



SLOVENSKI STANDARD
SIST EN 17848:2023

01-julij-2023

Usnje - Kemikalije - Kontrola kakovosti

Leather - Chemicals - Quality control

Leder - Chemikalien - Qualitätskontrolle

Cuir - Produits chimiques - Contrôle de la qualité

Ta slovenski standard je istoveten z: EN 17848:2023

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ICS:

01.040.59	Tekstilna in usnjarska tehnologija (Slovarji)	Textile and leather technology (Vocabularies)
59.140.10	Postopki in pomožni materiali	Processes and auxiliary materials

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EUROPEAN STANDARD

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English Version

Leather - Chemicals - Quality control

Cuir - Produits chimiques - Contrôle de la qualité

Leder - Chemikalien - Qualitätskontrolle

This European Standard was approved by CEN on 17 March 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 17848:2023) has been prepared by Technical Committee CEN/TC 289 “Leather”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2023, and conflicting national standards shall be withdrawn at the latest by November 2023.

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EN 17848:2023 (E)

Introduction

By recovering a valuable organic material, tanneries have historically set themselves the goal of developing and managing its transformation into a high value-added material.

Chemical products, which are fundamental in the various processing stages in order to obtain rot-proof and long-lasting durable leather, provide the aesthetic and chemical-physical properties that characterize its final use. Their characteristics and performance need to be ensured by a quality constancy, which can be assessed through appropriate analysis and controls.

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1 Scope

This document provides a list of recommended tests that can be used to assess the quality of chemical products used in the leather manufacturing process.

This document is applicable to chemical products whose application has the same effect on leather, grouped in families.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 Families of chemical products

Chemical products whose application has the same effect on leather, grouped in families

3.1.1 base

chemical species or molecular entity having an available pair of electrons capable of forming a covalent bond with a hydron (proton) or with the vacant orbital of some other species

3.1.2 acid

chemical species or molecular entity capable of donating a hydron (proton) or capable of forming a covalent bond with an electron pair

3.1.3 inorganic salt

inorganic chemical compound consisting of an assembly of cations and anion

3.1.4 organic salt as masking agent

salified organic acids able to modify or mask the behaviour of chrome salts in coordinating with collagen

3.1.5 surfactant degreasing agent

substances that have the property of lowering the surface tension of a liquid, facilitating the wettability of the surfaces or the miscibility between different liquids

3.1.6 enzymatic mixture

based on enzymatic principles such as protease or lipase used in the skin maceration or degreasing phase

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3.1.7**biocide**

substances or mixtures capable of inhibiting or controlling fungal or bacterial growth in the leather process

3.1.8**anti-wrinkle agent**

substances or mixtures capable of attenuating, eliminating or preventing the formation of wrinkles on the grain of the leather

3.1.9**deliming agent**

organic or inorganic substances or mixtures capable of removing lime by converting it into soluble salts

3.1.10**solvent**

organic products based on aliphatic, aromatic, alcohol, glycols, ketones and esters

3.1.11**fatliquoring agent**

products with a lubricant effect of the skin fibers, modifying the properties of softness and resistance

3.1.12**mineral tanning salt**

inorganic products capable of binding to collagen increasing its hydrothermal stability and resistance to putrefaction

3.1.13**vegetable tannin**

products of vegetable origin capable of binding to collagen increasing its hydrothermal stability and resistance to putrefaction

3.1.14**synthetic tanning agent****syntan**

industrial synthesis products capable of binding to collagen increasing its hydrothermal stability and resistance to putrefaction

3.1.15**organic tanning agent**

organic products capable of binding to collagen increasing its hydrothermal stability and resistance to putrefaction

3.1.16**wet-end resin**

synthetic product obtained by condensation of the same monomer (polymer) or different monomers (copolymer), used to modify the fibre structure during the wet processing stages

3.1.17**organic filler**

organic products capable of creating a filling effect

3.1.18**inorganic filler**

inorganic products capable of creating a filling effect

3.1.19**dyestuff**

anionic or cationic, coloured water soluble substance that chemically bonds to the substrate to which it is being applied

3.1.20**finishing resin**

synthetic polymers able to make cross-linking reaction with other polymers or proteins, used during the finishing stages

