
**Leather — Raw cattle hides and calf
skins —**

**Part 3:
Guidelines for grading on the basis
of defects**

Peaux brutes de bovidés —

Partie 3: Lignes directrices pour le classement sur la base des défauts



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Foreword

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This document was prepared by Technical Committee ISO/TC 120, *Leather*, Subcommittee SC 1, *Raw hides and skins including pickled pelts*.

A list of all parts in the ISO 2822 series can be found on the ISO website.

Introduction

It is widely understood that improvement of hide quality can be achieved only if quality grading norms are applied. The primary producer as well as the whole production chain, including flaying, curing, handling and storing, should be rewarded by better prices for improved quality.

The main purpose of this document is to provide a basis for quality grading.

This document shows a graphic representation visualizing the different grades or classes through a schematic pictogram of a hide. There is no relation to breed, size, weight or the origin of the carcass.

Acknowledgement is made for References [1] and [2].

Leather — Raw cattle hides and calf skins —

Part 3: Guidelines for grading on the basis of defects

1 Scope

This document provides guidelines for the grading of raw cattle hides and calf skins based on visible defects.

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

3.1

fallen hide

hide from an unbled or improperly bled carcass

EXAMPLE The animal died from natural causes.

3.2

pritch hole

hole made by a flayer's pritch

Note 1 to entry: A flayer's pritch is an instrument used to support the carcass during flaying.

3.3

healed warble

trace of damage caused by larvae of *Hypoderma bovis*, the hole healed (closed) and the hide substance replaced by scar tissue

Note 1 to entry: It is seen as a small raised nodule on the grain side that healed before slaughter.

3.4

flay mark

mark inflicted mechanically or physically during the removal of the hide (or skinning) after slaughter

3.5

knife mark

mark on the hide or skin attributed to poor use of the knife

EXAMPLE Cuts, corduroys, gouges, etc.

3.6

ground drying

preservation method where the hide is placed on the ground for purposes of drying

Note 1 to entry: The dilemma associated with such a curing technique is contamination, uneven drying and putrefaction.

3.7

trimming

removal of excess appendages to improve on the shape of a hide with its ultimate use in mind

3.8

ripping

opening up of the carcass of an animal prior to flaying along the mid-line of the belly, from the neck end at point of slaughter to the anal region near the tail, followed by another incision from the hock joint of the fore and hind limbs to join the mid-line

3.9

pattern

shape or contour of a flayed hide when laid flat as determined by the position, length and direction of the ripping cuts made during flaying

Note 1 to entry: The bleeding-cut, belly cut and leg cut should be directly in the centre of the throat, belly and legs. See [Annex A](#).

3.10

curing

preservation

treatment to the hides and skins to render them non-putrescible in the short term or long term, depending on the technique and/or chemical used

3.11

defect

damage on raw or cured hides/skins which depreciates the value of leather produced from them

3.12

latent defect

defect which is discovered after hair removal

EXAMPLE Scratches or other mechanical damages.

4 Trimming

The cattle hides and calf skins should be presented:

- without a head (head cut straight behind the ears),
- with the shanks cut at right angles immediately above the knee (foreshanks) and hock (hindshanks),
- with the tail cut off not more than 25 cm from the butt,
- without excess fat, flesh or any other material unsuitable for making leather (see [Figure 1c](#)).

5 Preservation

The following preservation methods are recommended:

- frame or suspension drying in the shadow
- stack salting

- brining
- dry salting
- freezing.

6 Classification

6.1 General

Cattle hides and calf skins should be classified according to the following grades ascertainable by the number of defects at the time of classing.

6.2 First grade

Cattle hides and calf skins to be classed as first grade are intended to fulfil the features indicated in [Table 1](#) and [Figures 1, 2](#) and [3](#). Additionally, they should have the following characteristics:

- a good pattern, clean and well cured, and no sign of putrefaction;
- free of defects, except for a maximum of five blind warbles;
- no brand marks;
- a few score marks or one hole in the belly is acceptable;
- total utilizable area of the hide not less than 90 %.

6.3 Second grade

Cattle hides and calf skins to be classed as second grade are intended to fulfil the features indicated in [Table 1](#) and [Figures 4, 5](#) and [6](#). Additionally, they should have the following characteristics:

- a good pattern, well cured and no sign of putrefaction;
- a few small holes, cuts or other defects in the belly and neck – but no brand marks – is acceptable;
- one brand mark wholly within 18 cm of the perimeter of the hide is acceptable;
- a maximum of 10 open warbles or 20 blind warbles is acceptable;
- dung or urine stains not more than 30 cm × 30 cm each on the hind shank is acceptable;
- total utilizable area of the hide not less than 80 %.

