




## ENVIRONMENTAL IMPACT


## INDIGO PROCESSING

### The Most Polluting Industry

- X** Highest water consumption
- X** High aquatic toxicity pollutes the oceans and rivers
- X** Uses hazardous Reducing agents
- X** High carbon footprint

 10,000 litres of water is used to process one pair of Jeans.

 The unfixed indigo dye is let loose straight to the rivers. This contaminates our water supply lines.

 Hazardous Chemicals like Hydrosulphite a reducing agent are required to Dye the Denims. Which allows developing of colour.

 It is an extremely hazardous chemistry.



# NATURE SAFE DENIM PROCESS

## SCHUTZEN NATURAL PROCESS

Innovative alternate process to traditional Indigo Processing

Waterless Indigo Free, Denim like look using Pigments or Reactive Dyes instead

- ✓ Normally, A reactive/Pigment Dyed (Yarn or Fabric Knits as well as woven) will never exhibit wash down effect post processing, Thus the industry uses Indigo & Sulfur dyes.
- ✓ No post production changes in washing technique are necessary at the Garment level.
- ✓ The process is bio-Degradeable and Environmentally friendly.

## PROCESS BENEFITS



### MACHINE FLEXIBILITY

- Warp Dyeing Machine
- Padding Mangles
- Rotary/Flat bed printing machines
- Coating Machine



### CHEMICAL SAFETY

- Indigo Free/Sulphur Free
- Hydrosulphite Free process
- Better fixation
- Less ETP load



### WATER SAVING

Reduced water consumption upto 40%



### COST SAVING

25-30% overall cost reduction



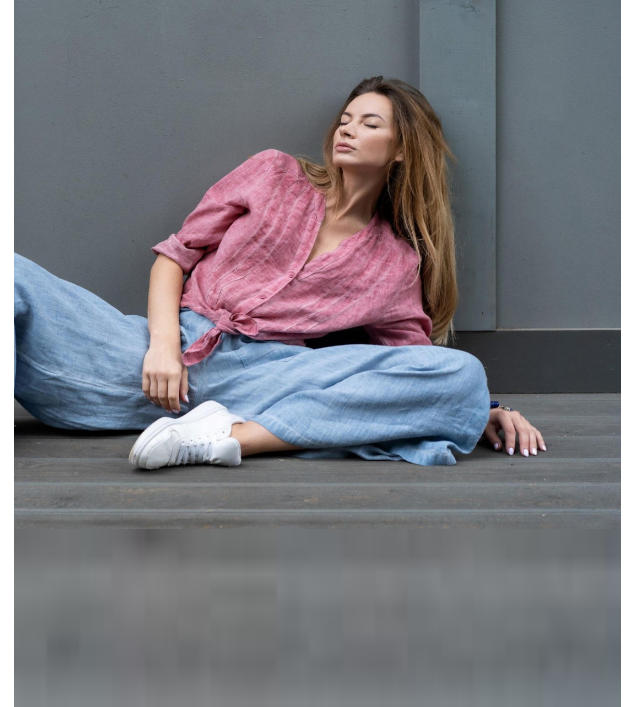
# NATURE SAFE DENIM PROCESS

## SCHUTZENCOL-FADER

sustainable wash down look using reactive Dyestuff & SCHUTZENCOL-FADER

**SCHUTZENCOL-FADER** is a ready to use Concentrated Liquor.

**SCHUTZENCOL-FADER** is a synergistic combination of Polymers based on a bio-degradable polymeric backbone which is bio-degradeable & Sustainable.



## RECOMMENDED RECIPE

Sustainable wash down look using reactive Dyestuff & SCHUTZENCOL-FADER

| PRODUCT NAME                             | RECIPE                            |
|--|-----------------------------------|
| SCHUTZEN Grade Special Reactive Dyestuff | X parts                           |
| SCHUTZENCOL-FADER                        | 70 parts                          |
| Water                                    | Y parts (upto viscosity 5000 cPs) |
| pH (Check)                               | 8-9                               |
| Total                                    | 100 parts                         |

## POST REACTIVE WASHDOWN PROCESS

Sustainable wash down look using reactive Dyestuff & SCHUTZENCOL-FADER



Transfer to machine of choice (soft-flow, jigger, open width etc)  
treat with SCHUTZENZYME-NC (1-2% o.w.f.)

