



BSI Standards Publication

# Leather — Raw cattle hides and calf skins

Part 3: Guidelines for grading on the basis of defects

### **National foreword**

This Published Document is the UK implementation of ISO/TR 2822-3:2017.

The UK participation in its preparation was entrusted to Technical Committee TCI/69, Footwear, leather and coated fabrics.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2017.

Published by BSI Standards Limited 2017

ISBN 978 0 580 90331 1

ICS 59.140.20

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 January 2017.

### **Amendments/corrigenda issued since publication**

<b>Date</b>	<b>Text affected</b>
-------------	----------------------

---

# TECHNICAL REPORT

**ISO/TR**  
**2822-3**

First edition  
2017-02

---

---

## **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*



Reference number  
ISO/TR 2822-3:2017(E)

© ISO 2017



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Trimming</b> .....	<b>2</b>
<b>5 Preservation</b> .....	<b>2</b>
<b>6 Classification</b> .....	<b>3</b>
6.1 General.....	3
6.2 First grade.....	3
6.3 Second grade.....	3
6.4 Third grade.....	3
6.5 Fourth grade.....	4
6.6 Rejects.....	4
<b>Annex A (informative) Correct opening lines for cattle</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>9</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html)

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 or 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

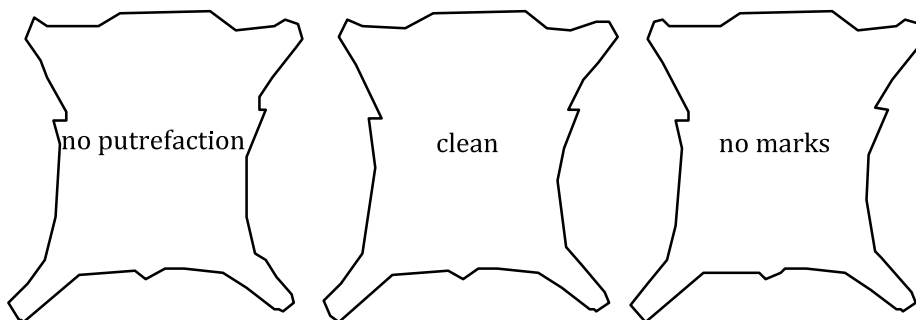
All hides presenting with more defects than those acceptable for fourth grade. Less than 50 % of the hide area is useful.

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

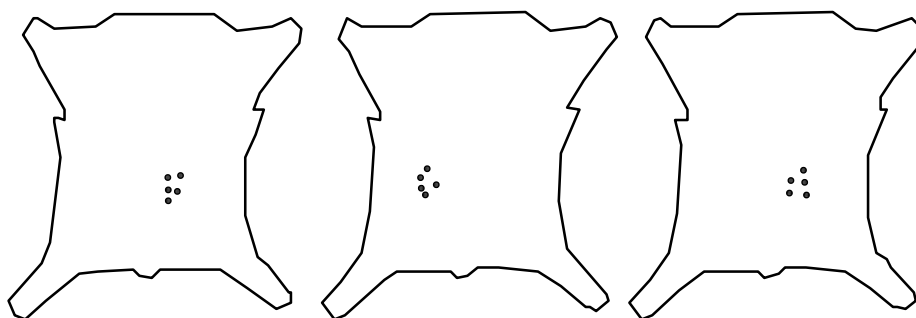
Grade	Feature	Defects, in code				
		Natural defects, diseases, parasites, ringworm, anthrax, etc.	Mechanically caused defects, brands, wounds, etc.	Dirt, dung, urine, sand, seeds, etc.	Flaying defects, cuts, holes, scores, cracks, etc.	Putrefaction, hair slip, red heat, salt stations, etc.
First	Location	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**

