We aRe SpinDye®

CLEAN COLORS

WORKBOOK

Photo: ©The Jens

WE ARE **CLEAN COLORS**

*We aRe SpinDye® offers **the most sustainable** polyester yarns and fabrics in the fashion and apparel industry. Our eas**y accessible coloring process** is **certified** and **fully transparent**, it delivers fabrics with **excellent color performance** and a **long-term awesomeness.***

Research cited by the World Bank indicates that nearly 20% of all water pollution world wide is relating to dyeing textiles. Colors are great, but they can be challenging to produce.

We aRe SpinDye® believes in abandoning the harmful practice of water dyeing and leading by example, inspiring the textile world to instead choose a more sustainable method of modern coloring.

www.spindye.com

We aRe SpinDye®

VERIFIED
SUSTAINABILITY

By using the SpinDye®-coloring method we reduce the amount of water used to color fabrics with up to 75% at the same time as we reduce the used amount of chemicals with up to 90%

- Sustainability is added value to the product
- Sustainability is status
- Sustainability is a catalyst for growth

We aRe SpinDye®
Result 5/5

Regular piece dye
Result 2/5

We aRe SpinDye®

VERIFIED
PERFORMANCE

Selected SpinDye®-fabrics that was exposed 350 hrs in laboratory (equal to a full year exposure in sun on high altitude) received the test result: 5/5 according to EN ISO 105-B02.
In reality this means that you can hardly see any bleaching at all. The result for the same fabric, traditional dyed, at the same test is 2/5 which means that the color is clearly bleached. This means that the life time of the garment is extended and the consumer can keep it and use it for a longer time.

-75% WATER USE

-90% CHEMICAL USE

-25% Co2 IMPRINT

-30% ENERGY USE

5/5 COLOR FASTNESS TO LIGHT

4,5/5 COLOR FASTNESS TO WASH

-75% WE REDUCE THE AMOUNT OF WATER USED TO COLOR FABRICS WITH UP TO 75% AND THE USED AMOUNT OF CHEMICALS WITH UP TO 90% **-90%**

5/5 SPINDYE®-FABRICS THAT WAS EXPOSED 350 HRS IN LABORATORY (EQUAL TO A FULL YEAR EXPOSURE IN SUN ON HIGH ALTITUDE) RECEIVED THE TEST RESULT: 5/5 ACCORDING TO EN ISO 105-B02.

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We aRe SpinDye®

TRANSPARENCY & TRACEABILITY

The SpinDye®-certification method is based on a tracking and tracing formula which uses a transaction certificate based system, similar to the organic certification system, ensuring the highest level of integrity.
It is also subject to rigorous inspection and third party validation.
All our fabrics are checked by third party validated certifiers.

- Transparency = trust
- Traceability is the tool to gain trust

100% TRANSPARENCY

100% TRACEABILITY

The SpinDye®-certification is based on LCA Methodology with the **ISO Standard 14040-serie**
Audited by swerea IVF

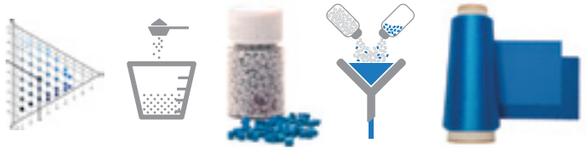
SPINDYE®-CERTIFICATE

The SpinDye®-certification method is based on a tracking and tracing formula which uses a transaction certificate based system, similar to the organic certification system, ensuring the highest level of integrity.

100% ALL OUR FABRICS ARE CHECKED BY THIRD PARTY VALIDATED CERTIFIERS. THIS IS WHY WE CAN PROMISE THAT WE ARE 100% TRANSPARENT AND TRACEABLE

THE SPINDYE®- **COLORING PROCESS**

Instead of the traditional dye process — which requires significant amounts of hot water and process liquid chemicals — We aRe SpinDye® adds the colorants in the beginning of the manufacturing process. The recycled polyester pellets are mixed with the color, melted and extruded to fibers which are spun to yarn.



Choose your color

Recipe based colors

The color pigment is mixed with polyester pellets...

...melted and extruded to yarn...

...spun to yarn...

