CHT
SMART CHEMISTRY
WITH CHARACTER.

BEZAKTIV ONE

The New WOW of Dyeing

Reactive dyes using the latest technology for water and energy saving dyeing processes with significantly shortened process time

THE NEW WOW OF DYEING

Cellulosic fibers are often dyed with reactive dyes, as these are commercially available in a wide range of colors and result in dyed textiles with good wash fastness.

However, reactive dyeing consumes high amounts of water because of the required rinsing cycles. Environmental protection requirements mean that the development of energy and water saving processes is a core requirement for new dyes. Minimizing the number of rinsing baths and generally reducing the temperatures of the dyeing, rinsing, and soaping baths both contribute to efficient, water and energy saving dyeing processes.

This is exactly what the BEZAKTIV ONE dyes are all about.

BENEFITS OF BEZAKTIV ONE

- Strongly reduced time and costs for dyeing, rinsing, and soaping
- Efficient processes at temperatures from 40–60 °C with low number of rinsing baths
- High process reliability through reproducible dyeing performance (Right-First-Time)
- Excellent multiple washing fastness ensuring longer garment lifetime
- Protection of people and environment due to no p-chloroaniline in the products

40–60 °C IS ALL WHAT IS NECESSARY

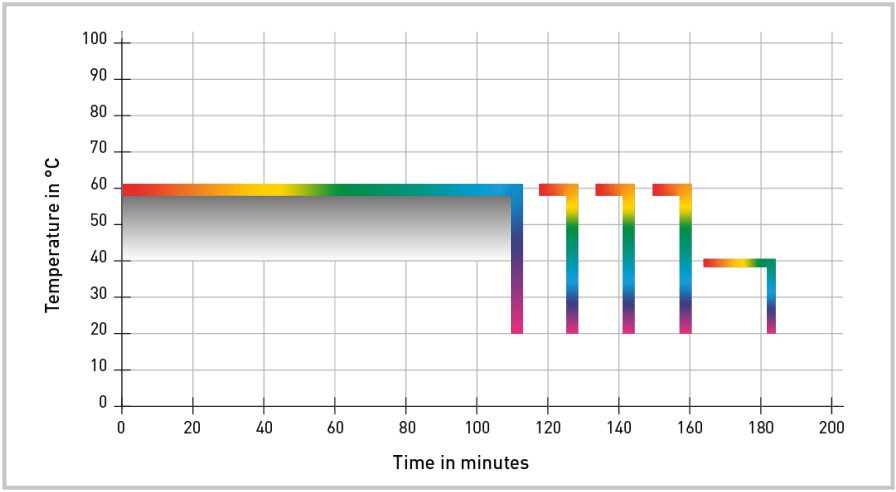
BEZAKTIV ONE dyes can be dyed, washed, and soaped at 60 °C. Selected elements can be dyed between 40 and 60 °C.

The BEZAKTIV ONE exhaust dyeing process is thus significantly faster than conventional reactive dyeing processes, which require temperatures between 60 and 98 °C.

This advantage means increased productivity and reduced process time.

The advantages of the BEZAKTIV ONE process become particularly evident when dyeing medium to dark shades. With the high degree of fixation and the good color build-up of BEZAKTIV ONE dyes, dark shades in particular can be achieved with lower dye concentration than with conventional reactive dyes.

▶ THE SHORT BEZAKTIV ONE PROCESS AT 40–60 °C



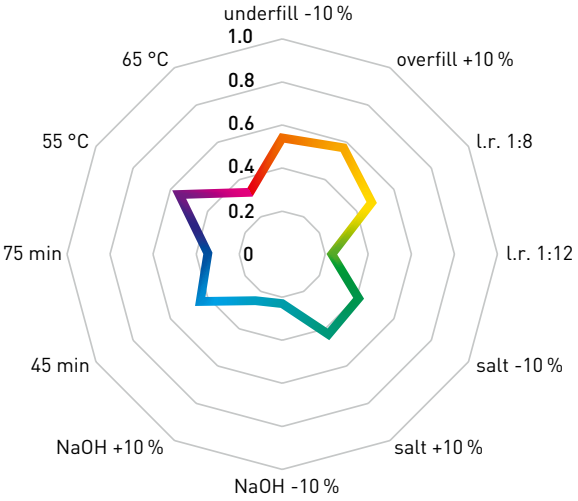
FIRST TIME RIGHT

The "Right-First-Time" approach is a key factor in resource-saving dyeing.

