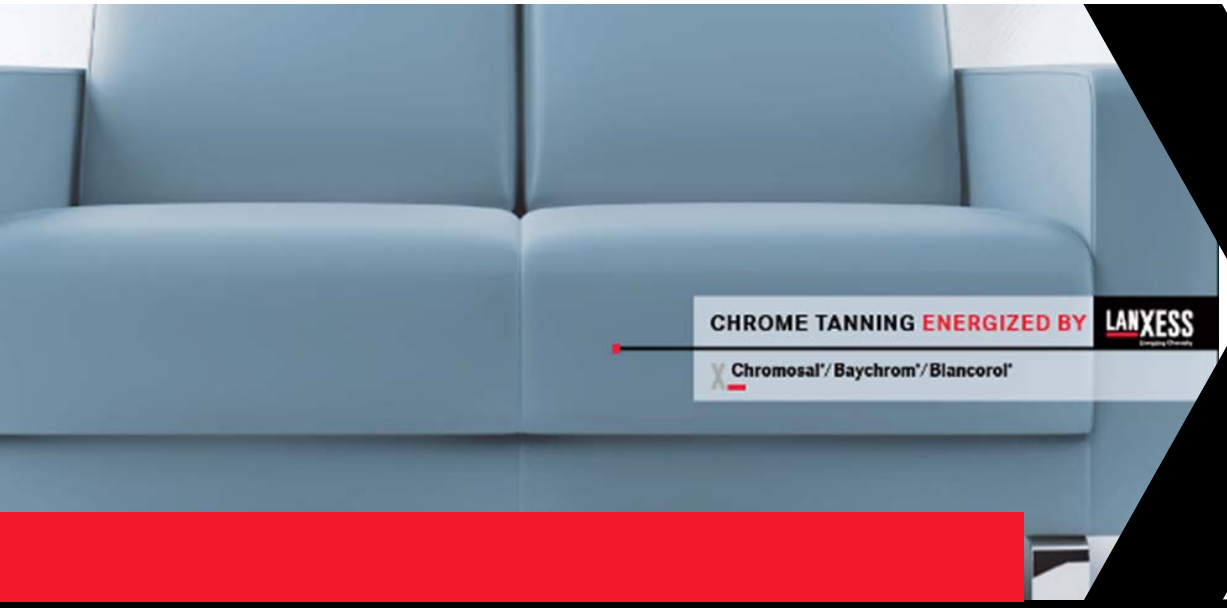


Peltec® range and Blancorol®

Special auxiliaries for the deliming till chrome tannage, that results in:

- Reduced water and salt consumption
- Increased CTS uptake
- Shortened processing time
- Reduced TDS

Business Unit Leather, BL-OLC
Global Application and Development

Jochen Rudolph

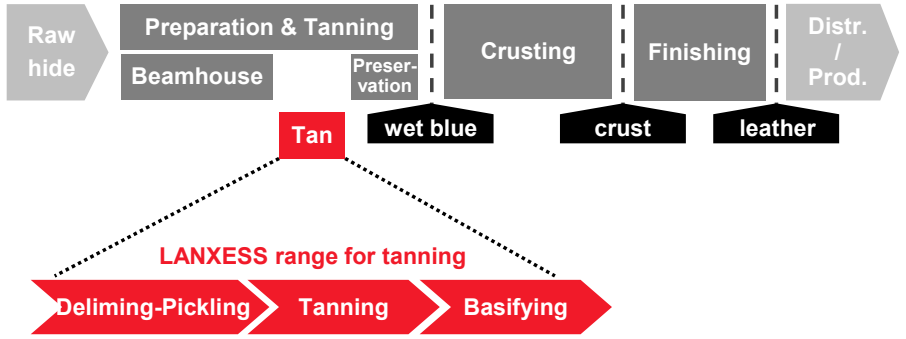
LANXESS
Energizing Chemistry

LANXESS offers superior solutions for the leather industry

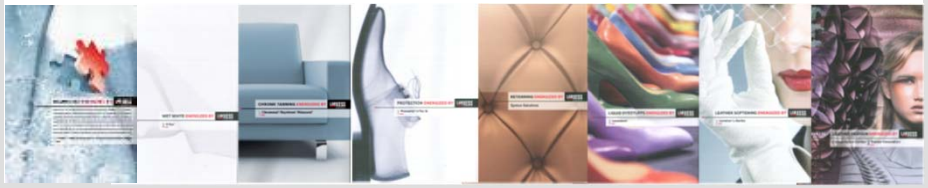
Making history with unmatched experience

