

WHITE LINE®

Enzyme Technology for
Beamhouse Operations



FEATURES

The WHITE LINE[®] manufacturing process is based specifically on enzymatic technology using lipase, alpha-amylase and hyaluronidase. These enzymes, not being proteases, do not attack the collagen of the fibres of the hide but instead present a high specificity and selectivity towards the fat, the Proteoglycans and the glycosaminoglycans, like for example the Chondroitin-insoled, the Dermatansulfate and hyaluronic acid. These structures are the natural barriers of the hide that determine its impermeability. Removing them facilitates and accelerates the rehydration process and, at the same time, the collagenic fibers are relaxed. In this way, the hide is prepared to penetrate the lime, sulphides/sodium sulfide and other auxiliaries.

ADVANTAGES

INDUSTRIAL PROCESS ADVANTAGES:

- No dangerous substances.
- No Biocidi, surfactants, amines.
- Safe methods for the operator.
- Easily controllable and monitorable reactions.
- Drastic reduction of the use of chemical products.
- Shorter process time.
- Possible recycling of the wastewater.

ECOLOGICAL ADVANTAGES:

- Reduction up to 50-60% of COD and TKN in the phases of soaking and liming
- COD less refractory.
- Reduction up to 60% of the use of sodium sulfides and sulphide.
- Reduction up to 30% of water consumption.
- 100% Ecological and biodegradable products.
- Environment-friendly process
- Less suffering of the bacterial flora in the tank of the depurator used for biological treatment.

PRODUCT BENEFITS:

- Complete and efficient depilation.
- Very clean grain.
- Extended skins without veins.
- Full belly.
- Clear and clean pelt.
- Possible increase of the physical properties of the hide.

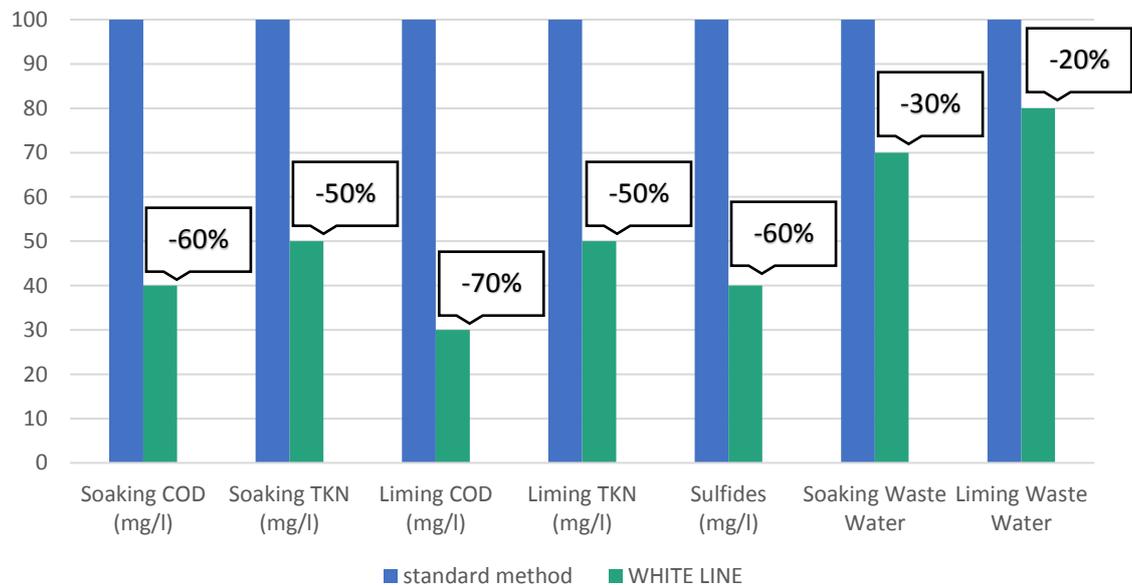
EFFICACY TESTED ON THE FIELD

The results reported have been collected during several industrial-scale trials over a period of 24 months.

For a reliable and objective statistical interpretation of the data: the same lot of rough hides was divided into two parts treated as follows:

- First part of the lot - method WHITE LINE[®]
- Second part of the lot - standard method of the host tannery.

The data was expressed as average percentage of the reduction compared to the values of the traditional process.



