

Textile auxiliaries

ZSCHIMMER & SCHWARZ
MOHSDORF GmbH & Co KG
Burgstädt / Germany

www.zsm.de
textil@zsm.de

**ZSM products for preventing
of storage yellowing:**

PROTELAN LG & PROTELAN LGA

... to avoid yellowing of polyamide/elastan

07/2007

ZSCHIMMER & SCHWARZ



... THE SOLUTIONS PROVIDER



Comparison

PROTELAN LG

- § well known product, very good performance
- § pH value of the original product: pH 4-5
- § low foaming behaviour, clear, liquid
- § suitable for padding and exhaust:
padding: ++(+), exhaust ++
- § pH adjustment around pH 4.0 in exhaustion process
- § Eco-Tex-Standard 100 - no problem
- § compatible with most of the optical brightener

PROTELAN LGA

- § improved version, more phenolic yellowing protection than PROTELAN LG
- § pH value of the original product: < pH 3
- § low foaming behaviour, clear, liquid
- § suitable for padding and exhaust:
padding: +++, exhaust +++
- § pH adjustment during application is not necessary
- § compliance with Eco-Tex- Standard 100 (pH 4.0 – 7.5 on fabric) by using of regular amounts in padding or exhaust process
- § make sure that the optical brightener is suitable for the low pH value

Counter products (pH-value neutral to strong acid):

Sera Protect N-APY (Dystar), Umidol APY (Clariant), Cibafast CT (Huntsman), Levasalt AY (Tanatex), Dorafast AY (Dohmen) and a lot of local products



All products are showing a strong foaming behaviour !



Comparison acc. to Phenolic yellowing
PROTELAN LG vs. PROTELAN LGA





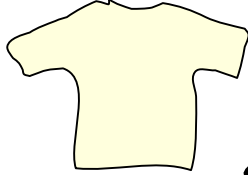

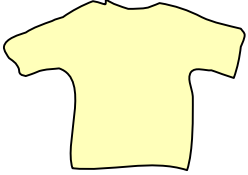

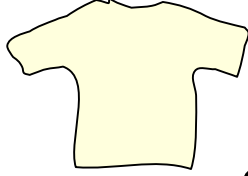

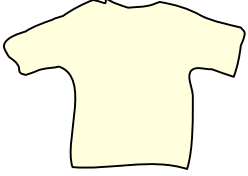

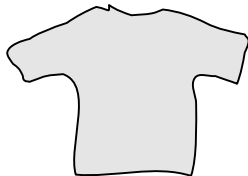

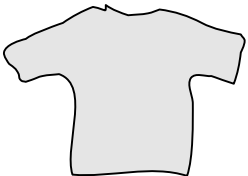
Fabric: 85/15 PA/LY knitwear and 87/13 PA/Elastan seamless
Process: heat-setted, scoured, optical brightened
 protection against storage yellowing by padding or exhaust

	without protection	30 g/l PROTELAN LG	20 g/l PROTELAN LG	20 g/l PROTELAN LGA
<p>Padding process 85/15 PA/LY knitwear, pick-up 80%, drying</p> <p>Phenolic yellowing test M&S C20B</p>				
	grade 2	grade 5	grade 4	grade 5

	without protection	4 % PROTELAN LG pH 4.5 citric acid	3 % PROTELAN LG pH 4.5 citric acid	3 % PROTELAN LGA no pH adjustment
<p>Exhaust process 87/13 PA/Elastan seamless after optical brightening, rinse, fresh bath LR 1:10, 20 min at 70 - 80°C drying</p> <p>Phenolic yellowing test M&S C20B</p>				
	grade 2	grade 4-5	grade 3-4	grade 4-5



Comparison acc. to Phenolic yellowing, pH-value on fabric and soft handle -
PROTELAN LG vs. PROTELAN LGA

recipe	evaluation	padding process [g/l]	exhaust process [%]
30 g/l / 3 % PROTELAN LG without pH-adjustment	Phenolic yellowing pH on fabric soft handle	 mark 3 - 4 pH 5.5 - 7.0 	 mark 3 pH 5.5 - 7.,0 
30 g/l / 3 % PROTELAN LG pH-adjustment (bath pH 4.0) by citric acid	Phenolic yellowing pH on fabric soft handle	 mark 4 pH 4.5 - 5.5 	 mark 3 - 4 pH 4.5 - 6.0 
40-60 g/l / 4-6 % PROTELAN LG without pH-adjustment	Phenolic yellowing pH on fabric soft handle	 mark 4 pH 5.0 - 6.0 	 mark 4 pH 5.0 - 6.0 
30 g/l / 3% PROTELAN LGA without pH-adjustment	Phenolic yellowing pH on fabric soft handle	 mark 4 - 5 pH 4.5 - 5.5 	 mark 4 - 5 pH 5.0 - 5.5 