SLOVENSKI STANDARD
oSIST prEN 17900:2022

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Usnje - Specifikacija gostote usnja

Leather - specification of leather density

Leder - Spezifikation der Lederdichte

Cuir - Spécification de la masse volumique du cuir

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59.140.30	Usnje in krzno	Leather and furs

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English Version

Leather - specification of leather density

Cuir - Spécification de la masse volumique du cuir

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 17900:2022) has been prepared by Technical Committee CEN/TC 289 “Leather”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

Introduction

Environmental footprints of materials and products are getting increasing momentum in our economies. Leather has been very active in this context; the tanning industry has developed both a CEN Standard for calculating leather Carbon Footprint and leather Product Category Rules (PEFCR) in the European context.

Whilst leather (except sole leather) is traded on the basis of m^2, LCA applications need to insert data on material inputs in kg, so it is necessary to provide leather suppliers and customers with an instrument that allows them to eco-design their leather products correctly.

1 Scope

This document specifies average values of leather density, depending on animal origin and thickness of finished leather, to be used for the calculation of LCA. This document is applicable to bovine, caprine and ovine types of leather, except for vegetable sole leather, which is traded by weight.

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
environmental footprint
multi-criteria measure of the environmental performance of a good or service throughout its life cycle

[SOURCE: Product Environmental Footprint (PEF) Guide (EUROPEAN COMMISSION-JOINT RESEARCH CENTRE) [1]]

3.2
carbon footprint
<leather> means for measuring, managing and communicating greenhouse gas (GHG) emissions related to goods and services, based on life cycle assessment (LCA) but focused on the single issue of global warming

3.3
density
mass of a given volume (surface area × thickness), of the actual leather fibre, measured in kg/m^2

3.4
leather
hide or skin with its original fibrous structure more or less intact, tanned to be imputrescible, where the hair or wool may or may not have been removed, whether or not the hide or skin has been split into layers or segmented either before or after tanning and where any surface coating or surface layer, however applied, is not thicker than 0,15 mm

Note 1 to entry: If the tanned hide or skin is disintegrated mechanically and/or chemically into fibrous particles, small pieces or powders and then, with or without the combination of a binding agent, is made into sheets or other forms, such sheets or forms are not leather.

Note 2 to entry: If the grain layer has been completely removed, the term “leather” is not to be used without further qualification, e.g. split leather, suede leather.

[SOURCE: EN 15987:2015, 4.1.1]

3.5
primary data
quantified value of a process or an activity obtained from a direct measurement or a calculation based on direct measurements

Note 1 to entry: Primary data can include GHG emission factors or GHG removal factors and/or GHG activity data.

[SOURCE: EN ISO 14067:2018, 3.1.6.1]

3.6
dataset
LCI
LCIA dataset
document or file with life cycle information of a specified product or other reference (e.g. site, process), covering descriptive metadata and quantitative life cycle inventory and/or life cycle impact assessment data, respectively

3.7
grain
outer side of leather once the hair or wool and epidermis has been removed, which is characterized by one of the following patterns, specific to each animal species:

— pores from hair and wool;

— feather follicles;

— scales

[SOURCE: EN 15987:2015, 4.2.1.1]

3.8
split leather
layer from a hide or skin made from a flesh split or a middle split, without any grain structure, tanned to be imputrescible

Note 1 to entry: A split is a layer of hide or skin obtained by dividing it horizontally (splitting) to obtain at least two separate layers; the top layer is called grain split, and the bottom layer is called flesh split; for heavy hides also a middle split can be obtained.

Note 2 to entry: If the name of the animal whence it originates, or the part of the animal whence it comes, is included in the description, the term “split leather” will be used as a noun, e.g. pig split leather.

[SOURCE: EN 15987:2015, 4.1.2]

3.9
coated leather
coated split leather
leather or split leather where the surface coating, applied to the outer side, does not exceed one third of the total thickness of the product but is in excess of 0,15 mm

4 Table of leather densities

Leather density varies depending on animal species, age and thickness: for example, calf leather and bovine leather have different structures, fat content and compactness and, considering the whole thickness of the same leather, the external layer (grain leather) is far more compact than the bottom one.

All these elements affect leather density, and they shall be taken into account when density is calculated and not measured.

In the absence of primary data, leather weight/square meter shall be calculated by using the density data set included in this document.

Table 1 provides the medium density of bovine, ovine and caprine leathers, and their relationship with the thickness, that shall be used in converting square meters to kilograms.

Table 1 — Medium density values (kg/m^2) of finished leather (grain) [a] to be applied in LCA studies

Thickness ranges mm	Bovine kg/m^2	Ovine kg/m^2	Caprine kg/m^2
< 0,6 [b,c]	0,35	0,35	0,35
0,6 - 0,8	0,45	0,37	0,45
0,8 – 1	0,60	0,42	0,55
1,0 - 1,2	0,80	0,50	0,65
1,2–1,4	0,90	NA [d]	NA
1,4–1,6	1,00	NA	NA
1,6–1,8	1,25	NA	NA
> 1,8	1,33	NA	NA

[a] For coated leathers, the coating is measured separately.

[b] Up to 0,6 mm the density of the grain layer of the various animal species does not vary much.

[c] Bovine Splits in lower thickness ranges are not usual in the market; in higher ranges (above 1 mm) these default values are right and therefore applicable.

[d] Ovine and Caprine leathers with thicknesses above 1,2 mm are rare.

Bibliography

[1] PEFCR (Product Environmental Footprint Category Rules) for leather in the European Commission initiative “A single market for green products” - Leather

[2] European Commission – Joint Research Centre – Institute for Environment and Sustainability 2009

[3] EN 15987:2015, *Leather - Terminology - Key definitions for the leather trade*

[4] EN 16887:2017, *Leather - Environmental footprint - Product Category Rules (PCR) - Carbon footprints*

[5] EN ISO 14067:2018, *Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification (ISO 14067:2018)*