- LANXESS is leading the development and production of leather chemicals for over a century
- LANXESS offers a comprehensive portfolio for the leather process from raw to finish.
- Our chrome tanning products were first branded in 1921
- Today LANXESS is one of the global leaders in the production of chemicals for all steps of leather manufacturing

Experience in leather you can rely on



- LANXESS offers the complete product range for the leather making process, starting from raw hide up to the finished leather



LANXESS

Sustainability is still a major opportunity for the leather industry

Waste water

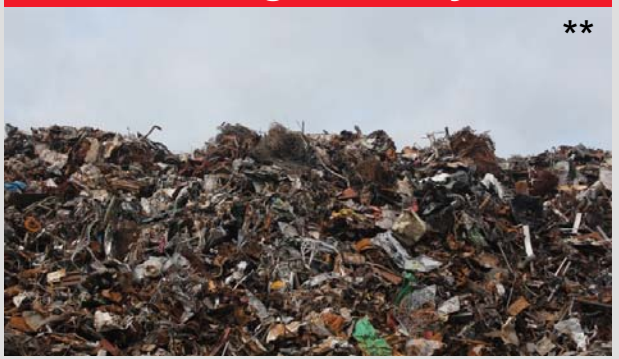
Sludge

Water consumption

Reutilization of by-products

Sustainable raw materials

Biodegradability



* Wikipedia.com
** Picture source: www.pexels.com (license free)