If no additional processes for corrections and re-dyeings are needed and a good result can be achieved after the very first run, resources can be saved. In particular: Time, energy, water, dyes, chemicals, and effort.

The BEZAKTIV ONE dyes are developed with focus to get highly reproducible dyeing results - so that "Right-First-Time" is actually achievable. This is particularly possible because of the low sensitivity of the BEZAKTIV ONE dyes to changes in process parameters.

THE ROBUST DYEING BEHAVIOR OF THE BEZAKTIV ONE DYES



RELAX
BEZAKTIV ONE
DYES MAKE YOUR
LIFE EASIER

MINIMAL CONSUMPTION OF WATER. AND OTHER RESOURCES

In striving for good fastness when dyeing cotton with reactive dyes, the rinsing process consumes by far the greatest share of process time, water, and energy. Optimization of the rinsing process is therefore the most effective method for a reduced consumption of resources like water and process time. So let's prove this ...

Our goal: To achieve a grade 5 for contact fastness DIN EN ISO 105-E01 with as little use of water and other resources as possible.

How we'll do it: Through a combination of the innovative BEZAKTIV ONE dyes and the unique software BEZAKTIV Soaping Advisor.

Our target shade:

Matched with BEZAKTIV ONE

0.52 % BEZAKTIV Orange ONE
1.48 % BEZAKTIV Deep Navy ONE
2.00 %

50 g/l salt

Matched with BEZAKTIV S (commodity dyes)

1.10 % BEZAKTIV Yellow S-3R 150
0.55 % BEZAKTIV Red S-3B 150
2.50 % BEZAKTIV Navy S-3G 150
4.15 %

70 g/l salt

▶ Liquor ratio: 1:10 | Dyeing temperature: 60 °C | Liquor carry-over: 200 %

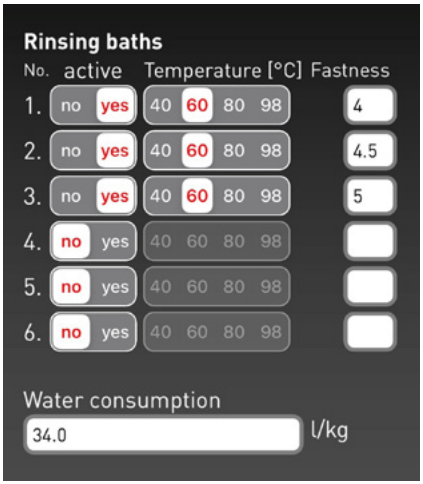
▶ HOW WILL WE GET NOW THE BEST POSSIBLE COMBINATION OF RINSING BATHS?

The BEZAKTIV Soaping Advisor is a software within the CHT Textile Dyes App. It provides a predictive calculation of the fastness rating of dyeings with BEZAKTIV dyes, taking into account the number and temperature of rinsing baths as well as liquor ratio and liquor carry-over. This allows the optimum rinsing process to be determined and subsequently used. We have done this with above recipes ... let's have a look at the results.

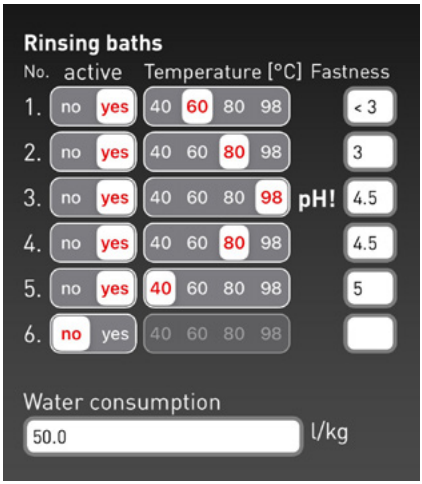
BEZAKTIV ONE DYES NEED LESS WATER AND LOWER TEMPERATURES THAN COMMODITY DYES

With BEZAKTIV ONE dyes, only 3 rinsing baths at 60 °C are needed to achieve a fastness level of 5.

With BEZAKTIV S commodity dyes, 5 rinsing baths at temperatures between 40 and 98 °C are needed to achieve a fastness level of 5.