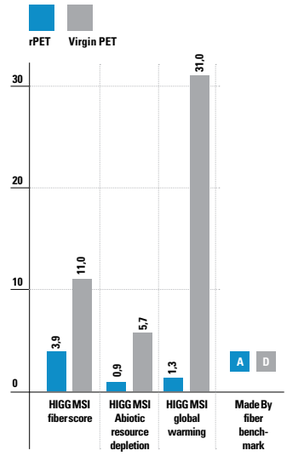
... and finally weaved or knitted to desired fabric

GRS CERTIFIED **RECYCLED POLYESTER**

All SpinDye®-fabrics are made from recycled polyester (rPET). Polyester is in general the plastic that is best suited for recycling to fabrics and for the SpinDye®-coloring method.
We aRe SpinDye® use only GRS*-certified polyester.
The diagram to the right which is put together by *Textile Exchange* shows the *HIGGS MSI* and *"Made By"* scores for rPET vs Virgin PET.

**) Global Recycling Standard*

100% RECYCLED POLYESTER

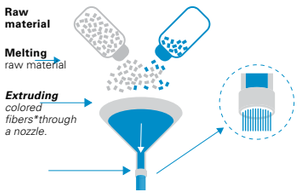


COLORING FIBERS VS. PIECE DYEING

We aRe SpinDye® adds the color in the beginning of the manufacturing process. The recycled polyester pellets are mixed with the color, melted and extruded to fibers which are spun to yarn.
This is why We aRe SpinDye® exclude the step of hazardous water dyeing.

Raw material to colored fiber

Recycled polyester (rPET) is mixed and melted with color pigments. The colored polyester mass is squeezed through a nozzle. This is done in a dry and controlled environment.
The color pigments are recipe-based, which guarantees 100% accurate color consistency from season to season & batch to batch.



Fabric to dyeing

The fabric is dyed in hot water and under high preassure mixed with liquid dyestuff.
This step is excluded in the SpinDye®-coloring method.

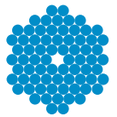
COLORED FIBERS VS. DYED YARN

This illustrates the difference of coloring fibers* versus dyeing fabrics.
(*The technical term for fiber is filament)

Fibers* filaments & yarn

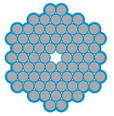
Close up and cross section of **uncolored /undyed** yarn. Fibers are spun and texturized to yarn.
A yarn is usually made of between 40 and 80 fibers. This illustration shows a yarn with 72 fibers.

Colored fibers & yarn



Close up and cross section of yarn with **homogenic colored fibers**. By adding the color pigment prior to the extrusion of the filament, it gets homogenic colored. This is the reason to why the SpinDye®-fabrics has such high level of colorfastness to sunlight.

Dyed yarn



Close up and cross section of piece dyed yarn, where the **dyestuff sticks on the outside of the fibers** by using hot water, under high preassure and liquid dye stuff.

We aRe SpinDye®

Raw material to colored fiber

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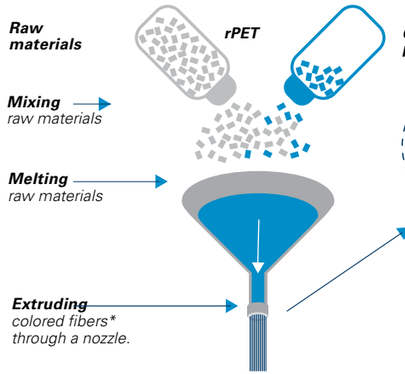
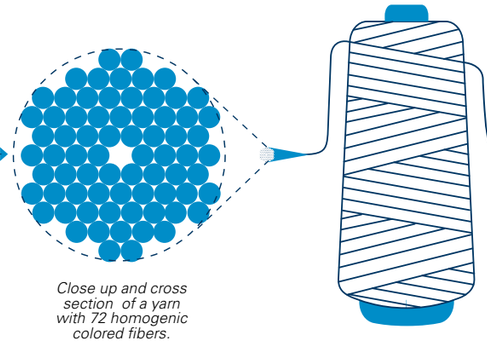


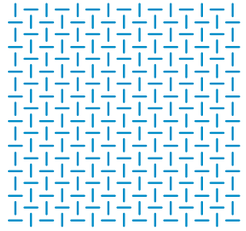
Colored fiber to yarn

The extruded fibers are spun and texturized to yarn. A yarn is usually made of between 40 and 80 fibers*. (*The technical term for fiber is “filament”.)

