EDFA
Standards Manual

On European Standardisation for feathers and down
and finished articles filled with them
(quilts and pillows)

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Foreword to the EDFA Standards Handbook

Work on the standardisation of the filling materials of down and feathers commenced in 1998 upon the application filed by UNI, the Italian national standards body, with the European Committee for Standardisation (CEN) in Brussels.

The CEN Central Secretariat established CEN TC 222 “Feather and down as filling material for any article as well as finished articles filled with feather and down” and appointed the Italian standardization institute to chair this technical committee.

From the standardisation proposals and working papers submitted at that time, an impressive number of 27 standards have been developed meanwhile, of which a large number were based on working papers and discussion drafts. Two thirds of these projects have in the meantime been completed and published as standards.

With these standards, both the regulations on the testing and the terminology of feather and down have been formulated, but also the requirements for the filling material and the finished articles filled with this filling material.

The documents that have already been adopted and those that are still being processed are closely intermeshed in part, which is illustrated by the numerous “references to other standards” in the standards and in the draft standards.

However, it was slowly becoming impossible to keep track of the standardisation work being done.

For this reason, the European Down and Feather Association (EDFA) was given the assignment of compiling and commenting on those standards related to the subject of feather and down and bedding articles filled with feathers and down that are most important to its members and to indicate the links between the standards and supplementary documents, such as PAS 1003 or PAS 1006.

This task has been accomplished by EDFA by the preparation of this Standards Handbook. It does not contain the original texts of the standards developed by TC 222, but provides tips and explanations of the relevant provisions.

Reading this handbook will not replace a thorough study of the standards, which may be obtained from the national standardisation bodies. A lists of addresses of these bodies (CEN National Members) may be found in Annex 3.

The Handbook is divided into three large sections.

In addition to a first chapter (§ 1 - § 4) which provides general information for a better understanding of the material and a classification of the standards, the second chapter (§ 5) comments on the standards adopted by TC 222, which are discussed on the basis of the list of projects (Annex 2).

The projects are subdivided into the headings *Testing, Terminology and Requirements Standards*.

In the category of Testing Standards, the respective provisions are explained in the same order as the list of projects. An overview of the necessary equipment and laboratory facilities has been prepared for every standard dealing with test methods. Moreover, bedfeather industry employees who work in laboratories are given important tips on the practical application of these standards.

The terms and definitions are summarized in the Terminology Standard EN 1885 within the meaning of a real definition. The difference between a real and a nominal definition is explained in connection with the detailed commentary on EN 12934 (Item 5.5.13).

One of the most important standards which were adopted in 1999 is EN 12934, a Requirements Standard regarding the designation of the filling materials of feather and down, regardless of whether this material is sold by itself or using as a filling in finished articles of any kind. This standard is comprehensively dealt with in this Handbook.

Some already published standards have been “improved” in the meantime; this has occurred in two cases through a Publicly Available Specification (PAS).

This pertains to the testing standard EN 12130 (Determination of the Filling Power, supplemented by PAS 1006) and the Requirements Standard EN 12934 (Labeling, supplemented by PAS 1003). During the course of the discussion of the aforementioned standards, special attention is drawn to these specifications.

The wording of the Public Available Specification (PAS) may be obtained in German and in English from Beuth Verlag GmbH, Burggrafenstrasse 6, D-10772 Berlin, Tel.: +49-(0)30 26010, Fax: +49-(0)30 2601 1260.

In the third and last chapter (§ 6). the legally binding effect of the technical standards is briefly discussed. The presentation is - necessarily - very general and can not be applied to a specific case without verification. As these standards are not laws, ordinances and / or legal customs, the legally binding effect of a standard must always be evaluated on a case-by-case basis.

The authors have incorporated suggestions from the field into this Handbook, explained frequently asked questions and collected and added the results of various discussions in the branch.

Gertrud Kenngott dealt primarily with the explanations of the chemico-physical testing standards. Moreover, she developed examples in practice, thus making a contribution towards a better understanding of the Requirements Standard EN 12934.

Juliane Hedderich designed the structure of the Standards Handbook, wrote the general explanations on the subject of standardisation, commented on the Labeling Standard EN 12934 and prepared an overview of the legally binding effect of the standards.