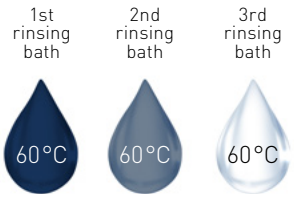


Extract from the software BEZAKTIV Soaping Advisor

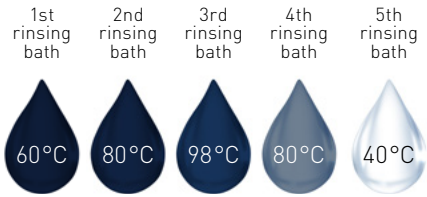


Extract from the software BEZAKTIV Soaping Advisor

A CLEAR RINSING BATH IS ACHIEVED FASTER DUE TO LESS UNFIXED DYESTUFF



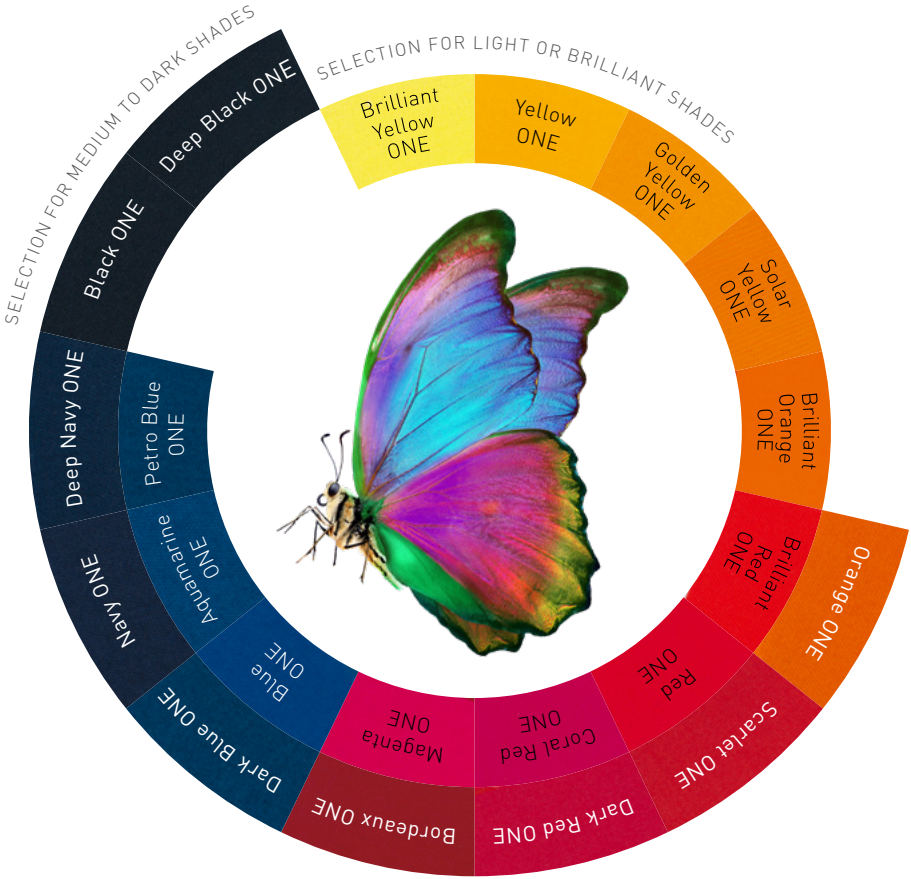
In total, only 34 l/kg water are used.



In total, 50 l/kg water are used.

WIDE COLOR SPECTRUM

BEZAKTIV ONE is a dyestuff assortment with numerous very brilliant elements for a wide color spectrum. So your most colorful dreams come true ...



This classification is not binding. Depending on the requirements, other combinations can be used for both light and dark shades.

INCREASED LONGEVITY OF THE FINAL ARTICLE

Textiles dyed with BEZAKTIV ONE are clearly more stable against fastness to multiple washing 60 °C (DIN EN ISO 105-C09) than many combinations of conventional dyes.

BEZAKTIV ONE

0.6 g/l BEZAKTIV Orange ONE
11.0 g/l BEZAKTIV Dark Red ONE
4.3 g/l BEZAKTIV Deep Navy ONE

BEZAKTIV V

7.0 g/l BEZAKTIV Yellow V-GR 133
23.0 g/l BEZAKTIV Red V-GG
18.2 g/l BEZAKTIV Blue V-2B 133

BEZAKTIV ONE
BRINGS REAL
VALUE

BEZAKTIV ONE is CHT's newest and most cutting-edge reactive dye range. The range covers a broad spectrum of exceptionally strong dyes. This range enables cost-effective dye processes with less dye and salt. The excellent washing characteristics enable short rinse cycles at lower temperatures, thereby also implicating ecological and economic benefits. The dyes are particularly suitable for durable textiles due to their good fastness to multiple washing.