6.4 Third grade

Cattle hides and calf skins to be classed as third grade are intended to fulfil the features indicated in [Table 1](#) and [Figures 7, 8](#) and [9](#). Additionally, they should have the following characteristics:

- a poor pattern, poor curing and slight signs of putrefaction;
- any kind of defects, except for brand marks, covering up to 30 % of the hide area;
- a brand mark with a portion more than 18 cm from the perimeter of the hide area;
- more than 10 open warbles and 20 blind warbles;
- more dung and urine stains than are acceptable in second grade;
- total utilizable area not less than 70 %.

6.5 Fourth grade

Cattle hides and calf skins to be classed as fourth grade are intended to fulfil the features indicated in [Table 1](#) and [Figures 10, 11](#) and [12](#). Additionally, they should have the following characteristics:

- a very poor pattern and very poorly cured;
- any kind of defects covering up to 50 % of the hide.

6.6 Rejects

All hides presenting with more defects than those acceptable for fourth grade. Less than 50 % of the hide area is useful.

Table 1 — Guidelines for grading of cattle hides and calf skins

Grade	Feature	Defects, in code				
		Natural defects, diseases, parasites, ringworm, anthrax, etc.	Mechanically caused defects, brands, wounds, etc.	Dirt, dung, urine, sand, seeds, etc.	Flaying defects, cuts, holes, scores, cracks, etc.	Putrefaction, hair slip, red heat, salt stations, etc.
First	Location	1-2	1-2	0	1	0
	Concentration	1	1	0	1	0
	Depth	1	1	0	1	0
	Surface	1	1	1	1-2	
Second	Location	3-4	3-4	3-4	2-3	1-2
	Concentration	1	1	1	1	1
	Depth	1	1	1	1	1
	Surface	1	1	1	1-2	1
Third	Location	3-4	3-4	3-4	3-4	3
	Concentration	2	2	2	2	2
	Depth	2	2	2	2	2
	Surface	1	1	1	1-2	1
Fourth	Location	3-4	3-4	3-4	3-4	3-4
	Concentration	2	3	2	2	2
	Depth	2	2	2	2	2
	Surface	1-2	1	1-2	1-2	1-2

Table 2 — Legend for Table 1

	0	1	2	3	4
Location		Periphery	Legs, tail	Shoulder, belly	Bun
Concentration	None	Low	Medium	High	
Depth		Superficial	Thorough		
Surface		Grain	Flesh		