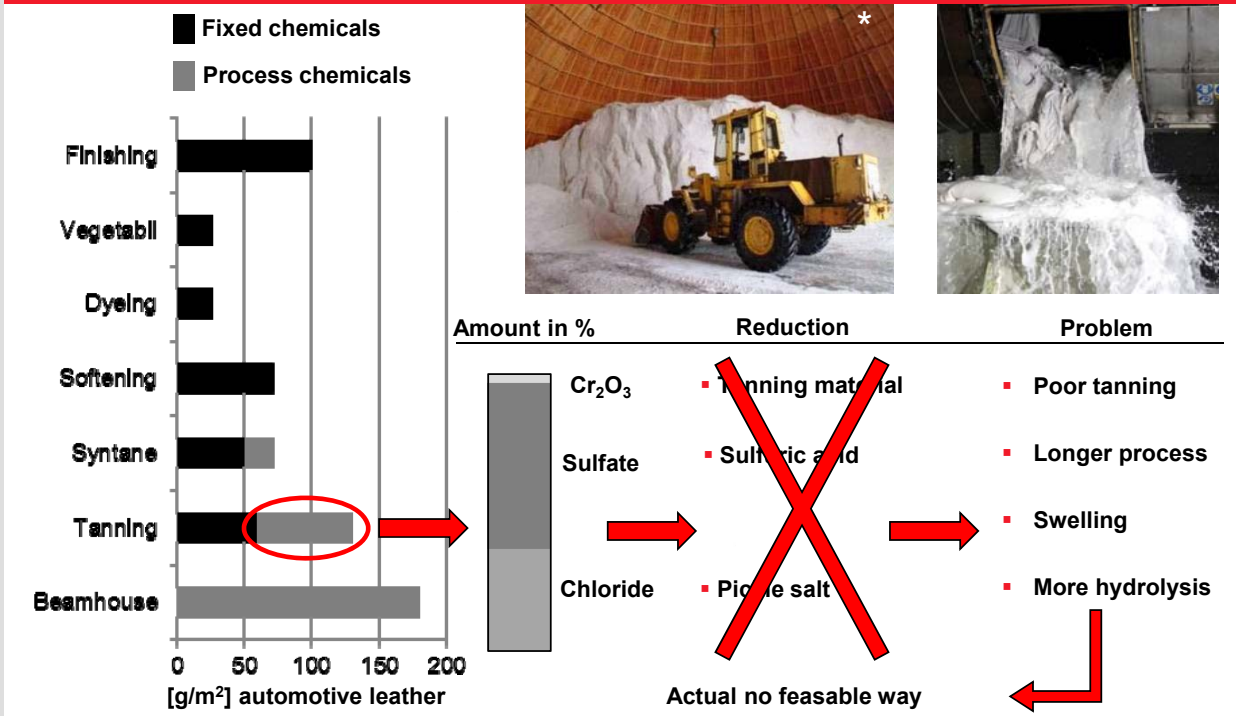
LANXESS

Only 50 % of the chemicals applied will finally end up in the leather

Background

- Chemicals which end up in the effluent during leather making are mostly inorganic salts
- The highest single source of these salts is conservation (sodium chloride), but also beamhouse products and the tanning process have a significant influence
- If one or all of these chemicals would be reduced, the TDS would be lowered, but this could cause some problems regarding the leather quality

Chemicals discharged (TDS) and fixed in 1 sqm leather



* Wikipedia.com

LANXESS

Conventional Deliming to Tanning process needs up to 600% water (values based on 100 kg weight)

Conventional Process

- Deliming
- Bating
- Pickel
- Tanning
- Basification

Standard	TDS (g/l)	float %	TDS total g
wash float		100,0	
pre-deliming	3,2	100,0	320,0
deliming			
bating	20,8	100,0	2.080,0
wash float 1	4,4	100,0	440,0
wash float 2	0,8	100,0	80,0
residual float	84,8	50,0	4.240,0
wash float			
			7.160,0

Operation	*Add*	*%*	*Weight in kg*	*Product*	*Time in min*	*Control*
				RM: Cow medium Lime Fleshed Hides		
Wash		100,00	*1.000,000*	Water		
		0,25	*2,500*	Ammonium Sulphate	30	Drain - 1
Delime		70,00	*700,000*	Water		
		1,50	*15,000*	Ammonium Sulphate	60	Check Delime
Bate		0,30	*3,000*	PELTEC BB		
		0,20	*2,000*	PELTEC BLE-F	45	
Degreasing		0,20	*2,000*	PELTEC AD N	20	
		100,00	*1.000,000*	Water	20	Drain - 2
						2 Wash & Drain 3-4
Pickling		70,00	*700,000*	Water		
		8,00	*80,000*	Common Salt	15	Be: 6.0
		0,50	*5,000*	Formic acid 85%	40	
		1,40	*14,000*	Sulphuric acid 96%	120	pH:3.0
						Drain 50% pickle float 5
Tanning		3,50	*35,000*	CHROMOSAL B 33%	60	
		3,50	*35,000*	CHROMOSAL B 33%		
		0,50	*5,000*	Sodium Formate	60	Check penetration
		100,00	*1.000,000*	Water	20	
Basification		0,50	*5,000*	BLANCOROL BA-IN	60	
		0,15	*1,500*	PREVENTOL U-Tec G	240	pH:4.0, Check boil test
						Drain - 6
		100,00	*1.000,000*	Water	20	Drain and Pile.-7

LANXESS

PELTEC ® DAF liq. and PELTEC ® C Deliming to Tanning process with reduced water and salt.