The authors received numerous suggestions pertaining to the layout, structure and content of this Standardisation Handbook from the members of the European Down and Feather Association (EDFA) and the members of the Verband der Deutschen Daunen- und Federnindustrie e.V. (VDFI).

During the compilation of this Handbook, the authors discussed matters with Ib Fagerlund and Harry Barber (board members of EDFA); the board members of the VDFI, in particular Peter Kerstan; and

Dr. Rainer Weckmann, Director of the Department of Goods Testing at the Hohenstein Research Institute; they also critically reviewed the concept.

A special thanks goes to the employees of the EDFA and VDFI office who wrote and revised the manuscript with endless patience, and in particular to Wiebke Hamann, who translated the Standards Handbook into English.

Due to the thorough review of the Standards Handbook by Freigang Müller (DIN Textiles Standards) and owing to support with a review of the literature by Arnold Schulz (DIN), this book will hopefully be very useful to employees in the bedfeather industries.

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Content

1 Standardisation

Standards – general concept

1.1 Definition of the term “standard”

The concept “standard” is of Latin origin and is used in the broad sense of “directive”, “code of conduct” or “regulation”. It has varied meanings and is not limited to technical rules. in every-day life one frequently comes across ethical standards, social standards (standards of customs and habits) etc.

1.2 Technical regulations

“Technical regulation” is a generic term that includes all other regulations (standards, directives published by the Association of the German Electro-technology Engineers, RAL-regulations).

Technical regulations rank among social standards.

1.3 Technical standardisation

Technical standardisation[1] is defined as “unification of material and immaterial objects carried out by interested groups according to a plan in order serve the general public. It shall not cause a special advantage for individuals” (TU (technical university) Dresden, Erläuterungen zum Fragebogen (annotations of the questionnaire), 1998, DIN 820-1, Pkt. 2, Allgemeine Grundsätze (general principles), DIN Normenheft 10, 2001, page 85).

[1] The term „Technology“ is used in an objective and revised sense (“Technology as preparation and appliance of material, energetical and informal systems”), see Marburger, P.: Technical rules in jurisprudence, 1979, page 8 and following, in particular page 14). This objective concept of the term “technology” must be distinguished from the subjective concept of the term “technology” in the sense of human skills, see Marburger, P.: Technical rules in jurisprudence, page 8 and following.

Development of technical standards

1.4 History of technical standardisation

Technical standards already existed in the antiquity. In ancient Egypt, all bricks were burned according to standardised rules with regards to measure and weight, the Cheops Pyramid was built of bricks all of the same dimension (Muschalla, Rudolf, 1992, S. 80f).

Standardisation is also unification

1.5 Standardisation is unification

Standards at plant level in the 18th century

In the middle of the 18th century initially technical standards were only developed and applied at plant level (Marburger, 1979, p. 43).

Supra-plant standards in end of the 19th century

Standards on supra plant level are available in Germany since the end of the 19th century. Thus, supraplant technical standards are defined "Unification in writing of products or services produced in co-operation by all interested groups (for instance producers, users, consumers, suppliers, authorities, scientists) and formed by a national or international organisation" (Brinkmann, 1984, p. 9)

An important aspect is the correlation between standardisation and unification.

Apart from the concrete contents of a technical standard, the essential scope is to "select and fix one (or more) solution(s) for a certain technical problem among the variety of numerous possible solutions" (Zemlin, H., 1973, p. 93 et seq.).

An example for unification is the standardised paper format, for instance DIN A4, laid down in standard DIN 476, April 1991. In Germany, the standardised paper formats "DIN A" have become an everyday-

occurrence (DIN A 4 = 210 x 297 mm, DIN A 5 = 148 x 210 mm etc.). In Germany, DIN 476 is probably the most popular standard.

Short definition of a standard

1.6 Short definition of a standard

All aforementioned definitions seem to be complicated.

Otto Kienzle gave a shorter and more precise, but at the same time more abstract definition of the term “standard”: A standard is a unique solution of a problem that constantly comes up”. (Kienzle, O., 1953, p. 59 (63)).

Standardisation body in Germany – DIN

2 Organised standardisation in Germany – DIN

Contract between the Federal Republic of Germany and the DIN 1975

2.1 History of the DIN

The Federal Republic of Germany and the DIN concluded a contract dated 5th June, 1975 by which the DIN was entitled to be responsible for standardisation affairs in Germany (DIN Normenheft 10, 2001, p. 43 et seq.).