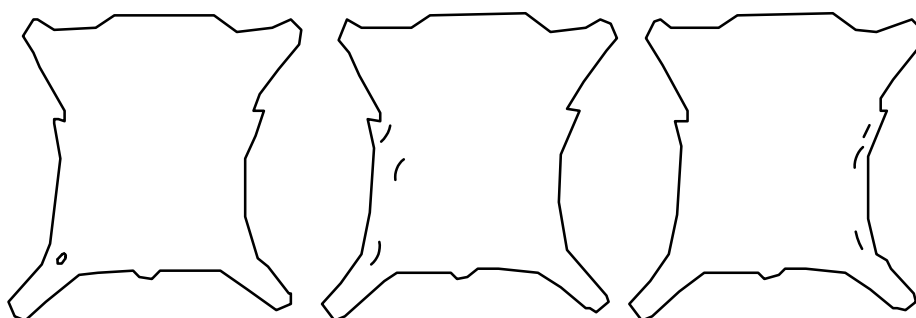
	0	1	2	3	4
Location		Periphery	Legs, tail	Shoulder, belly	Bun
Concentration	None	Low	Medium	High	
Depth		Superficial	Thorough		
Surface		Grain	Flesh		



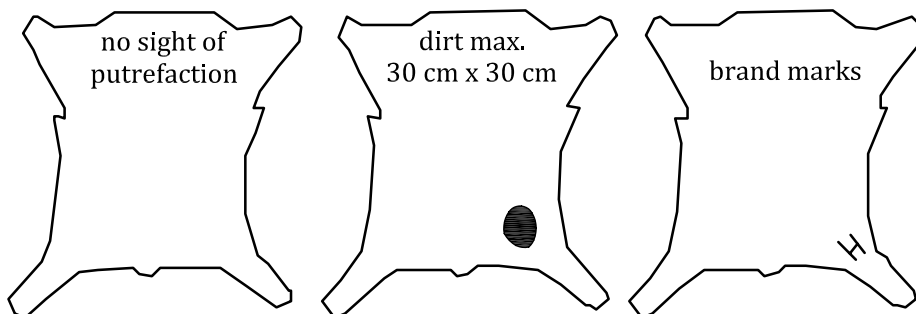
**Figure 1 — First grade - putrefaction, dirt, brand marks**



