



PIGMENTS



TEXTILE

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# ZETATERRA PIGMENTS

Mineral pigments  
of natural origin



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 **ZAITEX**  
— R&D FOR FASHION TRENDS

# ZETATERRA PIGMENTS

Mineral pigments  
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ZETATERRA Pigments are fully compliant with the following certifications:



GOTS Approved Additive  
Approved by: ICEA  
GOTS-ICEA-05-003



ZDHC MRSL v3.1

## EVERSAVE APPROACH

ZETATERRA Pigments belongs to ZAITEX's eco-friendly project called **EVERSAVE**: our approach to lead our customers to an effective **innovation** through the **optimization** of garment dyeing & finishing process.

ZETATERRA Pigments is suitable for:

- high reproducibility
- low operating temperatures - max. 50°C
- low energy consumption
- easy wastewater treatment:
  - no electrolytes
  - possible treatment of the dye bath through its simple filtration



## WHERE DO THEY COME FROM?

“Terra” is an Italian word that means “**earth, ground, soil**”, the natural source from which our **ZETATERRA** Pigments come from. This range of pigments of natural origin is the response ZAITEX would like to give to the constantly growing market request of making use of eco-friendly pigments.

This new series allows you to get beautiful washed down effects for original fashion results on garments. Most importantly, these pigments have very high overall fastnesses. This lets **ZETATERRA** Pigments differentiate from traditional natural ones, very poor in fastness results, especially for light test.

Unlike vegetable or animal dyes that usually lack bright shades, **ZETATERRA** Pigments feature a wide range of shades, from pale to very bright colors.

**ZETATERRA** Pigments are obtained by following a few but crucial steps in their processing: let's see how they are made below.



### SOURCE

It's from the ground that **ZETATERRA** Pigments come from, the source from which they are taken.



### QUARRIES

The ground is being mined into small pieces coming from several small quarries in Italy & abroad.



### RE-COVER

The quarries from which the terrain is mined is being re-covered to ensure its lifecycle.



### MANUFACTURING

The small stones of terrain coming from quarries are being grinded and processed for ennobling the colored powder.



### QUALITY CONTROL

The final product becomes a high quality standard coloured powder suitable for several applications, including dyeing.




### ZETATERRA

What nature makes us available to use & re-use becomes a pigment for the dyeing of garments.



## COMPARISON BETWEEN DYES & PIGMENT

If compared with vegetable or synthetic dyestuffs, ZETATERRA Pigments range has interesting features we summarize as follows. Considering they are mineral pigments of natural origin, they represent an **affordable** and **cost-effective** alternative for garment dyeing and above all an **eco-friendly** solution to exploit for marketing purposes.

			VEGETABLE DYES 	SYNTHETIC DYES 	ZETATERRA PIGMENTS 
	<b>FASTNESS RESULTS</b>	<i>Light / Rubbing / Washing</i>	very poor	good / very good	good / very good
		<i>Max dyeing temperature</i>	70 ~ 80°C	60 ~ 98°C	50°C
	<b>DYEING PROCESS FEATURES</b>	<i>Reproducibility</i>	low	high	high
		<i>Energy consumption</i>	medium	high	low
		<i>Ternary combination</i>	no	yes	yes
	<b>MAIN FEATURES</b>	<i>Shades availability</i>	limited	very wide	wide
		<i>Product availability</i>	low	high	medium
		<i>Avg. water consumption</i>	high	medium	very low
	<b>MANUFACTURING ECO-FRIENDLINESS</b>	<i>Avg. carbon footprint</i>	high	high	low

The data above are just for illustrative purpose only.