The DIN also perceives German interests in the appropriate European and international standardisation bodies (DIN Normenheft 10, 2001: S. 43f.) and, thus holds the monopoly on standardisation in Germany.

Institutional supra-plant standardisation

The German central standardisation body DIN was founded 1917 as DNA “Deutscher Normungsausschuss” (German standardisation committee, Wölker 1, 1992, p. 21). Hence, supra-plant standardisation was institutionalised. The background for this was the

intention to create uniform standards for the industries in order to standardise technical products. It was intended to rationalise and industrialise the production uniformly since the predominant system was that each industrial undertaking had its own standard at plant level and all components of the product had to be manufactured in the own company. Thus, the exchange of goods was made more difficult.

Standardisation of measurements

First of all, measurements were standardised in order to ensure the exchange of identical production parts, like for instance studs, screws and gear wheels etc. certainly, this development was forced in wide scale by the humans and material swallowing First World War (1914 – 1918). But also without this historical background, a central standardisation body would have been founded following the example of similar European organisations (Wölker 2, 1992, p. 95 et seq.).

Aims and responsibilities of the DIN

2.2 Aims and responsibilities of the DIN

The DIN considers itself to be the national standardisation body of the Federal Republic of Germany (see DIN 820 Teil 1 “Normungsarbeit (standardisation labour); Grundsätze (basic ideas)”, April 1994 no 3.1, § 1 of the contract between the Federal Republic of Germany and DIN, 1975 in: DIN Normenheft 10, 2001, p. 37 et seq.).

In accordance with § 1 of the statutes dated 29 October 1997, the DIN is exclusively on a non-profit making basis responsible for the “... establishment, publication and promotion of the application of standards that serve rationalisation, quality assurance, protection of the environment, security and communication in the sectors economy, science, technology, administration and public ...” (DIN

Normenheft 10, 2001, p. 13).

The DIN institution represents German standardisation in Germany and on international levels. Standards are prepared in collaboration by all interested groups for the benefit of the public.

Members

2.3 DIN members

In accordance with §2 of the DIN statutes, companies and legal persons can become DIN-members. It is not possible for natural persons to become DIN-members.

The DIN expects to have 1650 members by the end of 2000 (see Geschäftsbericht des DIN 2000 (business report 2000), Planzahlen 2000 (targeted goal) p. 1).

Special standardisation committees

It is expected that by the end of 2000 the work of 87 committees responsible for special standardisation and 4688 independent committees that are chaired by the DIN will be joined together (Geschäftsbericht des DIN 2000 (business report, 2000), Planzahlen 2000 (targeted goal), p.1).

Collaborators

29507 volunteers were involved in the work of these committees (Geschäftsbericht des DIN 2000, S.1, DIN business report 2000, p. 1).

Standards are recommendations

A standard which was published in accordance with strict basic principles is not an instruction or a disposition, it does not lay down any rights or duties (Zemlin, 1973, p. 88). Standards are recommendations (see item 6, standardisation and legislation).

Regular revision of standards

In accordance with DIN 840-4, standards are regularly to be checked and revised within a 5 years' time span in order to keep them up to date (DIN 820, part 4 in: DIN Normenheft 10, 2001, p. 328).

3 International collaboration on technical standardisation

International collaboration on technical standardisation

3.1 History

The beginning of the 20th century ensued international collaboration in the field of technical standardisation. Thus, it was intended to harmonise the results of international standardisation labour in the member countries by means of supranational organisations (Rönck, 1995, p. 36 et seq.).

With the increasing interpenetration of the national economies world-wide international and European standardisation became increasingly significant.

3.2 Most important international standardisation bodies

3.2.1 ISO / IEC

ISO (International Organisation for Standardisation)

IEC (International Electrotechnical Commission)

The International Organisation for Standardisation (ISO) and - in the scope of electrotechnical standardisation – the International Electrotechnical Commission (IEC) are most important international organisations (Marbuger, P. 1979, p. 236 et seq.). The two organisations are private non-profit associations with their main offices in Geneva.

National standardisation bodies are members of ISO

The associations consist of national standardisation bodies. For instance UNI for Italy (Ente nazionale italiano di unificazione), ON for Austria (Österreiches Normungsinstitut), DIN for Germany (Deutsches Institut für Normung) etc. are in charge.