Peltec Process

- Deliming
- Bating
- Pickle
- Tanning

B 295 A	TDS (g/l)	float %	TDS total g
without float			
wash float			
pre-deliming			
deliming			
bating			
wash float 1			
wash float 2			
residual float	97,6	15,0	1.464,0
wash float			
			1.464,0

Operation	*Add*	*%*	*Weight in kg*	*Product*		*Time in min*	*Control*
Wash		150,00		Water	32	10	pH 11,9
							drain
Deliming				without water	30		
		0,30		Sodium bisulfite			Thimophthalein
		0,20		PELTEC DL		5	pH 6,8
	+	3,00		PELTEC DAF liq.		60	pH 8,7 Ø 80% blue
	+	0,10		PELTEC DL		120	pH 8,5 Ø 50%blueish
Bating							
	+	0,15		PELTEC ADN			
		0,25		PELTEC BM	2,5 °Bé	45	pH 8,7 Ø 50% slightly
Pickle		1,00		PELTEC C	7,1 °Bé	5	pH 3,4
					6,8 °Bé	15	pH 4,4
		0,50		PELTEC C	6,9 °Bé	45	pH 4,7 Ø 100% blue
	+	0,80		BLANCOROL HP	1:5 °Bé	30	pH 3,7 Ø 95% blue
	+	0,80		BLANCOROL HP	1:5	30	pH 3,7 Ø 50% blue
Tanning	+	6,00		CHROMOSAL B		60	pH 3,1 Ø 50% penetration
	+	0,12		PREVENTOL U-Tec G		60	pH 3,1 Ø100% penetration
	+	0,35		BLANCOROL BA-I		10 h	heating to 42 °C within 8 h
							automatic over nicht
							pH 3,8
							drain
Wash		150,00		Water	20	10	
							drain

PELTEC® C Deliming to Tanning process with reduced water and salt.

Peltec Process

- Deliming
- Bating
- Pickle
- Tanning

From over 690% water

Down to 230% water

Material:	**Indian Goat Lime fleshed skins**				***Piece Count:***	**960**
Substance:					***Weight:***	**1000,000 kg**
% refer to:	**Fleshed weight**				***Drum - N°:***	
Operation	***Add***	***%***	***Weight in kg***	***Product***	***Time in min***	***Control***
				RM: Goat Lime Fleshed Hides		
Wash		50,00	*500,000*	Water		
		0,25	*2,500*	PELTEC C	20	Drain Completely
Degreasing				Dry Float		
Bating		0,20	*2,000*	PELTEC BLE-F		
		0,50	*5,000*	PELTEC C	60	pH: 8.5-9.0
		0,30	*3,000*	PELTEC BB		
		0,20	*2,000*	PELTEC AD N	60	
		100,00	*1.000,000*	Water	20	Drain Completely
Cr Tanning				Dry Float		
		1,75	*17,500*	PELTEC C		After 10' run - Be*: 5.5/6.0
		0,30	*3,000*	Sodium Meta Bisulphite	150	pH: 4.5/5.0
		5,00	*50,000*	CHROMOSAL B 33%	30	
		0,15	*1,500*	PREVENTOL U-Tec G	60	Check penetration,
		50,00	*500,000*	Water	90	p:4.0/4.2
						Check Boil test
						Drain and Pile

LANXESS

Several Bulk Trials show interesting Numbers.

Conventional Process	PELTEC ® Process
▪ Total water consumed: 690%	▪ Total water consumed: 230%
▪ Total number of chemicals: 12 / 20% product mix	▪ Total number of chemicals: 7 / > 9% product mix
▪ Running Time: 13 hours and 30 minutes	▪ Running time: 8 hours and 10 minutes
▪ 7% Chromosal B offer = Cr_2O_3 : 2.86%	▪ 5% Chromosal B offer = Cr_2O_3 : 3.67%
▪ Chrome content in final float: 4098 ppm	▪ Chrome content in final float: 3690 ppm
▪ 690 l water for 100 kg pelt contain 10.983 g TDS	▪ 230 l water for 100 kg pelt contain 5.590 g TDS

LANXESS

System has proven to reduce the impact on waste water and environment.

- Waste water volume and TDS load reduction
- Less CTS and chemical usage
- Energy savings

System has proven to reduce the impact on waste water and environment.

Waste water volume and TDS load reduction

430 l water saving / 100 kg pelt

500.000 t of pelt weight could safe 2.15 Billion liter of water and 270 t TDS.

Water consumption for 1 week of Kanpur City

(100 l water / person)

LANXESS

SUSTAINABLE
LEATHER MANAGEMENT
BY LANXESS