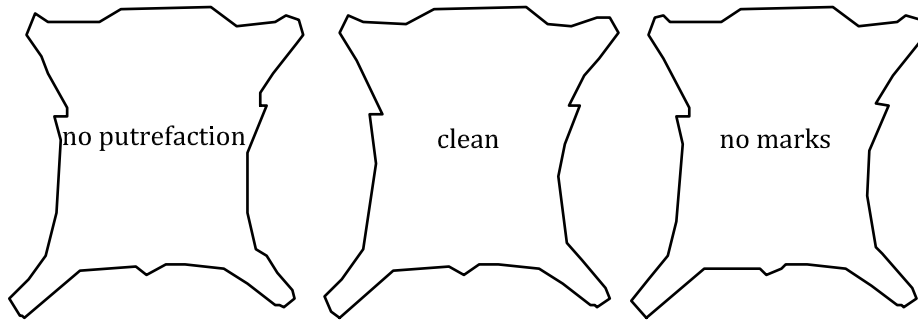


Figure 1 — First grade - putrefaction, dirt, brand marks

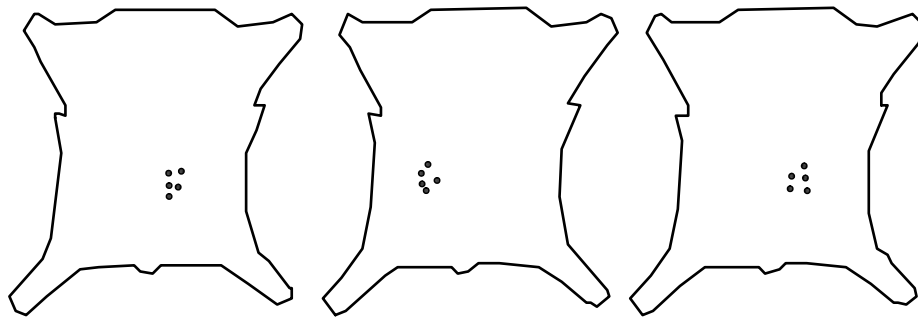


Figure 2 — First grade - maximum five blind warbles

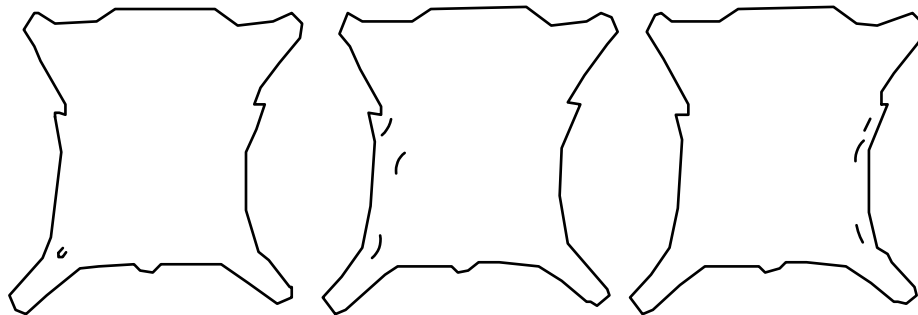


Figure 3 — First grade - scores, marks, holes

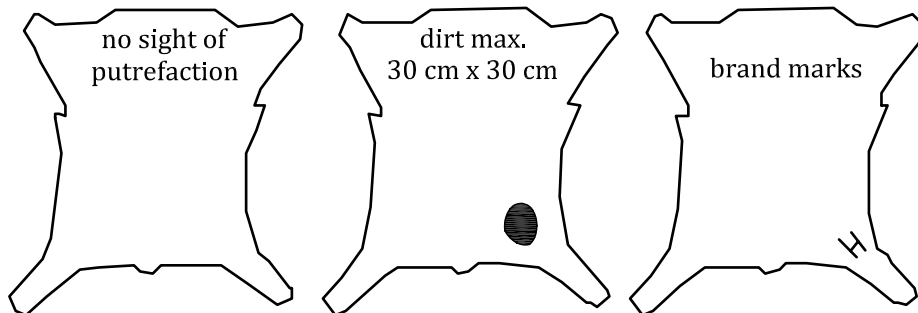


Figure 4 — Second grade - putrefaction, dirt, brand marks

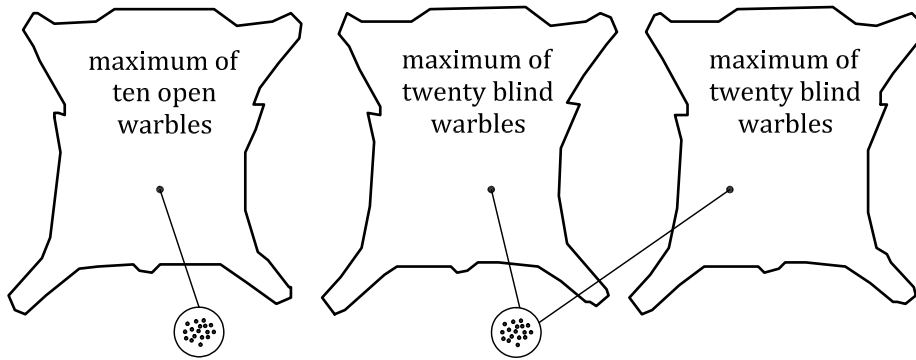


Figure 5 — Second grade - warbles