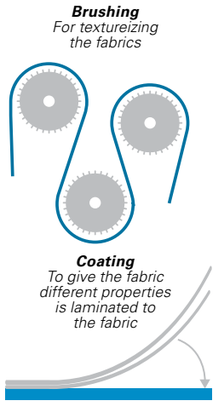


Colored yarn to fabric

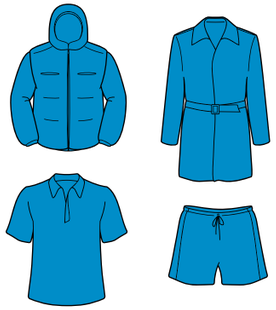
The colored yarn is weaved or knitted to desired fabric.



Fabric to finishing



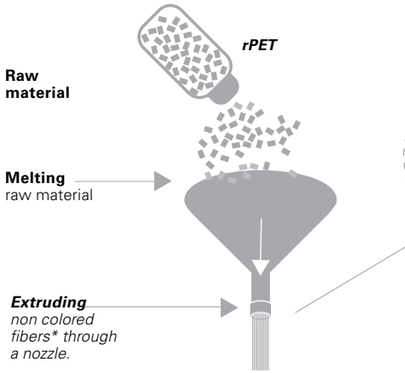
Fabrics sent to assembling



Piece Dyeing

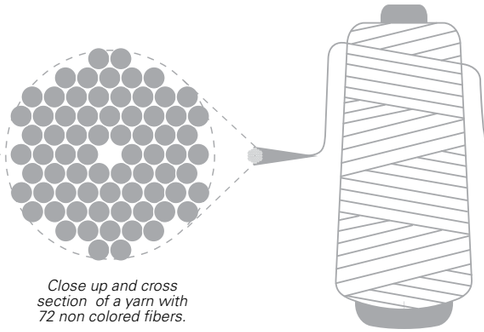
Raw material to fiber

Recycled polyester is melted. The mass is pressed through a nozzle.



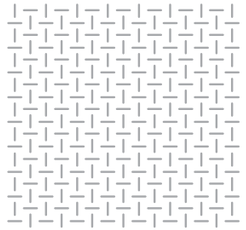
Fiber to yarn

The extruded fibers are spun and texturized to yarn. A yarn is usually made of between 40 and 80 fibers*. (*The technical term for fiber is “filament”.)



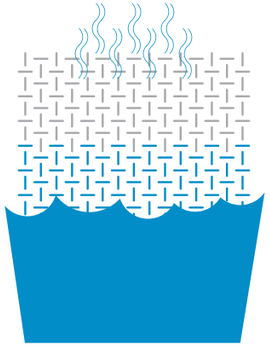
Undyed yarn to fabric

The yarn is weaved or knitted to desired fabric.

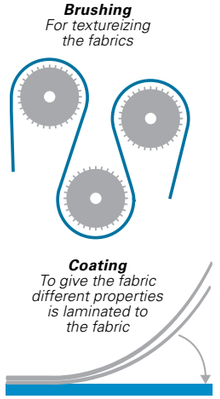


Fabric to dyeing

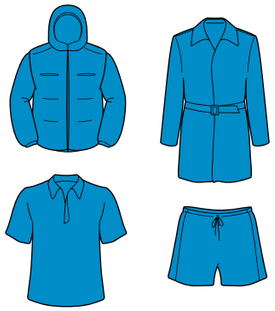
The fabric is dyed in hot water and under high preassure mixed with liquid dyestuff.



Fabric to finishing



Fabrics sent to assembling



We aRe SpinDye®

LIFE CYCLE ASSESSEMENT AND WE ARE SPINDYE® - KEY PERFORMANCE INDICATORS

This is a diagram of what we measure and where in the process we measure it.
The SpinDye®-certification is based on LCA's methodology with the **ISO Standard 14040-series.**
The Key Performance Indicators (KPI) are compared to piece dyeing method standards.

We measure:

- Chemical use in Kg
- Water use in L
- Cumultative energy in MJ
- Co2-equivalents in Kg

In this diagram you can see the measured KPI's of one of the individual SpinDye®-batches. The blue staples, compared to the same production with piece dyeing (in grey)

We aRe SpinDye®

Regular piece dyeing

This diagram of the process chain of a fabric production shows clearly that the **dyeing process is the most resource demanding step in the production.** If you use regular piece dyeing - that is!