**Figure 2 — First grade - maximum five blind warbles**



**Figure 3 — First grade - scores, marks, holes**



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

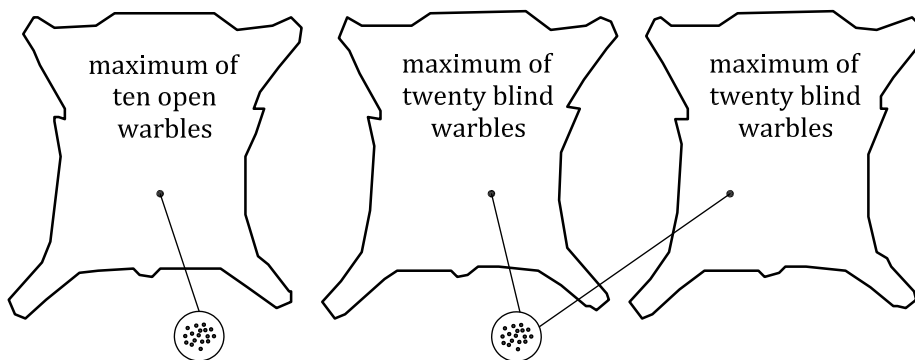


Figure 5 — Second grade - warbles

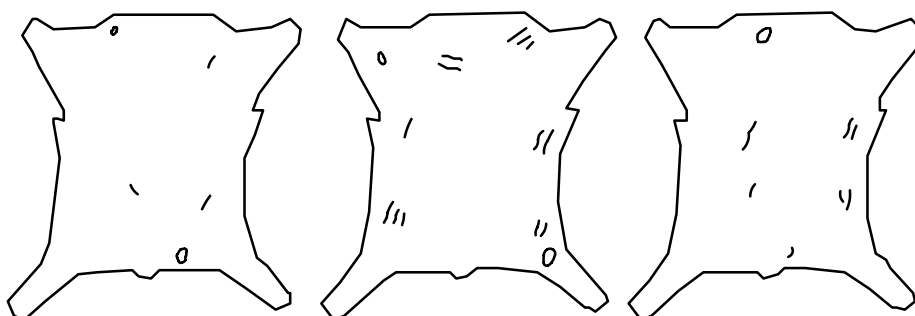


Figure 6 — Second grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts

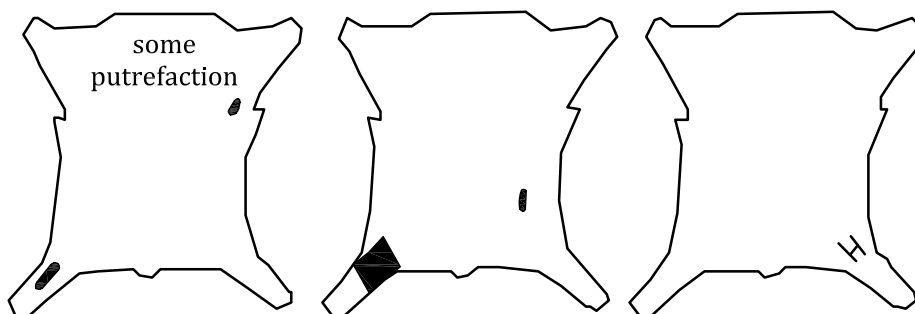


Figure 7 — Third grade - putrefaction, dirt, brand marks

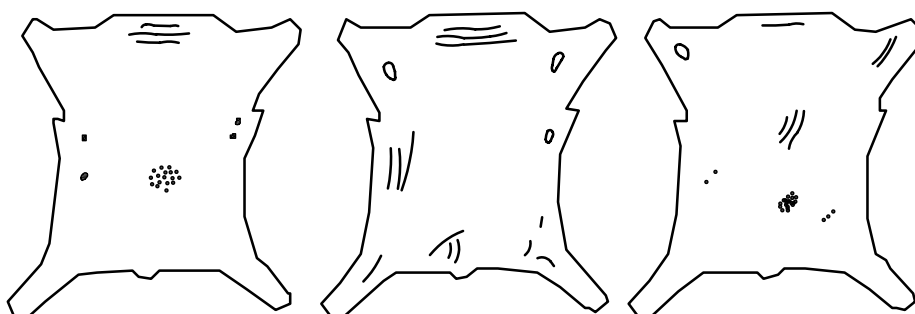


Figure 8 — Third grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts

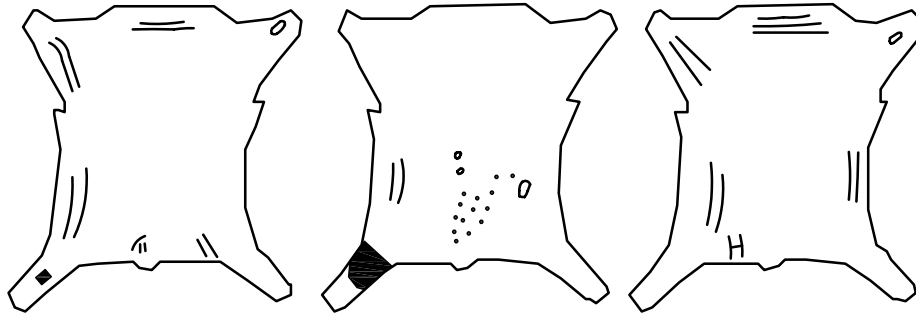


Figure 9 — Third grade - scars, ticks, ringworm; bruises, scratches, wounds; flay cuts, holes