The BEZAKTIV ONE range meets the most stringent environmental protection and sustainability requirements. It also zeroes in on what today's market and customer require of innovative dyes – and that's why we have coined it **'The New WOW of Dyeing'.**

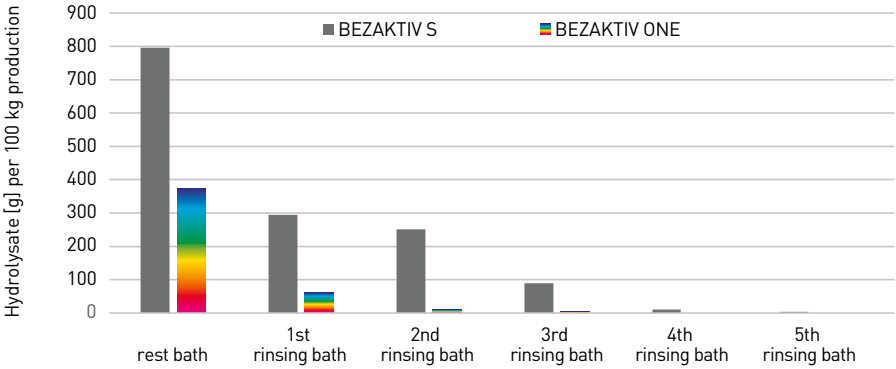
- Reduced time and costs for dyeing, rinsing, and soaping processes at temperatures from 40–60 °C
- Good fastness to multiple washing 60 °C according to DIN EN ISO 105-C09
- Free of p-chloroaniline (below detection limit)
- Fulfill common eco-standards and certification
- High fixation speeds
- Very good washing characteristics
- Good color build-up
- Well combinable with each other
- Very good reproducibility
- Suitable for all dyeing processes

Invest now in a cost-saving, future-oriented technology to minimize the ecological footprint of your production facility.

LESS, LESS, LESS, ...

AMOUNT OF HYDROLYSATE

Only small amounts of hydrolysate will develop during the use of BEZAKTIV ONE dyes, which can be easily washed off.



These results refer to the formulation on page 8 and the wash baths on page 9 of this brochure.

SIGNIFICANT REDUCTION OF MAIN PRODUCTION COSTS

This calculation has been made on production of 1,000 kg cotton.

	BEZAKTIV S	BEZAKTIV ONE	Savings
Dyestuff	41.5 kg	20 kg	- 52 %
Hydrolysate in the waste water	14.5 kg	4.4 kg	- 70 %
Salt	700 kg	500 kg	- 29 %
Water	50,000 l	34,000 l	- 32 %
Oil	340 l	190 l	- 44 %
Energy	240 kWh	170 kWh	- 29 %
Time	2,610 min	1,840 min	- 30 %

The savings of water, oil, energy, and time are calculated with the BEZAKTIV ONE Calculator in the CHT Textile Dyes App.

The BEZAKTIV ONE Calculator is an in-app software that calculates the total saving potential of all resources when dyeing with BEZAKTIV ONE dyes compared to commodity dyes and the conventional process recommendations.

FIND OUT MORE

- **BEZAKTIV ONE at a glance** – Find all relevant information about our BEZAKTIV ONE concept and see our butterfly flying ...

- **The Color Shade Card** – Interested in further technical information on real textile samples?

- **The WOW Concept** – The ultimate combination of the BEZAKTIV ONE dyes with the most sustainable auxiliaries from CHT for further process optimization. The WOW Concept is a unique process recommendation for resource saving reactive dyeing with a Right-First-Time approach.

- **BEZAKTIV Soaping Advisor** – We are very proud of our unique calculation program, BEZAKTIV Soaping Advisor. Please use it to pre-select the desired fastness level of a specific recipe, and the optimal rinsing process will be determined. The BEZAKTIV Soaping Advisor is an innovative calculation program within the CHT Textile Dyes App.

- **BEZAKTIV ONE Calculator** – Calculates the total saving potential of all resources when dyeing with BEZAKTIV ONE dyes compared to commodity dyes and the conventional process recommendations. The BEZAKTIV ONE Calculator is an innovative calculation program within the CHT Textile Dyes App.

09/2026_en [Fly little butterfly, fly!]

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