The steps We aRe SpinDye® measure in the production chain are:

- Raw material Re-pet + pigment
- Masterbatch (milling)
- Spinning (texturing)
- Weaving
- Knitting
- Finishing (dyeing)
- Brushing
- Coating solvent based
- Coating water based

20%

THE GLOBAL TEXTILE INDUSTRY IS ACCOUNTABLE FOR MASSIVE WATER POLLUTION. RESEARCH CITED BY THE WORLD BANK INDICATES THAT NEARLY 20% OF ALL WATER POLLUTION WORLD WIDE IS RELATED TO THE PROCESS OF DYEING TEXTILES.

This is how much water that is used for dyeing one kilo fabrics with the regular piece dying process.

Compared to the water useage with the We aRe SpinDye® which reduce the water usage with up to

-75%

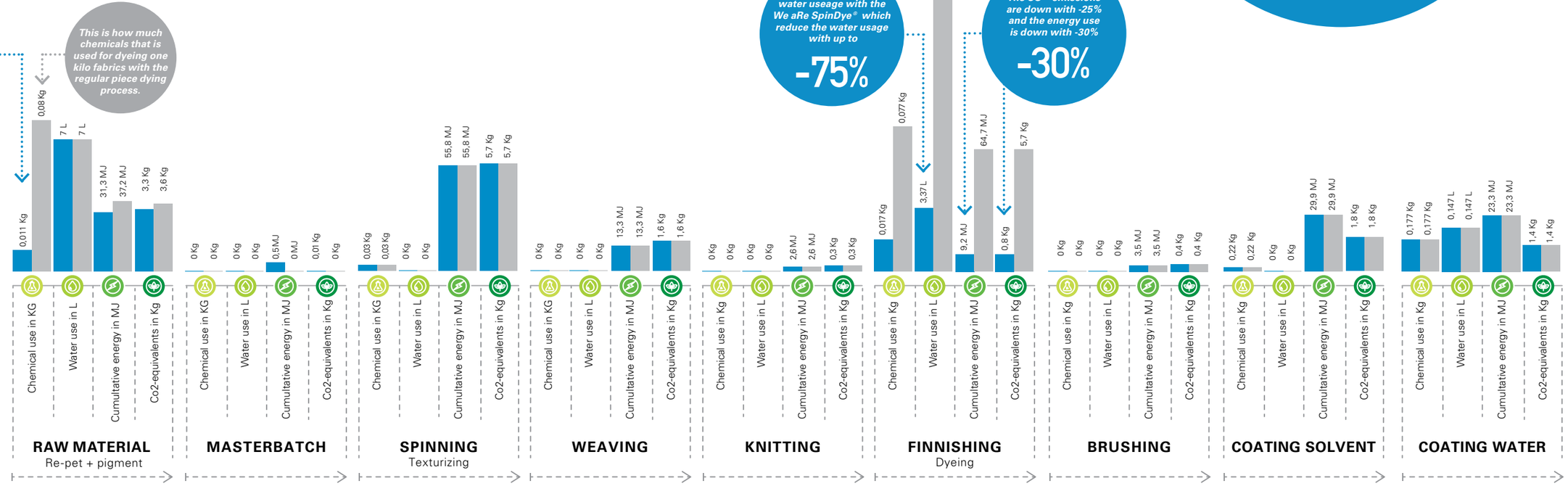
The CO^2 -emissions are down with -25% and the energy use is down with -30%

-30%

-90%

The SpinDye®-coloring method can reduce the usage of chemicals with up to -90% compared to piece dying. One of the reasons is that we use color pigment instead of liquid dye stuff.

This is how much chemicals that is used for dyeing one kilo fabrics with the regular piece dying process.



This row shows the steps we measure in the production and this is the foundation for our LCA and the SpinDye® -certificate.

We aRe SpinDye® offers ***the most sustainable*** *polyester yarns and fabrics in the fashion and apparel industry. Our easy* ***accessible coloring process*** *is* ***certified*** *and* ***fully transparent****, it delivers fabrics with* ***excellent color performance*** *and a* ***long-term awesomeness.***

We aRe SpinDye® '

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