Run machine at 55 °C for 10-15mins

## POST REACTIVE SOAPING PROCESS



80 °C

Soaping & anti-using SCHUTZENWASH-12

Neutralise using SCHUTZENACID-NEUTRA

Cold Wash

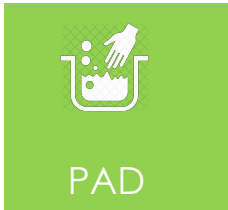
Dry

**NOTE:** The sequence for enzyme wash are reversible based on guidelines from the manufacturer



## SCHUTZENCOL-FADER

Sustainable Wash Down Look Using Reactive Dye stuff SCHUTZENCOL-FADER



SCHUTZENFIX-RD:20g/l, 80% expression

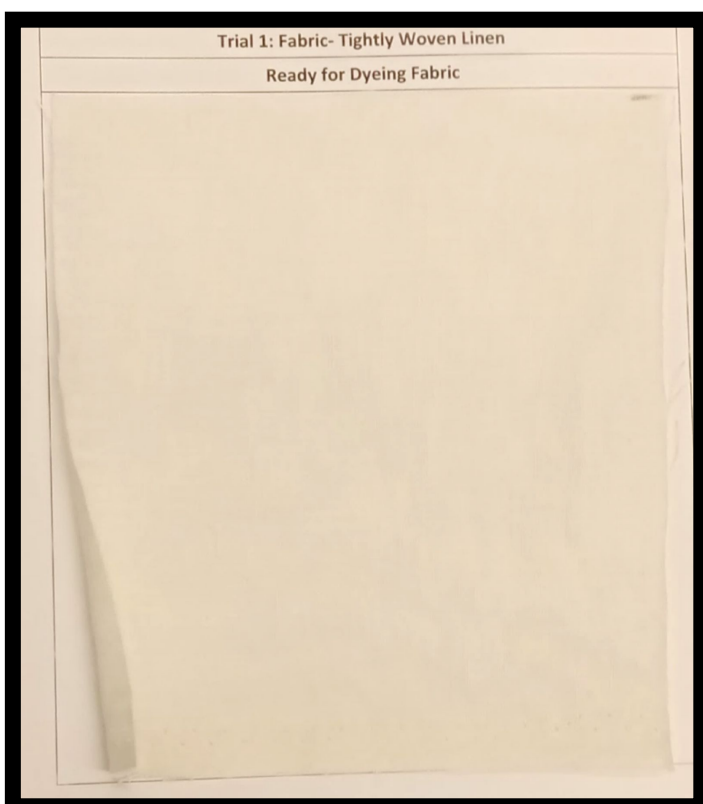


100°C for 3-5mins

**NOTE:** This step is not mandatory; it is to be carried out only if found necessary

## EFFECTS

Sustainable Wash Down Look Using Reactive Dye stuff SCHUTZENCOL-FADER





# NATURE SAFE DENIM PROCESS

## SCHUTZENCOL-DENIM

Sustainable Wash Down Look Using Pigments SCHUTZENCOL-DENIM

**SCHUTZENCOL-DENIM** is a ready to use Concentrated Liquor.



## RECOMMENDED RECIPE

Sustainable wash down look using pigments SCHUTZENCOL-DENIM

| PRODUCT NAME      | RECIPE                            |
|-------------------|-----------------------------------|
| Pigments          | X parts                           |
| SCHUTZENCOL-DENIM | 70 parts                          |
| Water             | Y parts (upto viscosity 5000 cPs) |
| pH (Check)        | 6-7                               |
| Total             | 100 parts                         |

## APPLICATION PROCESS FLOW

---

Sustainable wash down look using pigments SCHUTZENCOL-DENIM



PAD

2 dip nip 80-90% expression



DRY

100 °C for 3-5mins



CURE

150 °C for 2-3mins

## WASHDOWN PROCESS FLOW

---



COLD  
WASH

Cold Wash



HOT  
WASH

Transfer to machine of choice (soft-flow, jigger, open width etc)  
treat with SCHUTZENZYME-NC (1-2% o.w.f.)

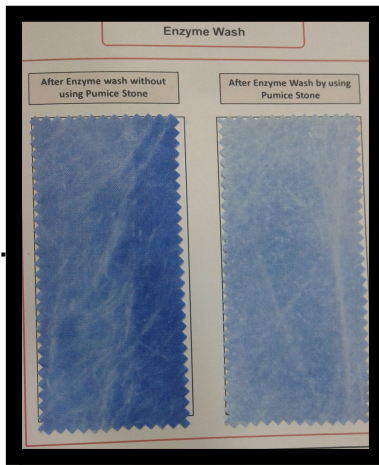
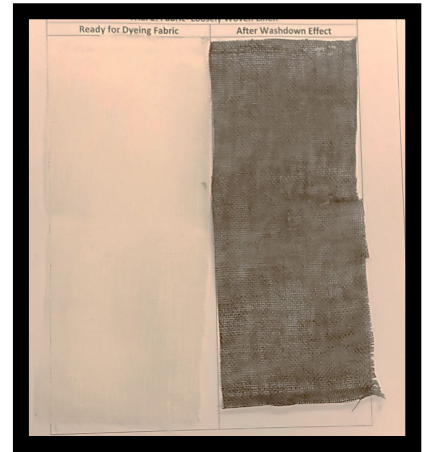
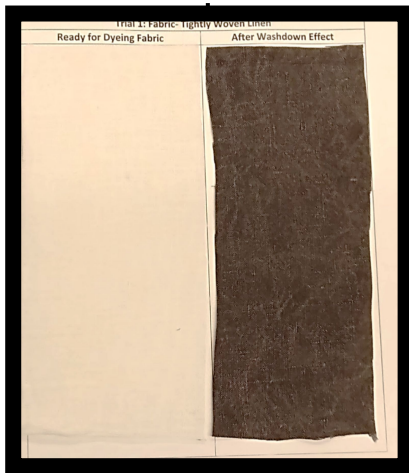
Run machine at 55 °C for 10-15mins

Hot Wash & Cold Wash

Dry

## EFFECTS

Sustainable wash down look using pigments SCHUTZENCOL-DENIM





## CERTIFICATIONS

---

SCHUTZEN is committed towards acquiring the right certifications

### Textile Chemical Safety Certificates