Analyzing the graph It is clear that when the WHITE LINE[®] technique is used in the phases of soaking and liming, the COD, TKN and sulfides values and the water volumes have been reduced remarkably.

WHITE LINE[®] products are 100% environmentally friendly and biodegradable and they do not contain the substances usually present in the chemical auxiliaries. These substances are the main causes of a high and recalcitrant COD, of high TKN values and they dangerous for the environment and the operator.

PRODEFAT M

Bioemulsifier for soaking



FEATURES

PRODEFAT M is a fully organic bioemulgator with high dispersant activity. It has the ability to control the bacterial load of the bath given by the specific formulation. It soaks the hides in a fast and uniform way leaving them clean. It is a 100% biodegradable product without traditional surfactants. It degrades the fat of the hide by distending the fibers of collagen and emulsifies the fat released in the bath avoiding its accumulation in the barrel.

ADVANTAGES

- Absence of surfactants.
- Ability to control bacterial charge.
- Fast and uniform soaking.
- Homogeneous and uniform degreasing even on different batches of rough hides.
- Avoids accumulations of fat in barrels.
- It is 100% biodegradable.
- The hides are stretched and open with a clean and firm grain.
- Reduction in the use of chemical products with consequent reduction of COD and TKN up to 30%-50% compared to traditional processing.

TECHNICAL DATA SHEET

Description	PRODEFAT M –Bioemulgator for soaking
Main components	Bioemulsifiers
Properties	Appearance: Liquid Color: Amber Smell: Typical pH (as such): 5.0 ÷ 7.0
Package	Drum of 60 kg/120 kg with PRODEFAT M label, or IBC Cube of 1000 Kg
Storage	It can be preserved for 12 months in intact packages. Store in a well-ventilated dry place, protected from heat sources
How to use	Operating conditions: <ul style="list-style-type: none">– PH Bath: 2-12– Temperature: 18-35 ° C– Density: 2-12 ° Bé Do not inhale or ingest. Avoid eye contact. Wash your hands after use.
Applications	Soaking: 0.4%-0.8% Liming: 0.1%-0.3%

LIPOL T1

Enzymatic degreaser



FEATURES

LIPOL T1 is an enzymatic product for skin degreasing, based on the action of the lipase enzyme, capable of hydrolyzing triglycerides, the main component of animal fat.

ADVANTAGES

- Absence of surfactants.
- It facilitates the detachment of the hair from the pore in a short time and with considerable saving of reducing substances (up to 50%-70% less sulphide and sodium sulfide than traditional processing).
- It is 100% biodegradable .
- Homogeneous and uniform degreasing even on different batches of hides.
- The hides are stretched and open with a clean and firm grain.
- Reduction of chemical products with consequent decrease of COD and TKN up to 30%-50% compared to traditional processing.
- The enzymes used are not proteases, in fact they present a proteolytic activity of 0 u.L.V. They are not reactive against collagen and therefore do not cause low grain.

TECHNICAL DATA SHEET

Description	LIPOL T1 – enzymatic auxiliary for soaking and liming
Main components	based on enzymes including lipase
Properties	Appearance: Dust Color: Grey Odor: odourless PH (sol. 10%): 8.5 ÷ 10.5
Package	Paper bags of 25kg with LIPOL T1 label
Storage	Can be preserved for 12 months in intact packages. Store in a well-ventilated dry place, protected from heat sources.
How to use	Operating conditions: <ul style="list-style-type: none">- PH Bath: 7-10- Temperature: 22-35 ° C- Density: 3-5 ° Bé Do not inhale or ingest. Avoid eye contact. Wash your hands after use. For optimum action, the PH should be between 7 and 10 and the temperature range between 22 °c and 35 °c.
Applications	Soaking applications: 0.3%-0.6% Liming: 0.25%-0.35% Bating: 0.2%-0.4%

FEATURES

BIODERMOL WP is an auxiliary for soaking and liming based on specifically selected enzymes which act on the glycosaminoglycans e.i proteoglycans of the superficial layers of the hide. The enzymes, besides working on the whole section of the hide, also carry out their action in the hair pore, going to remove the non-collagenic targets that hold the hair in this structure. In this way the pore is enlarged and the fur is detached entirely with the bulb.