3.1.21**natural binder**

substances of vegetable or animal origin, typically caseins and albumins, used for glazable finishing

3.1.22**finishing dye**

coloured substances, often in solvent without salts, for colouring the leather surface

3.1.23**finishing solvent and thinner**

polar or apolar solvents used singly or mixed together

3.1.24**pigment**

crystalline powders with covering capabilities able to give their colour to the substrate on which they are applied

3.1.25**compound**

mixture of several substances used in the finishing process

3.1.26**finishing auxiliary**

substances added in small doses to the finishing mixtures to modify their characteristics or facilitate the execution of specific steps in the finishing process

3.1.27**finishing wax**

natural or synthetic substances with low melting point characterized by a greasy and waxy feel

3.1.28**strain-levelling agent**

additives able to modify viscosity and surface tension of a finishing mixture, improving its distension

3.1.29**touch modifier**

substance able to give the desired touch to the leather surface and it can be water emulsions, solvent solutions or dispersed into the binders

EN 17848:2023 (E)**3.1.30****oil**

lubricating substances of vegetable or mineral origin used as touch modifiers or to improve the grain flexibility

3.1.31**matting auxiliary**

crystalline substances of organic or inorganic nature with high refractive index usually used in aqueous emulsions or dispersed in lacquers and organic solvents to modify finishing brilliance

3.1.32**finishing filler**

inert and typically inorganic substances with high specific weight used to level and make uniform the surface of the leather

3.1.33**penetrating agent**

surfactants or solvents used to improve the wettability, the penetration and the adhesion of the finishing mixture

3.1.34**waterproofing agent**

substances that can be found under various compositions such as wax and paraffin mixtures, chromium stearates, fluorinated hydrocarbons, chloroparaffins, fatty acids, natural oils and fats

3.1.35**crosslinking agent**

organic or inorganic substances capable of crosslinking polyfunctional polymers

3.2 Product's characteristics**3.2.1****visual appearance**

product physical appearance (liquid, powder), colour and consistency (fluid, pasty)

3.2.2**smell**

characteristic of a product that can be recognized or noticed using the nose

3.2.3**active substance**

active part of a substance or compound producing a chemical effect, capable of performing the declared application function

3.2.4**concentration**

percentage of the declared active components

3.2.5**dry content**

percentage of product after being subjected to 102 °C until a constant weight

3.2.6**titre**

concentration (which is determined by the titration or instrumental analysis) of a constituent of a solution; it can be expressed in various ways: more commonly in grams of substance (element, compound) per litre of solution

3.2.7**pH**

degree of acidity or basicity of an aqueous solution calculated as the negative value of the natural logarithm of the hydrogen content (expressed in grams) per litre of solution where the neutral pH, that of water, which has a value of 7 (lower values indicate the acid solutions, higher values than basic ones)

3.2.8**specific weight**

ratio of the weight of a product and its volume

3.2.9**density**

ratio of the mass of a product and its volume

3.2.10**viscosity**

measure of the fluid resistance to deformation at a given rate and is conceptualized as quantifying the internal frictional force that arises between adjacent layers of fluid that are in relative motion

3.2.11**solubility**

miscibility of a solute in a solvent under certain conditions of temperature and pressure; the maximum quantity of a solute which in these conditions dissolves in a given quantity of solvent, forming a single phase

3.2.12**yield**

ratio between the concentration of a sample and that of a standard sample, which can be determined either by dyeing on a suitable support (leather, paper, etc.) or spectrophotometrically, by calculating the ratio of the maximum absorbance of a sample and the same value measured on a standard sample

3.2.13**enzymatic units**

amount of an enzyme, which degrades a given amount of substrate under given conditions

3.2.14**free acidity of fatliquors**

amount of free fatty acids in the product, expressed as percent of oleic acid (equivalent) in the fatliquor or as mg of potassium hydroxide necessary to neutralize 1 g of fatliquor

3.2.15**basicity of a mineral tanning agent**

ratio between the number of hydroxyl groups bound to a metal atom (i.e. Cr, Al, Zr, etc.) and the total number of hydroxyl groups which can be bound by it. It is expressed by percent or in twelfths