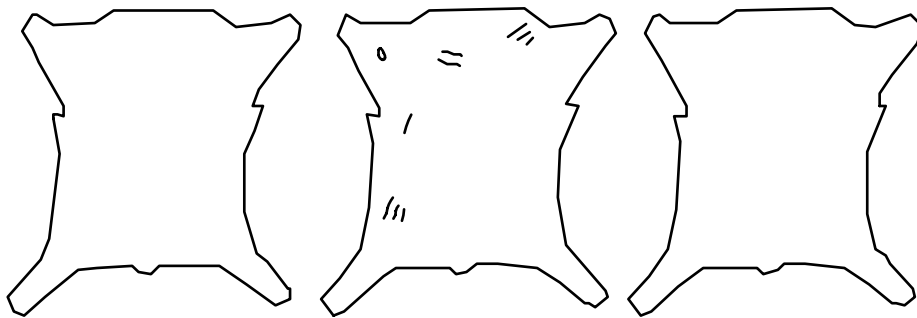


Figure 6 — Second grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts

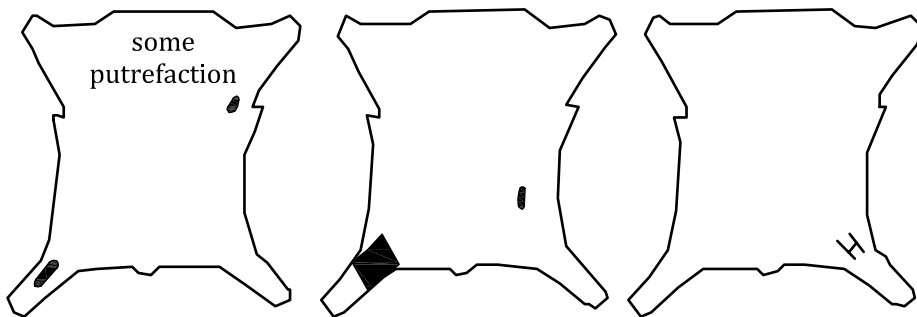


Figure 7 — Third grade - putrefaction, dirt, brand marks

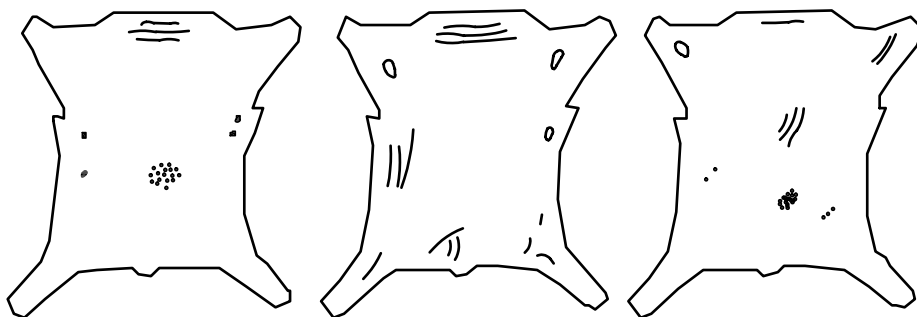


Figure 8 — Third grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts

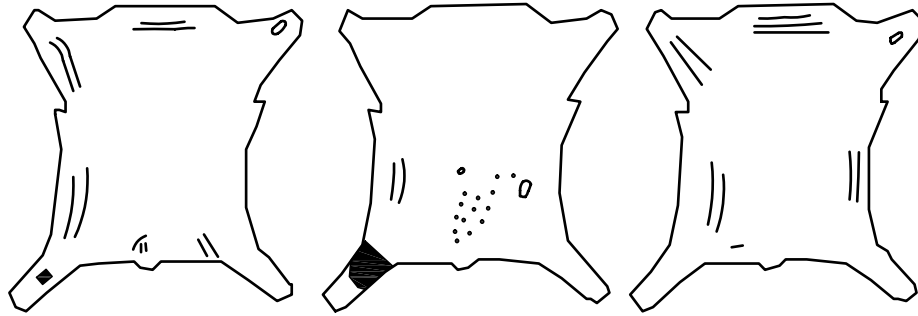


Figure 9 — Third grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts, holes