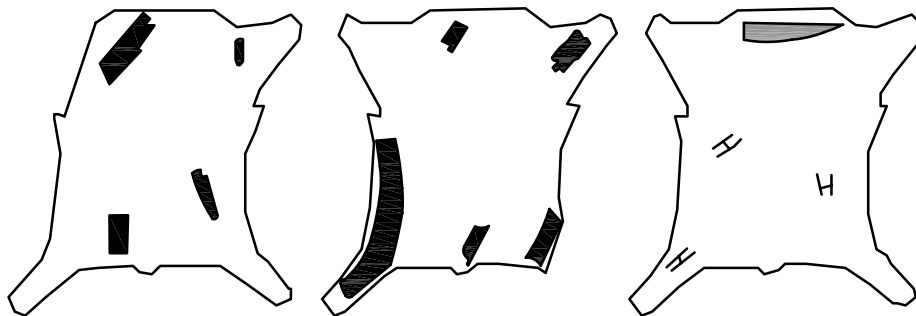


Figure 10 — Fourth grade - putrefaction, dirt, brand marks, poor pattern

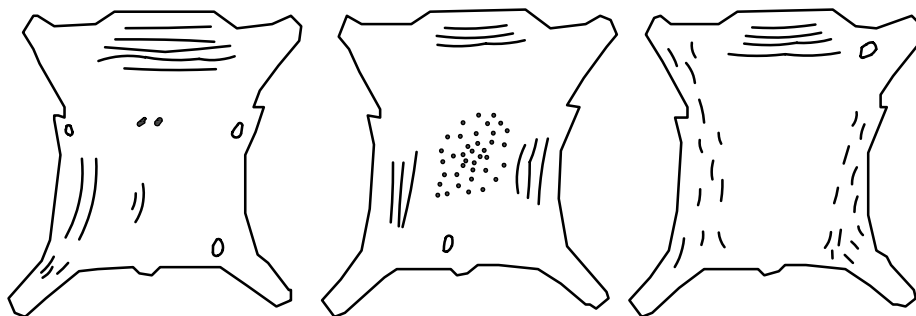


Figure 11 — Fourth grade - natural defects, mechanical defects, flaying defects

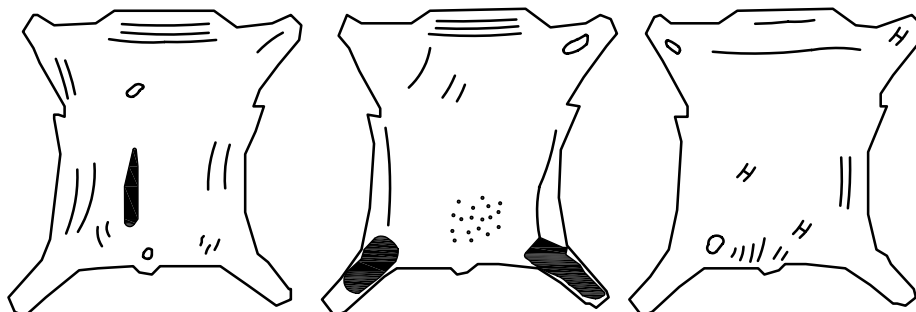


Figure 12 — Fourth grade - any kind of defects

## Annex A (informative)

### Correct opening lines for cattle

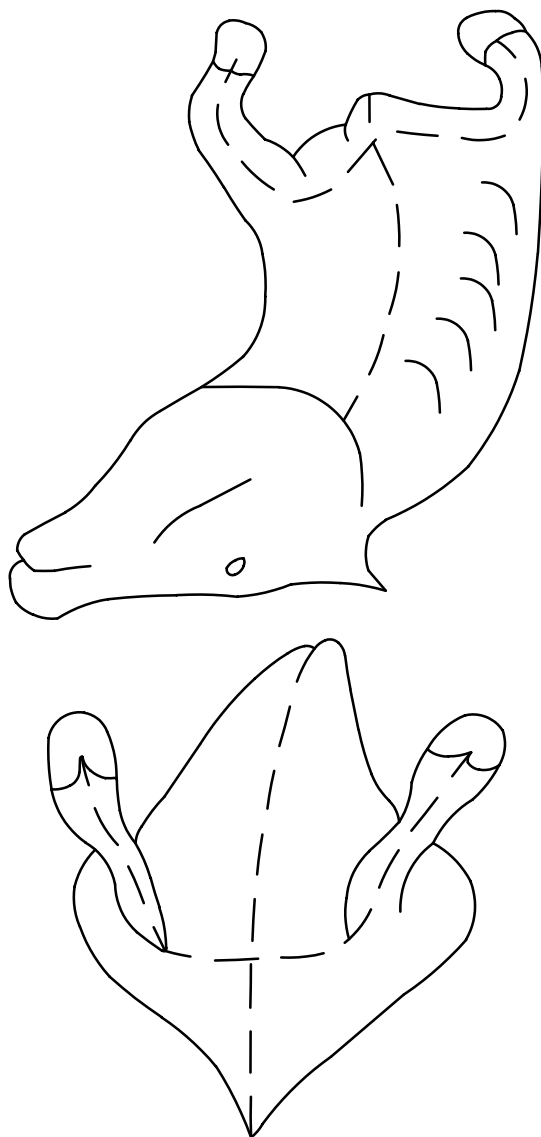


Figure A.1 — Correct opening lines for cattle



## Bibliography

- [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*





# British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

## About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

## Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at [bsigroup.com/standards](http://bsigroup.com/standards) or contacting our Customer Services team or Knowledge Centre.

## Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at [bsigroup.com/shop](http://bsigroup.com/shop), where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

## Copyright in BSI publications

All the content in BSI publications, including British Standards, is the property of and copyrighted by BSI or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use.

Save for the provisions below, you may not transfer, share or disseminate any portion of the standard to any other person. You may not adapt, distribute, commercially exploit, or publicly display the standard or any portion thereof in any manner whatsoever without BSI's prior written consent.

## Storing and using standards

Standards purchased in soft copy format:

- A British Standard purchased in soft copy format is licensed to a sole named user for personal or internal company use only.
- The standard may be stored on more than 1 device provided that it is accessible by the sole named user only and that only 1 copy is accessed at any one time.
