



Organic Tanning
Metal Free

METAL FREE WHITE LEATHERS

- **KLF TECNOKIMICA** has recently refined a **METAL FREE** tanning process able to realise white leathers with a shrinkage temperature of about 80°C, without using tanning metal salts (Chrome, Aluminium, Zirconium, Titanium), whose concentrations are in compliance with the current legislation.
- The process is based on the combined action of two chemicals, **PAROLIT FC** and **PAROLIT JX**, whose primary composition is **organic**, able to fix to the collagenous fibre, forming a stable complex equal to the one of a traditional natural tannin.
- Finished leathers have an excellent softness, full and bright dyeing tone, and first-rate physical-technical features, as shown in the analytical data displayed below.
- Our process occurs through a special preparation of hides and skins in the tanning phase, whose result is a well-tanned leather with good swelling of the collagenous fibres, ready to stably fix the synthetic products used in the subsequent retanning stage.
- Leathers are reactive with fatliquoring products too, which fix to the fibre providing the desired softness.



DESCRIPTION OF THE TANNING PROCESS WITH PAROLIT FC AND PAROLIT JX

- During the tanning phase, a good swelling of the collagenous fibres is essential to prepare hides and skins to the subsequent phase of retannage and fatliquoring and to get the desired features of fullness and softness.
- The combination of **PAROLIT FC** and **PAROLIT JX** products provides a tanning stability similar to the one provided by glutaraldehyde and by natural tannins with the benefit of getting white leathers with absolutely higher fastness to light.
- The products used during retannage and fatliquoring have high levels of exhaustion, are **formaldehyde-free**, and provide an excellent fastness to light.
- Formulates have been duly selected to get leathers with high chemical-physical resistances, with the eclecticism of chrome tanned leathers and able to meet all market and fashion requests.
- Polymeric retanning and fatliquoring agents: **LEDERTAN RC, FILTAN PAN, FILTAN XS, FILTAN GUM, LEDERTAN STM.**
- Fatliquors: **LEDEROL ES/F, SOLFOIL WX, EMULOIL HK CONC, SOLFOIL 912H, SOLFOIL HR, EMULOIL CRS.**

CHEMICAL AND PHYSICAL TESTS

The following tables show the results of the chemical and physical tests carried out on finished leather:

CHEMICAL ANALYSES		
	Sheep skins	Cow Hides
PH	5.00	4.8
DIFFERENTIAL FIGURE	0.52	0.6
HUMIDITY (%)	10.30	10.7
ASH (%)	5.50	4.80
FORMALDEHYDE (mg/Kg)	10.2	9.5
XENOTEST (grey scale)	4	4
SHRINKAGE TEMPERATURE	75	80
METALS	NOT PRESENT	NOT PRESENT

Assessment of tear load: method 2 specimen with slot (UNI EN ISO 3377/2)		Measurement of grain spread and tensile strength Method of the ball (I.U.P.9UNI EN ISO 3379)		Assessment of tensile strength and per cent extensibility (UNI EN ISO 3376I.U.P.9)		Water vapour permeability (UNI EN ISO 14266:2006)	
Sheep Skins	Cow Hides	Sheep Skins	Cow Hides	Sheep Skins	Cow Hides	Sheep Skins	Cow Hides
58.1N	91.7N	11.18mm	10.44mm	18.86N/mm ²	20.23N/mm ²	16.8 mg/(cm ² h)	13.7 mg/(cm ² h)