



Product Information Laundry Auxiliaries

Lava[®] Cell NBG

Cellulase for biopolishing

Function Biopolishing enzyme for application at neutral pH that gives the typical benefits offered by classic acid cellulases for the biopolishing process. Because of the neutral conditions at the application the biopolishing process can be combined with other enzyme or dyeing processes.

- Properties**
- good color retention and less cross-staining
 - can be used in a broad pH range without negative influence on the activity
 - no color change after dyeing indicated to be applied before or after the dyeing process
 - can be combined with other enzymatic processes like bioscouring or desizing for cost optimization
 - help to reduce water, energy and processing time versus acid cellulases
 - less weight and strength loss
 - dosable/pumpable liquid

Chemical Characteristics Liquid enzyme formulation

Technical Data

Appearance: yellow liquid

Shelf life: 12 months in closed original containers

Protect from heat or sun

Store product cool but not below +3 °C

Lock packaging immediately after sampling or use



Application

Lava Cell NBG can be applied at 40 - 60 °C (optimum 50 - 55 °C) and in a broad pH range of 5 - 8 (optimum 6.5 - 7.5) without any significant reduction in the activity. The product can be used on winch, jet-dyeing machines or laundry washing machines. The mechanical action of the machine should be high.

Based on these parameters the biopolishing process can be combined with bioscouring or desizing process. It can also be used in combination with some dyeing processes. If the product is used in a dyeing process with reactive dyes, automatically the enzyme will be deactivated by adding alkaline for the dyestuff fixation. This saves substantial and precious processing time. Moreover the water and energy consumption can be reduced.

The biopolishing process can also be carried out after the dyeing process. The traditional acid cellulases often change the shade of the dyed fabric. This is based on the acid conditions and on the high color retention of the process. Under neutral pH conditions the color retention is much lower and the shades do not fade by using Lava Cell NBG.



Lava Cell NBG (left) helps to retain more color to the fabric than traditional biopolish enzyme

Standard Treatment with Lava Cell NBG

Fill the machine with water (50 - 55 °C), set a liquor ratio between 7:1 to 15:1 and add:

0.5 - 2 % Lava Cell NBG

The amount depends on different parameters:

- Material (woven or knitted fabric)
- Degree or pilling effect
- Treatment time
- Mechanical action of the machine (jet, overflow, washing machine)

Woven fabrics and shirts need amounts of approx 0.5 - 1%. Thicker materials like T-shirts or sweat shirts need higher concentrations. In laundries normally concentrations of 0.5 - 1% are used and in mills 1 - 2% because of the lower mechanical effect.

The processing time is between 25 - 45 minutes, depending on the material. This process can be made before or after the dyeing process.



Combination of Desizing and Biopolishing Process

Fill the machine with 60 °C water and set a liquor ratio between 7:1 and 15:1 and add

1.0 - 2.0 g/l	Lava Sperse OSN or Lava Sperse Base
1.0 g/l	Lava Sperse CPOS optional
1 - 2 %	Lava Zyme AEN 01
0.5 - 2 %	Lava Cell NBG

The processing time is between 20 - 30 minutes at 60 °C, rinse warm and cold

Combination of Dyeing Process and Biopolishing Process

Heat up the dyeing bath to 50 - 60 °C and forerun the biopolishing process:

0.5 - 2 %	Lava Cell NBG
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After 10 - 15 min start the normal dyeing process with dyeing auxiliaries, salt and dyestuff

x g/l	Salt
a %	Reactive Dyestuff (Levafix®/Remazol®)

The processing time is between 20 - 30 minutes at 50 - 60 °C. By following addition of the alkaline for the dyestuff fixation automatically this results enzyme stop (deactivation). The soaping and rinse bathes is as in a normal dyeing process.

If direct dyes (Sirius®) are used, heat up to 50 - 60 °C for 20 - 30 minutes for the biopolishing process. Then heat up to 90 - 95 °C for the complete dyeing process. In this case the enzyme stop is caused by the temperature.