- A single paper copy may be printed for personal or internal company use only.

Standards purchased in hard copy format:

- A British Standard purchased in hard copy format is for personal or internal company use only.
- It may not be further reproduced – in any format – to create an additional copy. This includes scanning of the document.

If you need more than 1 copy of the document, or if you wish to share the document on an internal network, you can save money by choosing a subscription product (see 'Subscriptions').

## Reproducing extracts

For permission to reproduce content from BSI publications contact the BSI Copyright & Licensing team.

## Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to [bsigroup.com/subscriptions](http://bsigroup.com/subscriptions).

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

**PLUS** is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit [bsigroup.com/shop](http://bsigroup.com/shop).

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email [subscriptions@bsigroup.com](mailto:subscriptions@bsigroup.com).

## Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

## Useful Contacts

### Customer Services

**Tel:** +44 345 086 9001

**Email (orders):** [orders@bsigroup.com](mailto:orders@bsigroup.com)

**Email (enquiries):** [cservices@bsigroup.com](mailto:cservices@bsigroup.com)

### Subscriptions

**Tel:** +44 345 086 9001

**Email:** [subscriptions@bsigroup.com](mailto:subscriptions@bsigroup.com)

### Knowledge Centre

**Tel:** +44 20 8996 7004

**Email:** [knowledgecentre@bsigroup.com](mailto:knowledgecentre@bsigroup.com)

### Copyright & Licensing

**Tel:** +44 20 8996 7070

**Email:** [copyright@bsigroup.com](mailto:copyright@bsigroup.com)

### BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK