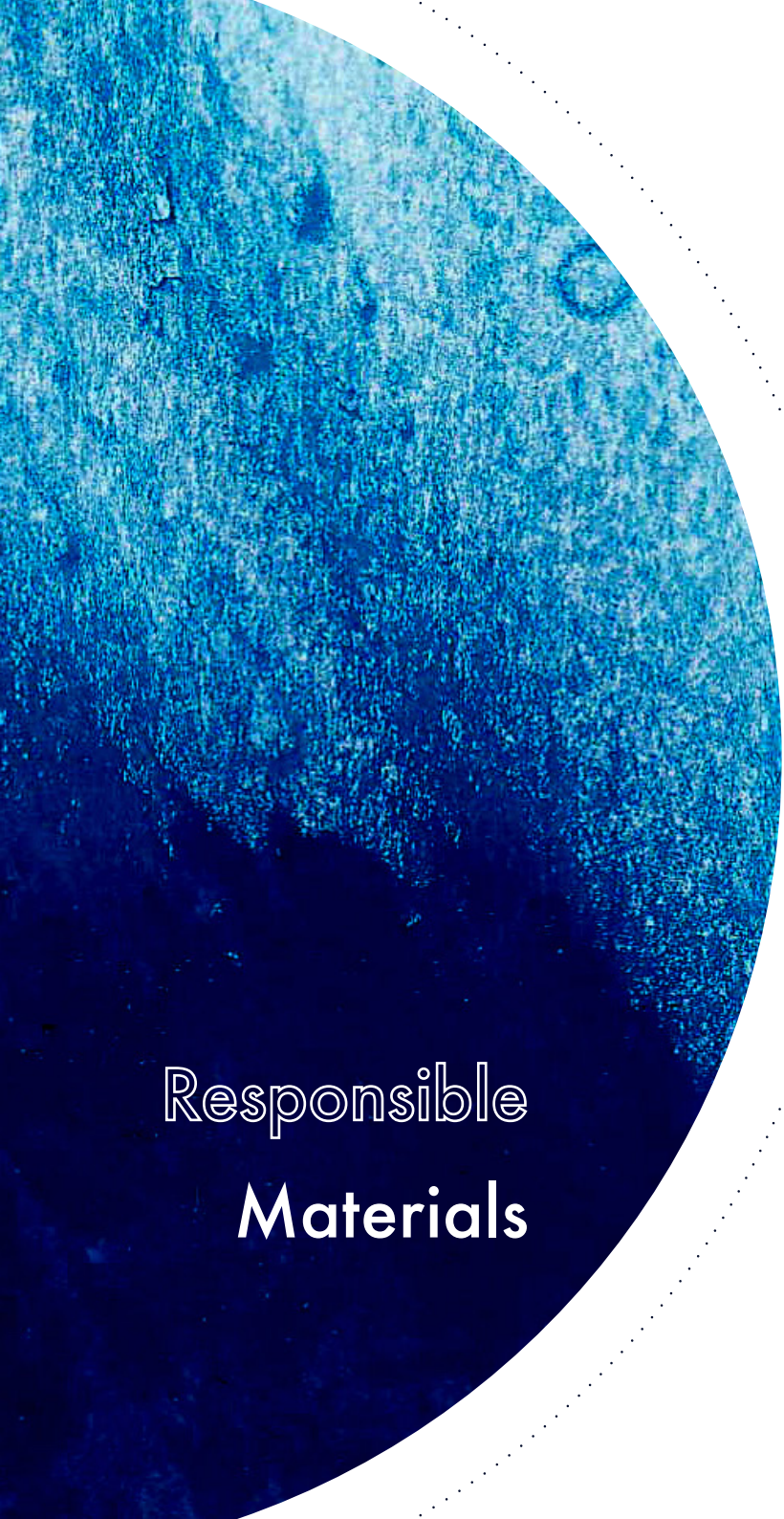
2.

MANUFACTURING METHODS

Responsible Manufacturing is achieved by Soorty engineering expertise.

Zero Waste Water // Indigo+ // Airflow // Selvedge

Eco Applicator // TriOx



Responsible Materials

ORGANIC COTTON

Organic cotton is grown using methods and materials that have a low impact on the environment. Organic production systems replenish and maintain soil fertility, reduce the use of toxic and persistent pesticides and fertilizers, and build biologically diverse agriculture. Third-party certification organizations verify that organic producers use only methods and materials allowed in organic production. Organic cotton is grown without the use of toxic and persistent pesticides and synthetic fertilizers. In addition, federal regulations prohibit the use of genetically engineered seed for organic farming. At Soorty Organic Cotton is utilized as a blend with a variety of fibers at 100% and Soorty is both GOTS and Organic Content certified.

BCI

The Better Cotton Initiative exists to make global cotton production better for the people who produce it, better for the environment it grows in and better for the sector's future, by developing Better Cotton as a sustainable mainstream commodity. The Better Cotton Standard System is a holistic approach to sustainable cotton production which covers all three pillars of sustainability: environmental, social and economic. Each of the elements – from the Principles and Criteria to the monitoring mechanisms which show results and impact work together to support the Better Cotton Standard System, and the credibility of Better Cotton and BCI. The system is designed to ensure the exchange of good practice and to encouraging the scaling up of collective action to establish Better Cotton as a sustainable mainstream commodity. At Soorty we make our denim using cotton from BCI.

WWW.BETTERCOTTON.ORG

POST INDUSTRIAL WASTE

Post industrial waste is a material that is discarded before it is ready for consumer use. Using post industrial waste helps us to close the loop by reintroducing manufacturing scraps into the process. This means the scraps, rejects and trimmings that never make it into the customer's hands have been given new lives and are repurposed into something useful, rather than being thrown away. Soorty is offering 5% to up to 20% recycled cotton content.

POST-CONSUMER WASTE COTTON

Fabrics manufactured with recycled and waste fabrics, reduce our use of virgin cotton and water consumption significantly. CO2 print and other impacts from cotton farming are also improved. Post Consumer Waste Cotton (PCW) closes the loop in our denim production. We use 5% to 20% of PCW in our fabrics and work with i-collect. Soorty's in-house PCW set-up in spinning allows engineering of our fabric more responsible. Soorty is also engaged with GRS (Global Recycle Standard) & RCS (Recycled Claim Standard). Both are international standards to verify the recycle content of products and to verify responsible social, environmental and chemical practices in their production.

RECYCLED POLYESTER

Polyester is a man-made fiber coming from different petrochemicals that require heavy processing, huge water and chemical consumption. Apart from all non-sustainable factors, polyester is still considered as second most demanded fiber in the textile industry. Soorty is promoting developments with recycled spun as well as filament polyester including verified content by GRS standards.

REPREVE

Repreve Nylon is made from pre-consumer or post industrial waste and the collected waste enters a unique material conversion process where it is re-formulated to produce first quality Repreve Nylon chips. The chips are extruded and textured into Repreve Nylon yarn. Nylon is abrasion resistant, retains shape, dries quickly, and provides thermal insulation. 1 pound production of Repreve Nylon saves energy equivalent to 0.6 gallons of gasoline.

BIO-DEGRADABLE NYLON (AMNI-SOUL ECO)

Nylon is a super long chain of polyamide and non-degradable thermoplastic. It lasts years in landfill before it even begins to break down its tight network of carbon atoms. Soorty is promoting a responsible alternative for Nylon; AMNI SOUL ECO®. The secret is its enhanced polyamide formula, which enables garments to quickly decompose when they are discarded and disposed properly in landfills. It is eliminated from the planet in a time of approximately 5 years where in general synthetic fibers take decades to decompose. Faster decomposition time allows us to easily convert it into biomass which can further be used as new environmental resources. Apart from its eco-friendly features, Amni Soul Eco® also caters for market requirements like abrasion resistance, resilience or shape retention, easy care properties.

COOLMAX ECO-MADE

COOLMAX® is a specific engineered fabric which is created using a blend of Polyester fibres and designed to improve breathability. A trademark of Invista (the world's largest integrated fibre, resin and intermediates company), COOLMAX® was developed in 1986 by DuPont Textiles & Interiors (now Invista). The COOLMAX® fabric was originally designed purposing clothing used during extreme physical exercise but now has become widely used in the denim industry as denim and jeans have become a part of our daily active lives.

With COOLMAX® EcoMade technology, you no longer have to choose between performance and sustainability. INVISTA has integrated the permanent moisture management properties which have long been the hallmark of the COOLMAX® brand into fiber made from 97% recycled resources such as plastic bottles. The result - weavers can create high tech, sustainable fabrics that everyone can feel good about. COOLMAX® EcoMade technology gives new life to plastics once destined for landfills by transforming them into fibers through a six-step process, while the COOLMAX® fiber moves moisture away from the skin to help keep the wearer cool, dry and comfortable longer. And, with strong consumer preference, the COOLMAX® brand can help drive sales of your garments.

Plastic Bottles | Flakes | Chips | Fiber | Yarn | Denim

T-400 ECO-MADE

LYCRA® T400® is a bi-component product made from two different polymers and has a coil-like structure that provides the ability to recover over and over even after repeated stresses. Soorty is adding responsible innovation value to its fabrics by using LYCRA® T400® Eco-made technology. Soorty offers the consumers with active life -styles the lasting performance they expect from conventional LYCRA® T400® fiber, now with enhanced sustainability.

TENCEL™

Rayon is considered as the first regenerated cellulosic fiber compared to cotton. Soorty has developed many fabrics with Tencel and Modal as they are 100% biodegradable, provide natural comfort, smoothness and versatility.

Modal is a second generation rayon developed in 1951 in Japan and overcame the lower wet strength of rayon. Lenzing AG is the most recognised producer of Modal. Spun-dyed Modal® fiber means that colored pigments are incorporated into the spinning mass solution prior to the extrusion process and are embodied in the structure. The entire body of the fiber is colored instead of only the surface as in conventional dyeing. The total pigment requirements are only 20% of the dye required for conventional dyeing. It was found that fabric with spun-dyed Lenzing Modal® fiber has:

- *50% lower energy use*
- *60% lower carbon footprint*
- *Requires only 50% of water*
- *Resulting in significant savings on (up to 60%) environmental impacts.*

Soorty has launched unique color range of 100% Spun-dyed modal that are Black // Sand // Blue // Navy // Brown // Red.

Lyocell is a natural, man-made fibre. Made with eucalyptus wood pulp from sustainable tree farms, lyocell textiles are created through the use of nanotechnology in an award-winning closed-loop process that recovers or decomposes all solvents and emissions. It is 100% biodegradable and perhaps the greatest benefits are the variety and exceptional comfort you can experience with lyocell clothing. Tencel® is Lenzing's brand name for lyocell.

TENCEL™ is a cellulosic fiber of botanic origin tailored for a sustainable lifestyle, liberating personal expression through movement by its natural comfort, smoothness and versatility. Soorty designs using Tencel fibers throughout its concepts to promote a sustainable lifestyle, liberating personal expression through movement. The luxurious smoothness and the versatility of the fabrics engineered with Tencel have created some wardrobe staples.

Tencel™
Feels so right

TENCEL®, already an eco-friendly market-success fiber has all characteristics of comfort, lustre and shine. Refibra is re-born tencel which provides magical softness, shine and additional lustre. The raw material is transformed to produce new virgin TENCEL™ Lyocell fibers to be made into fabrics and garments. The developments from Refibra™ fiber that comes from cotton scraps and wood pulp will further enhance Soorty's commitment as a leader in the field of environmental fiber technology and will enable new solutions in the textile industry as a model of circular economy.

Eucalyptus Wood

Pulp-Tencel®

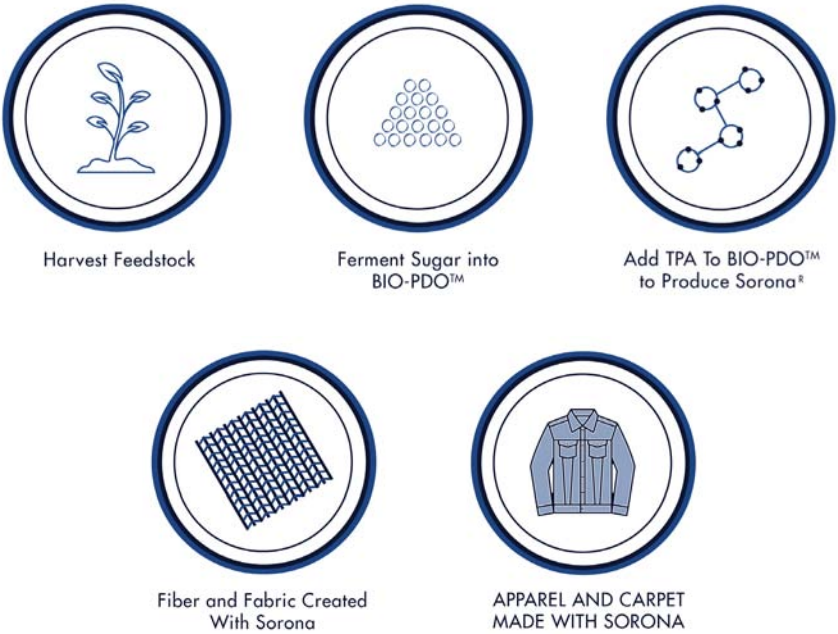
Post Consumer Cotton

Grinding- Recycled Cotton

REFIBRA™

DUPONT SORONA

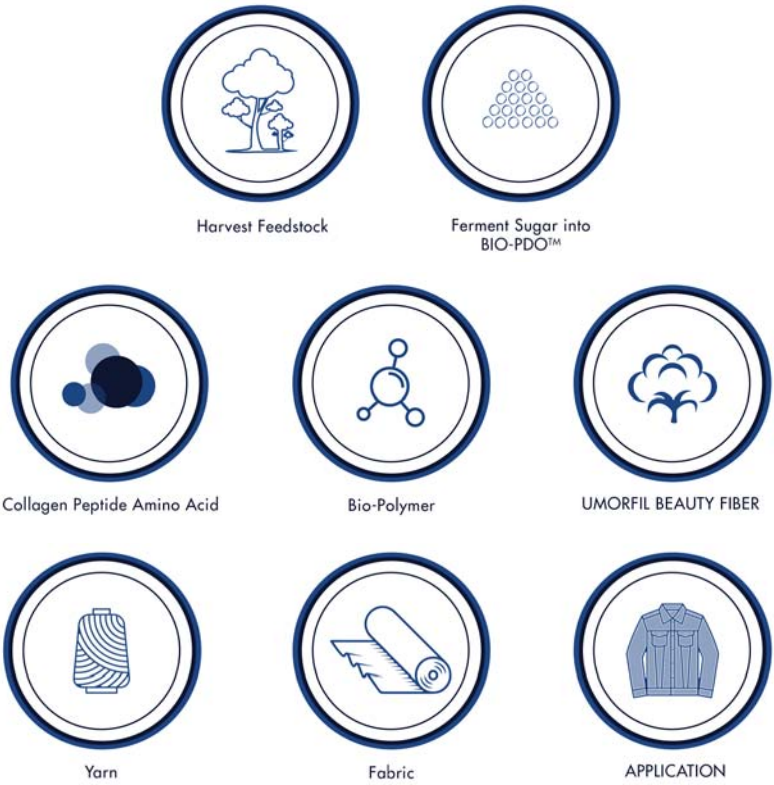
DuPont™ Sorona® is a thermoplastic polymer made from a key intermediate called Susterra™, is non-edible renewably sourced pro-panediol, made from corn sugar. It is the first plastic-coated fiber that represents shift from oil-based materials to bio-based. The raw material is 37% renewably sourced. Sorona® fits perfectly into a legacy of responsible, performance-based innovation that we have to continue to develop to sustain our world. Sorona delivers good stretch, recovery and shape retention properties. The renewable raw material is obtained from industrial corn and is not edible by human beings. The denim fabric with Sorona is for all day wear, provides ease of movement with no sagging and bagging.



UMORFIL® BEAUTY FIBER®

Consumers are developing an awareness of responsible innovation and are also interested in tracing the supply chain of their purchases. Soorty ensures that it delivers to an evolving consumer base. The raw materials also define the future of the industry. UMORFIL® Beauty Fiber® is based on bio-technology.

UMORFIL® Beauty Fiber® is a bio-polymer which is made of a combination of collagen peptides and viscose fiber. Collagen peptides used in this fiber are obtained from fish scales. Abandoning fish scales in environment causes acidification of the soil. Recycling it into collagen peptides is useful for both agriculture and textile sector. Collagen peptide is essential for blood circulation and regeneration of skin plus muscles. It has mesmerizing softness due to higher moisture regain. Additional features are deodorizing, UV protection of UPF 30, anti-static, thermo-regulation and moisture management. The active ingredient in fabric remains lively after several home laundries. Fiber is prepared by blending collagen peptide amine acid with rayon pulp. The fiber is bio-degradable as well which makes it a divine blend of performance and sustainability.



DYNEEMA®

Dyneema® is a super-strong fiber. It is made from Ultra High Molecular Weight Polyethylene (UHMWPE) to offer maximum strength with minimum weight. It is fifteen times stronger than steel. It provides remarkable improvement in Tensile and Tear strength of the fabric. The garments made from fabrics having DYNEEMA are meant to last long. "Loved Clothes Last". Soorty is offering 3-5% Dyneema® content in the fabric. Fabrics containing DYNEEMA are ideal for outdoors, utility and active wear.

X-WATER

The finish used by Soorty is a renewably sourced chemical, non-flourinated and delivers durable water repellency for fabrics. Fabrics treated with Soorty finish offer superior durable water repellency with minimal environmental impact. It's up to three times more durable than existing non-fluorinated repellent finishes and delivers consistent performance.

HERBAL INDIGO

Herbal Indigo is designed to supplement Soorty's innovative journey towards the production of fully responsible denim. Herbal Indigo is an environmentally friendly technology and a refined substitute to conventional dyes. This natural VAT dye is extracted from the Indigofera plant and is also recognized as true indigo. A unique, GOTS certified and advanced technique that preserves the aesthetics of the denim heritage while having a positive impact on the environment.

Manufacturing Methods

ZERO WASTE WATER

Soorty Water saving initiative is an ode to Soorty's ever-expanding positive footprint. The launch represented a milestone for the denim industry, offering both an exceptionally high amount of conserved water and environmentally friendly technologies throughout the entire production process. Its vertical sustainability is enhanced by innovative techniques such as zero water waste indigo rope dyeing, in which the water wastage is 0, and zero water waste finishing, in which is the water wastage 1.5 liter per meter. In normal dyeing and finishing process 14.75 liters water is wasted per meter. The new process has allowed us to save up-to 90% of waste water.

INDIGO+

Sodium Hydrosulfite is used to reduce the indigo during the indigo dyeing process. The salt formation adds to the water, energy and chemical consumption in the manufacturing of denim fabric and is an undesired result due to contaminated effluent. The contaminated effluent has higher COD and BOD. Soorty uses an alternative chemical to Sodium Hydrosulfite which eliminates the salt formation. Soorty is applying in this new chemical in its production. Hence, it reduces the COD and BOD of effluent.

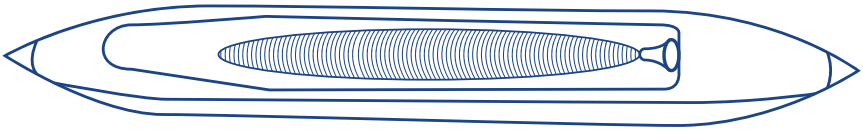
AIRFLOW

The fabric shrinkage is important for garment making especially in power stretch fabrics with elasticity of up-to 80% or more. So without using lots of water we are controlling maximum shrinkages of warp and weft by using Airflow technology. It is basically based on tumble-drying concept. The fabric is padded with little amount of water or softener and then is exposed to and fro motion is being generated using air circulation. The fabric has less shrinkage after washing, is easier to handle in garment stitching and enables less size variation, less puckering, premium look and soft touch.

SELVEDGE

The word selvedge comes from "self-edge". It is the edge of the fabric that provides a clean finish and helps avoid unraveling of fabric. All the woven fabrics in the world are produced with Selvedge. In case of denim, Authentic Selvedge is made on old-fashioned weaving machines. Selvedge looms were popular until the mid to late 1900's and now have become rare to find in modern times as it requires expertise to run those looms.

Soorty has invested in shuttle looms to provide the authentic selvedge denim to all the denim addicts out there. Now you can feel, look and buy the denims back from 1900's. Soorty is offering rigid, two way stretch and four way stretch fabrics with real selvedge.



ECO APPLICATOR

ECO-applicator works on the principle of kiss roll which means water or chemical is applied on the surface of fabric rather than dipping the fabric in chemical or water tanks. Soorty is practicing ECO-applicator in two different ways; at the Sanforizing machine and at the Stenter machine. The water and chemical consumption is very low compared to conventional finishing machines.

ECO-applicator is a sustainable step introduced in the manufacturing of denim fabric. Denim fabric requires 15% moisture for the Sanforizing process and in regular denim production the fabric is initially given 100% moisture and then the moisture is reduced to 15% with the dryers. Eco applicator eliminates the drying stage by applying 15% moisture needed before Sanforizing saving water and energy. Further, it allows us to save water in the Sanfor process. Regular Sanfor uses 1.5 liters / meter and further drying cans are used to dry the fabric. On the other hand ECO-applicator has next to zero water consumption no need of drying. Here, ECO-applicator allows us to use less chemicals and water in coating application. In conventional coating application the fabric is padded in chemical + water and the pickup is 60%. Afterwards, heat is provided to evaporate excess water. With the ECO-applicator the fabric pick up is 20%, thanks to kiss rolls, which allow us to use less water and lower evaporation.

TRIOX

Soorty has embraced the recent innovation in denim finishing the TriOx dynamic. It is eco efficient ozone textile finishing technology. TriOx takes air from its surrounding and transforms it into ozone, liberating the particles inside the tumbler to produce results like elimination of indigo dye excess and back staining and improved crocking fastness, and improved cast of color. All of this is accomplished in a zero discharge of chemicals and with elimination of the processes like mercerization to produce denim. That is why TriOx is the only technology certified as ecological and safe by an independent laboratory.

- *Garment manufacturers have the advantage to get improved laser effects on TriOx treated fabrics.*
- *Good for Raw Denims.*
- *Use of caustic can be avoided*
- *Shade Unification and flatter look without mercerization with better crocking values and less back staining on raw fabric*

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