## ZETATERRA:

unique series,  
peculiar features

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TECHNICAL FEATURES	ENVIRONMENTAL IMPACT
Very good light & washing fastnesses	Applicable with GOTS & ZDHC compliant auxiliaries
High reproducibility	Low energy consumption
Pigments usable in combination	Optimized water consumption
Process optimization	Easy water treatment (no electrolytes, filterable pigments)
Application on cotton/wool/polyamide	Low cost
Wide range of colors	Easy to use & apply
Market-driven fashion effects	Made in Italy





Samples dyed on 100% Cotton - Pigments concentration: 10%





**ZAITEX**  
R&D FOR FASHION TRENDS

R&D Garment

**ZETATERRA PIGMENTS**  
Eco-friendly pigments from natural resources

# DYEING PROCESS IN DETAIL

ZETATERRA Pigments selection allows good dyeing performance and unique eco-friendly characteristics.

Featuring a low operating temperatures - max. 50°C - and allowing a careful wastewater treatment, dyeing garments by applying ZETATERRA Pigments ensures a low environmental footprint while keeping up with market-driven fashion brands' requirements.



TREATMENT	APPLIED UNDER	ZAITEX PRODUCTS	Q.TY	DESCRIPTION
1 PRETREATMENT	50°C 10'	ZETASPERSE IW LIQ.	1 g/l	Scouring agent - GOTS & ZDHC approved.
2 CATIONIZATION	40°C 20'	ZETAFIX ECO	5 - 10%	Cationizing agent - GOTS & ZDHC approved.
3 DYEING	50°C ~ 30'	ZETATERRA Pigments	1 ~ 10%	Selection of eco-friendly pigments
4 FIXING	50°C ~ 10'	ZETAFLEX F3D	1%	Fixing agent - GOTS & ZDHC approved.
5 SOFTENING	30 - 40°C ~ 10'	ZETASOFT AK 200% ZETASIL PRT 200%	x%	Selection of cationic softeners and silicone based microemulsions to get the most requested "soft touch" effect in the market - GOTS & ZDHC approved.





# FASTNESS RESULTS

ZETATERRA Pigments perform very good overall fastness results, according to the following tests:

- washing at 40°C
- alkaline perspiration
- dry and wet rubbing
- sun test 24h / 48h

	UNI EN ISO 105-C06:A1S WASHING AT 40°C						UNI EN ISO 105-E04 ALKALINE PERSPIRATION						UNI EN ISO 105-X12 RUBBING		SUN TEST	
	AC	CO	PA	PES	PAC	WO	AC	CO	PA	PES	PAC	WO	DRY	WET	24H	48H
LEMON	4	4	4	4	4	4	4	4	4	4	4	4	3-4 / 4	4	5-6	5
SUN	4	4	4	4	4	4	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	4	5-6	5
CREAM	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4 / 4-5	3-4	4-5	4-5
ORANGE	4	4	4	4	4	4	4	4	4	4	4	4	3	3-4	5-6	5
APRICOT	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4/4-5	3-4	4-5	4-5
MELON	4	4	4	4	4	4	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	3-4 / 4	5-6	5
PEACH	4	4	4	4	4	4	4	4-5	4-5	4-5	4-5	4-5	4	3-4	5-6	5
AVOCADO	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	4	4	5-6	5
MINT	5	5	5	5	5	5	5	5	5	5	5	5	4 / 4-5	4	5	5
LAVENDER	5	5	5	5	5	5	5	5	5	5	5	5	4 / 4-5	3-4	4-5	5
CARIBE	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	3 / 3-4	3-4 / 4	5	5
SKY	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	3-4	5	5
SOYA	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5
EARTH	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	3-4	5-6	5
SAND	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	3-4 / 4	5-6	5
CHOCO	4-5	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4	3-4	4-5	4-5
CARBON	4	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	3-4 / 4	4	5-6	5

The information included above are just intended to be as non-binding approximate data. The Customer has to run some trials before bulk production. No warranty.









ZAITEX is a bluesign® system partner



ZAITEX is a ISO 9001:2015 certified company.



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Warnings: the information and recommendations presented here were written with the utmost care, but they can't be extended to cover every possible case. They have to be intended as non-binding guidelines and must be adapted to the process condition. The product - whether used singly or in combination with other substances - should undergo lab tests prior to bulk production. Our Company can not be held responsible for any negative results. The Customers take on full responsibility regardless of the result they are going to get.