ADVANTAGES

- It facilitates the detachment of the hair from the pore in a short time and with considerable saving of reducing substances (up to 50%-70% less sulfide and sodium sulphide compared to traditional processing).
- It is 100% biodegradable.
- The hides are stretched and open with a clean and firm grain.
- Reduction of the use of chemical products with consequent decrease of COD and TKN up to 30%-50% compared to traditional processing.
- The used enzymes are not proteases, in fact they present a proteolytic activity of 0 u.L.V.
- They are not reactive against collagen and therefore do not cause low grain.

TECHNICAL DATA SHEET

Description	BIODERMOL WP – enzymatic auxiliary for soaking and liming
Main components	Based on enzymes including hyaluronidase
Properties	Appearance: Dust Color: White Smell: Typical PH (sol. 10%): 5.0 ÷ 8.0
Package	Paper bags of 25kg with BIODERMOL WP label
Storage	Can be preserved for 12 months in intact packaging. Store in a well-ventilated dry place, protected from heat sources.
How to use	Operating conditions: <ul style="list-style-type: none">– PH Bath: 7-10– Temperature: 22-35 ° C– Density: 3-5 ° Bé Do not inhale or ingest. Avoid eye contact. Wash your hands after use. For best action, the PH should be between 7 and 10 and the temperature range between 22 °c and 35 °c.
Applications	Soaking: 0.5%-1.0% Liming: 0.2%-0.5%

BIODERMOL TP

Auxiliary for soaking and liming



FEATURES

BIODERMOL TP is an auxiliary for soaking and liming which, by decreasing the thickness of the veins, eliminates the unpleasant defect of the grains on the finished hides.

When processing fresh hides, it is used to balance the density of the bath replacing the use of salt and reducing the chlorides in the wastewater.

The use of BIODERMOL TP in the liming phase facilitates the penetration of the lime accelerating the swelling of the hide uniformly.

At the end of the liming the hide is open and relaxed.

ADVANTAGES

- Eliminates the vein effect.
- Facilitates the penetration of lime into the skin during the liming.
- Elimination of salt to raise the density of the bath in during processing fresh hides.
- Promotes the opening and distension of the hide.

TECHNICAL DATA SHEET

Description	BIODERMOL TP – Auxiliary for soaking and liming
Main components	Sodium and potassium salts
Properties	Appearance: Dust Color: White Odor: odourless pH (sol. 10%): 8-10
Package	Paper bags of 25kg with BIODERMOL TP label
Storage	Can be preserved for 12 months in intact packaging. Store in a well-ventilated dry place, protected from heat sources.
How to use	Operating conditions: <ul style="list-style-type: none">– PH Bath: 2-12– Temperature: 18-55 ° C Do not inhale or ingest. Avoid eye contact. Wash your hands after use.
Applications	Soaking: 0.1%-0.8% Liming: 0.5%-1.5%

FEATURES

SPHX is an eco-friendly soaking agent that allows to simplify the soaking phase thanks to its combined action of gradual raising of PH, degreasing and cleaning of the hide.

By using SPHX it is possible to reduce and in some cases completely replace the use of soda, wetting agents and surfactants.

At the end of the treatment with SPHX the skin is clean, reasonably degreased and open and ready for of liming and tanning with guarantees of high yield and firm grain.

ADVANTAGES

- It allows to raise the pH gradually.
- It's an environmentally friendly product.
- It has a degreasing action.
- Facilitates skin cleansing.
- The skins are stretched and open with a clean and firm grain.
- Reduction and elimination of chemical products such as soda, surfactants and impregnating.

TECHNICAL DATA SHEET

Description	SPHX – Ecological soaking agent
Main components	Calcium and magnesium salts
Properties	Appearance: Dust Color: Grey Odor: odourless PH (sol. 10%): > 9.8
Package	Paper bags of 25kg with SPHX label
Storage	Can be preserved for 12 months in intact packaging. Store in a well-ventilated dry place, protected from heat sources.
How to use	Operating conditions: <ul style="list-style-type: none">- pH Bath: 2-12- Temperature: 18-55 ° C Do not inhale or ingest. Avoid eye contact. Wash your hands after use.
Applications	Soaking: 0.1%-0.4%