Development of International, European and German standardisation

(DIN annual management report 2000)

year	DIN-standards		European standards	International standards		
	inventory	new publications		new publication		
			EN	ISO	IEC	Total
1953	7.807	770				
1954	7.996	660				
1955	8.462	868				
1956	8.640	738				
1957	8.732	544				
1958	8.951	572				
1959	9.197	880				
1960	9.452	663				
1961	9.606	648				
1962	9.637	698				
1963	9.807	835				
1964	10.021	730				
1965	10.149	658				
1966	10.481	950				
1967	10.767	840				
1968	10.942	944				
1969	11.118	928				
1970	11.276	1.037				
1971	11.368	1.122				
1972	11.654	1.060				
1973	12.038	1.170				
1974	12.427	1.169				
1975	15.299	1.592				
1976	16.531	2.242				
1977	17.277	1.946				
1978	18.006	1.539				
1979	18.103	1.462				
1980	18.739	1.655				
1981	19.430	1.649				
1982	19.970	1.418				
1983	20.299	1.636				
1984	20.732	1.418				
1985	20.566	1.473				
1986	19.937	1.363				
1987	19.975	1.515				
1988	20.450	1.379				
1989	20.510	1.272				
1990	20.988	1.425				
1991	21.257	1.150	270	638	266	904
1992	21.655	1.453	439	691	330	1.021
1993	22.002	1.337	939	764	377	1.141
1994	22.554	1.462	1.181	819	334	1.153
1995	23.476	1.842	1.367	850	424	1.274
1996	24.174	1.919	1.484	817	351	1.168
1997	24.886	2.034	1.654	973	437	1.410
1998	25.895	2.344	1.938	1.058	338	1.396
1999	26.597	2.015	1.748	961	384	1.345
2000	25.560	2.432	2.008			1.390

The figures concerning EN include: CEN, CENELEC, EC, harmonised documents, ETSI, pre standards and others (CR, CWA: 1999 = 26) and 7 specifications (1999). For 2000, DIN indicates only one figure for ISO and IEC together

ISO standard is not an obligation to prepare an according national standard

An international standard is not an obligation for ISO and IEC members to publish a national standard accordingly, although it is strongly recommended (DIN Normenheft 10, 1995, p. 353 et seq. DIN 820-15).

European standardisation bodies CEN and CENELEC

The most important European standardisation bodies are CEN (Comité Européene de Normalisation) and CENELEC (Comité Européene de Normalisation Electrotechníque) which are both private law corporations of Belgian law with their headquarters in Brussels. The national standardisation bodies of EU- and EFTA countries are organised there (Marburger, P., 1979, p. 240 et seq.). CENELEC deals with electrotechnical standardisation, CEN is responsible for all sectors of non-electrotechnical standardisation, for instance standardisation of textiles .

3.2.2 CEN

3.2.2.1 History

CEN foundation 1960

In the early 60ies, the European standardisation body (CEN) was founded as a regional standardisation body. Nowadays, it is a “European platform” in the field of non-electrotechnical standardisation.

3.2.2.2 Aims and responsibilities

CEN – aims, responsibilities and structure

CEN standardisation harmonises existing standards in all member countries, promotes the uniform introduction of international standards and is entitled to independently prepared European standards.

3.2.2.3 CEN – bodies and members

Harmonisation of existing standards, Promotion of the introduction of ISO Standards, joint production of new standards

The CEN bodies (General Assembly, Steering Committee and Technical Committees) are opened to CEN members.

CEN bodies

CEN members are the national standardisation bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Spain and the United Kingdom (Kodex für das CEN-System, 28 September, 1999, in DIN Normenheft 10, 201, p. 455).

3.2.2.4 Working method

Standardisation work is not centralised in Brussels but so-called decentralised secretariats are responsible for the production of standards (national secretariats, TC's = Technical committees).

CEN Central Committee
Main importance

The CEN Central Committee (secretariat of the Technical Office) in Brussels runs the secretariats of General Assembly and Steering Committees. It is also responsible for surveys on draft standards. Moreover, the Central Committee co-ordinates the results of European standardisation to be integrated into the national standards collections. (CEN-rules, part 2, p. 6 in: DIN Normenheft 10, 2001 p. 400).

