

## ecodye

The economically and ecologically  
best PES dyeing process



ecodye – the dyeing revolution

### Storage

With appropriate storage in closed original containers the shelf life of this product is at least 6 months. Prolonged exposure to temperatures below 0 °C can cause the product to solidify. After warming and careful stirring the product becomes usable again without restrictions.

### For further notes on safe handling, see the safety data sheet!

The recommendations and information in word and text on our products here are based on comprehensive research work and correspond to our current experience from textile refinement. The information is deemed non-committal – also regarding property rights of third parties and foreign legal provisions - and shall not release the user from testing products and procedures for suitability for his use directly. In particular, we assume no liability for any purposes not expressly named by us in writing. We reserve technical changes in the scope of new product developments. We refer to our general sales and delivery conditions, item 7, in case of damage.

## Properties and Advantages of ecodye

- ✓ 30% shorter process time
- ✓ 25% lower water consumption
- ✓ 20% lower energy consumption
- ✓ 25% lower CO<sub>2</sub>-emissions
- ✓ 50% lower reject rate
- ✓ 100% better process and process reliability
- ✓ Improves product quality
- ✓ Less spots and agglomeration
- ✓ Limitation of precipitation and oligomer release
- ✓ High fastness levels
- ✓ Improved reproducibility and shade stability
- ✓ Suitable for all machinery, substrates and textile forms
- ✓ Existing dye recipes can be maintained

## Function

Less time, less water, less energy – ecodye is a specially developed auxiliary concept for polyester (PES) dyeing processes. The technology accelerates the dyeing process of yarns and piece goods, thereby saving resources and costs, while simultaneously protecting the environment. In addition, ecodye improves product quality, productivity and offers maximum flexibility in use.

## Ecology

The use of ecodye requires significantly less resources in terms of water, time and energy consumption while at the same time reducing CO<sub>2</sub> emissions and protecting the environment. Textilcolor and Schoeller Technologies emphasize innovation in terms of performance and sustainability. ecodye only contains bluesign® approved components. Properly applied, it allows production with a minimum impact on humans and to the environment.

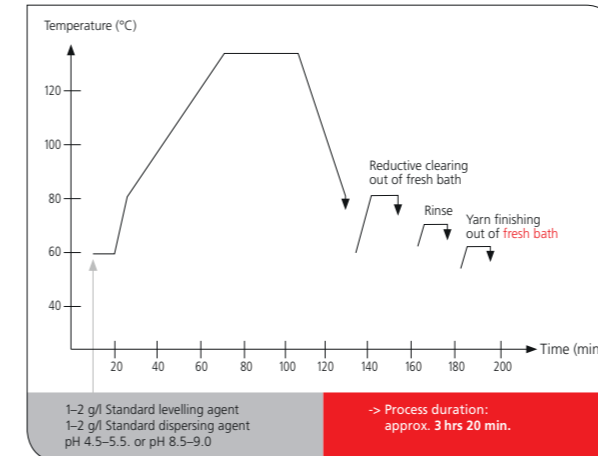


## Dyeing process

With ecodye a shorter heating phase can be achieved (up to 5 °C/min., depending on the available machine power) without impairing the levelness of the dyeing, even for critical shades or dyestuff combinations. ecodye shows strong dyestuff retarding properties during heating phase, especially in the critical area between 90 ° – 120 °C in which the dyestuff diffusion is strongly accelerated.

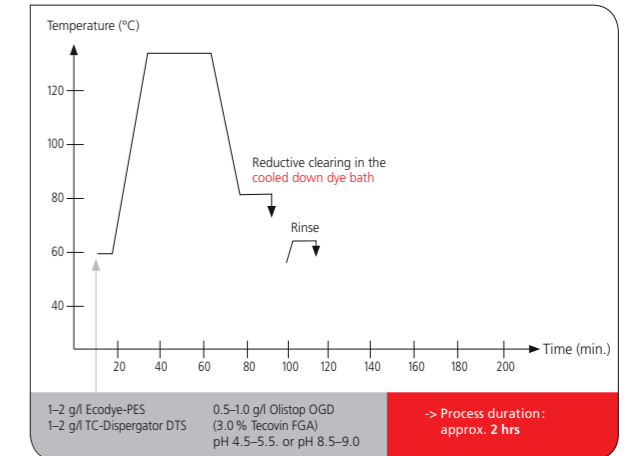
### Improved dyeing process for PES-yarns

Standard process for the dyeing and finishing of PES-yarns



Heating rate 3 °C/min. up to 80 °C, following 1 °C/min. to 130 °C dyeing for 30 min. at 130 °C

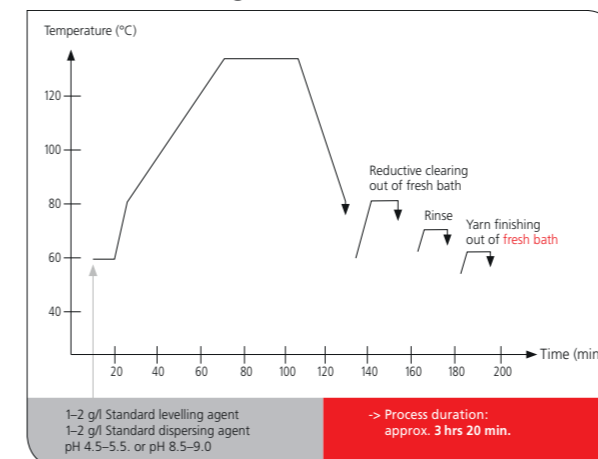
ecodye rapid dyeing process (one-bath dyeing and finishing of PES-yarns)



Heating rate 5 °C/min. up to 130 °C, dyeing for 30 min. at 130 °C

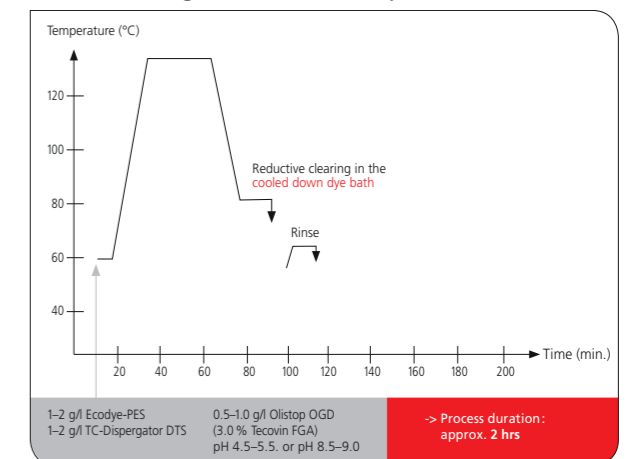
### Improved dyeing process for PES piece goods

Standard migration process for PES-piece goods with reductive clearing out of fresh bath



Heating rate 3 °C/min. up to 80 °C, following 1 °C/min to 130 °C; dyeing for 30 min. at 130 °C

ecodye process for PES-piece goods with reductive clearing in the cooled down dye bath



Heating rate 5 °C/min. up to 130 °C, dyeing for 30 min. at 130 °C

Study: Development of a rapid dyeing process on the basis of a new dyeing auxiliary, final report AZ 29947, supported by Deutsche Bundesstiftung Umwelt DBU (German Federal Environmental Foundation)

The auxiliary concept offers the possibility of a reductive clearing in the cooled down one-bath dyeing. It prevents dyestuff agglomeration and precipitation due to strong dispersing properties and very high dyestuff affinity on the fabric, even in low pH areas.