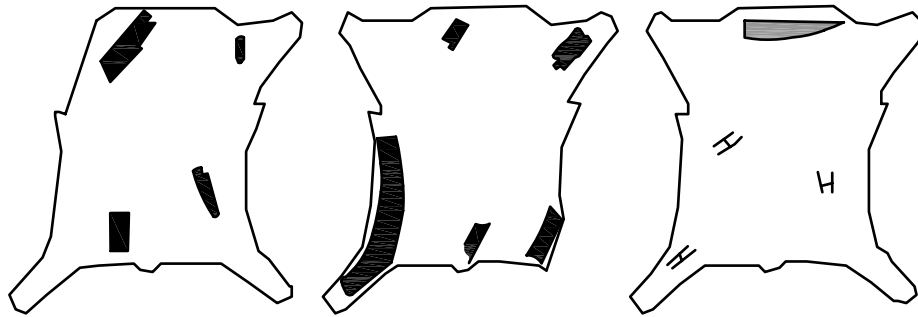


Figure 10 — Fourth grade - putrefaction, dirt, brand marks, poor pattern

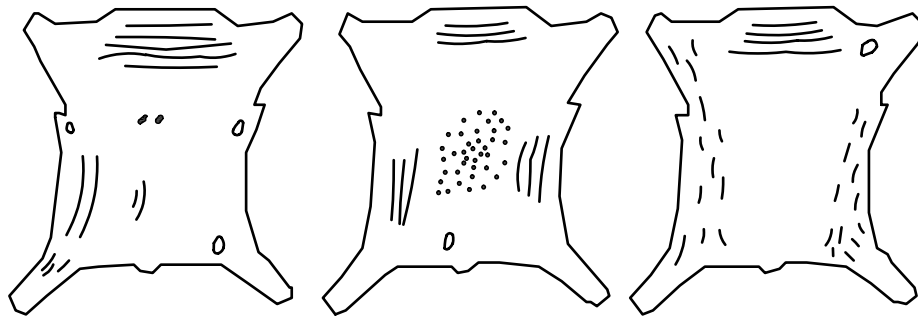


Figure 11 — Fourth grade - natural defects, mechanical defects, flaying defects

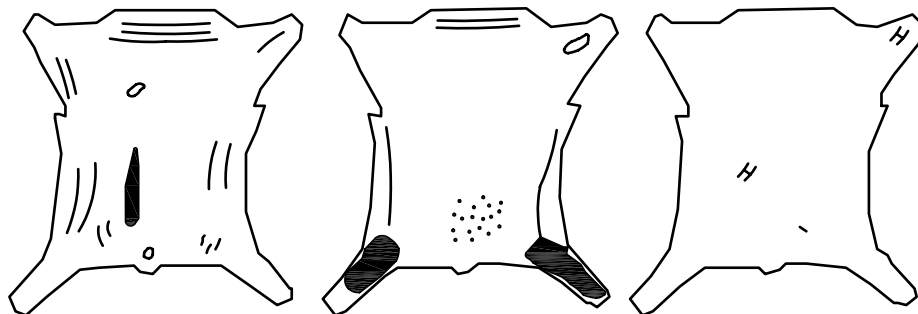


Figure 12 — Fourth grade - any kind of defects

Annex A
(informative)

Correct opening lines for cattle

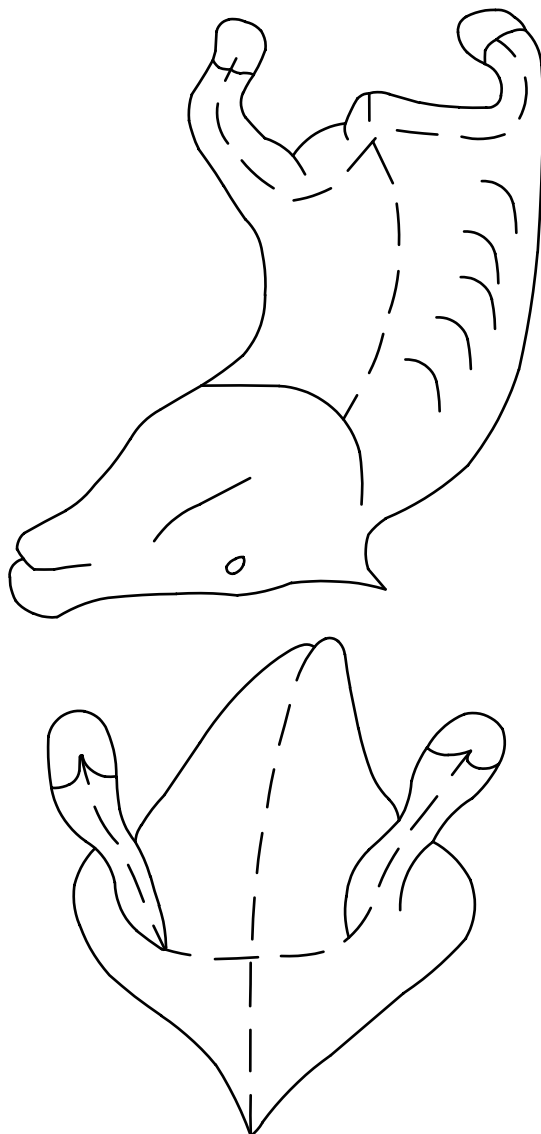


Figure A.1 — Correct opening lines for cattle

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- [1] UNIDO – *Draft guidelines for the grading of cattle hides*
- [2] ATEN A., FARADY INNES R., KNEW E. *Flaying and curing of hides and skins as a rural industry*

