

Gentle Power Bleach™ on cotton and elastane blends— perfect preparation for colorful dyeing

**Sustainable enzymatic peroxide bleaching at low temperature and neutral pH
in discontinuous application**



Gentle and mild conditions for powerful bleaching

Perfect preparation

Even after bleaching at 65 °C and at neutral pH the cotton is perfectly prepared for dyeing all shades. Additional benefits are extremely good fibre protection, no chemical damage on cotton and maintenance of the characteristic elastane properties.

Soft handle

Outstanding soft, bulky and natural handle. Extremely good crease recovery and fabric properties such as sewability, burst strength and stretch.

Brilliant colors

Better color yield with more vivid and intense shades. Excellent fastness properties.

Process optimization: cost savings

Energy and water savings due to very low bleaching and wash-off temperature and less rinsing.
Reduced weight loss. No neutralization required. Savings in softening and lubrication.

Process optimization: improved reproducibility

No danger of residual alkali, the main cause of faulty dyeings. Less fiber swelling avoids channeling effect in packages.
Lower risk of crease marking for piece goods and garments. Improved right first time production.

Responsible technology

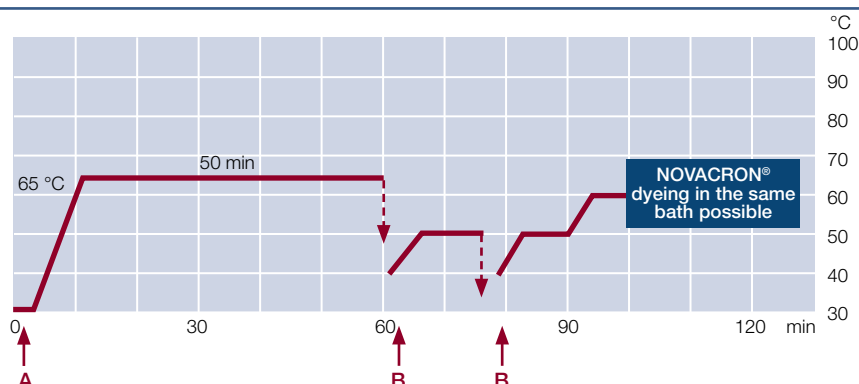
No harsh chemicals such as caustic soda applied. Reduced salt load in the effluent and lower BOD/COD levels due to less cotton weight loss. Considerable energy and water savings. All Gentle Power Bleach auxiliaries are free of APEO and AOX.

Gentle Power Bleach™, our contribution to a more sustainable textile industry

Process

Novel Gentle Power Bleach™ (GPB)

- low temperature
- neutral pH range



Recipe

Application: Exhaust
Material: CO, CO/EL, knitgood, yarn, woven and terry towel
Machine: Closed equipment e. g.: Jet, overflow, jig, package dyeing machine ...

		Low liquor ratio 4:1 — 6:1	High liquor ratio 8:1 — 12:1
A	CLARITE® LTC	g/l 2.0	1.5
	INVATEX® LAB or soda ash	g/l 7.5 or 3.0	5.0 or 2.0
	INVATEX® LTA	g/l 4.5	3.0
	H₂O₂ 35%	ml/l 9.0	6.0
	INVAZYME® LTE	g/l 1.5	1.0
B	INVAZYME® CAT (2x)	g/l 0.7	0.5

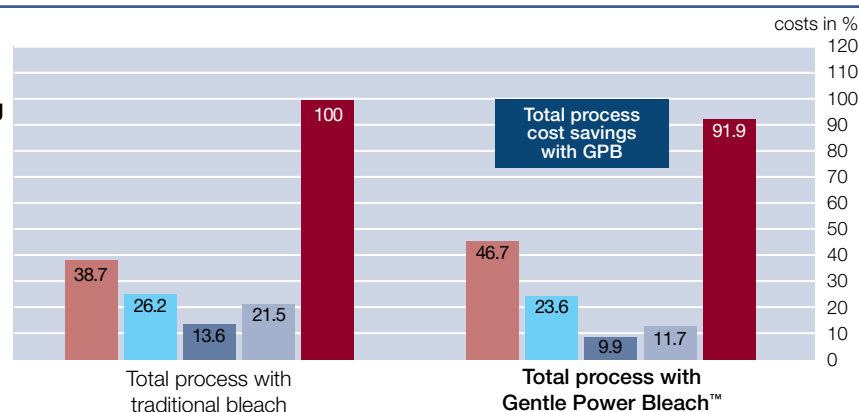
Process condition: bleaching 50 min at 65 °C, draining, rinsing 2x10 min at 50 °C.

Woven and terry towel preparation: add INVAZYME® ADC for starch desizing.

Cost comparison

Traditional bleach+dyeing+finishing
versus
GPB+dyeing+finishing

- Chemicals
- Water
- Steam
- Weight loss
- Total



Product overview

CLARITE® LTC	Combination product for the low temperature Gentle Power Bleach™ with excellent wetting, detergent and dispersing properties
INVATEX® LTA	Agent to assist and boost the peroxide reaction in the Gentle Power Bleach™
INVAZYME® LTE	Enzyme for the Gentle Power Bleach™ to catalyse the peroxide bleach in combination with INVATEX® LTA
INVATEX® LAB	Liquid buffer system for optimum pH setting and regulating
INVAZYME® CAT	Stabilized, liquid catalase-enzyme to remove residual peroxide after discontinuous peroxide bleaching
NOVACRON®	Reactive dye ranges NOVACRON® FN and S are recommended for dyeing at 60°C