

# Enzyme Washing

Ryan Cruz  
Prof. Monroe  
Textiles

# What is Enzyme Washing ?

- It is a method that uses cellulase enzymes to wash denim and give it a worn look.
- “Enzyme Washing uses “Cellulase Enzymes” to eat away at the exposed cellulose”



- <https://www.heddels.com/dictionary/enzyme-washing/>

# History Of Enzyme Washing

- Revolutionary trend in detergent industry
- Dates back to Germany in the 1920's and Switzerland in the 1930's
- As time passes, they are developed to be less costly.
- "In the United States detergent manufacturers resisted the incorporation into their powders for many years"

# Chemistry Behind Enzyme Washing

Different Type of Enzyme:

- Acid Enzyme
- Neutral Enzyme
- SL Enzyme

# The Process of Enzyme Wash

- Step 1: Enzyme desizing
- Step 2: Apply Enzyme
- Step 3: Soften the fabric
- Step 4: Hydro Extractor Machine
- Step 5: Drying Machine



<https://www.youtube.com/watch?v=VyZrwyWneXM>

# Why Enzyme Wash ?

- Removes Starch from fabrics
- Achieve Stone effect on garments
- Low damage to the fabric
- Improves Anti-pilling properties
- Enzyme mainly attacks the surface of the fabric



<http://textilelearner.blogspot.com/2016/04/latest-dry-washing-techniques-in-denim2.html>

# Advantages of Enzyme Washing

1. Increases color fastness
2. Makes the garments softer
3. Gives the garment an effect without harming the fabric
4. Depending on fabric it increases gloss or lust
5. Allows the machines to be loaded more with garments
6. Less labour intensive than stone washing

# Visuals



[https://www.alibaba.com/product-detail/Custom-T-Shirt-Stone-Wash-T\\_60065797246.html](https://www.alibaba.com/product-detail/Custom-T-Shirt-Stone-Wash-T_60065797246.html)



<https://www.pinterest.com/pin/246572148332714669/?autologin=true>