TC: represents the national standardisation bodies

The members are responsible for decentralised work in CEN Technical Committees, sub-committees and working groups.

CEN members send official representatives of national organisations to work in the Technical Committee (TC). Opinions represented by the delegates were previously outlined on national levels (Richtlinie für Normenausschüsse, in: DIN Normenheft 10, p. 68).

Liason member
"observer status"

Delegates of various European organisations, for instance associations that represent their particular special field, can participate in TC Meetings as observers, they are, however, not entitled to vote.

Affiliated and associated members

Apart from full members, also affiliated standardisation bodies, in particular from Central and Eastern Europe as well as associated organisations have the opportunity to participate in TC Meetings (CEN Geschäftsordnung part 2, p. 22 et seq. 3.5, in: DIN-Normenheft 10, 2001, page 416 et seq.).

4 European standards

4.1 Preparation of European standards

Standards are prepared by focussing national opinions

The national standardisation bodies develop European standards by focussing interests and opinions on national levels (CEN rules of procedure, in: DIN-Normenheft 10, 2001, page 379 et seq.).

Mirror committees

In particular, this task is effected by national opinion-forming involving all parties concerned (national mirror committees or working committees of the European body), by national delegations which represent the opinion of the mirror committee in the technical committees and, by consultations and opposition proceedings on national levels (DIN 820-4, 2000, page 6).

Acceptance

The result of differential voting decides on whether a standard is accepted or rejected. A standard is adopted, if 71% of weighted majority vote are in favour of the standard to be published (CEN rules of procedure, part 2, page 36).

Weighted majority vote

The number of weighted majority votes of the members: (CEN rules of procedure, part 2, p. 35, item 5)

Country / Member	weight / votes
Germany	10
France	10
Italy	10
United Kingdom	10
Spain	8
Belgium	5
Greece	5
Netherlands	5
Austria	5
Portugal	5
Sweden	5
Switzerland	5
Denmark	3
Finland	3
Ireland	3
Norway	3
Czech Republic	3
Luxembourg	2
Iceland	1

(DIN Normenheft 10, 2001, p.430)

Adoption

After the standard has reached a consensus, there is no possibility to change its specified contents. In accordance with the CEN rules of procedure, it shall be officially adopted to the national standards collection by all member countries (CEN rules of procedure part 2, p. 36).

3 CEN languages

German, English, French are the 3 official CEN-languages (CEN rules of procedure, part 2: p. 36). The documents are published in these languages.

When a European standard was published by the CEN BT, all member countries are obliged to adopt the standard to their national standards collection and to publish it as a national standard within a period of half a year without any changes or abridgements. Translations into the correspondent language are permissible. Conflicting national standards shall be withdrawn.

European standard is national standard

European standards are not published as independent documents, but *only* as national versions. The adaptation of a European standard signifies its implementation on national levels (DIN 820, part 2, p. 331 et seq., p. 347 et seq.).

Regular check of standards (5 years)

Standards are regularly checked every 5 years. If a standard does not correspond to the current technical state, any more, the contents shall be revised. For the revision of a standard the same principles apply as to its first development.

4.2 Euro standards

Clarification: European standards are no Euro-standards

European standards are frequently confused with “Euro standards” (see 4.1).

Euro standards are the result of supra-plant standardisation in the iron and steel branch (Breulmann, G. p. 59). They are not harmonized by the CEN but by a Coordinating commission COCOR (Commission de Coordination). (Breulmann, G. p. 59)

4.3 PAS

PAS reduced basis of consensus

„Public Available Specification“ (PAS) in Germany or „European Workshop Agreement“ (EWA). A PAS is also developed in the field of international standardisation (ISO).

A PAS is not developed at the „round table“. It is prepared by „ad hoc“ formed interested parties that are not accessible to everyone. These documents have not the status of a standard, they are prepared in co-operation with the standardisation body and published by the body. Within the hierarchical classification, a PAS ranges between a standard at plant level and a national standard. A pre-standard or a standard. can be derived from a PAS.

5 Standardisation of the filling material feathers and down within TC 222

5.1 Foundation of TC 222

TC 222 founded on basis of a decision of the Technical Bureau November 1989

In November, 1989 CEN BT (BT = Bureau Technique) decided to found CEN TC 222 “Feathers and down for use as filling material” and “feather and down-filled bedding”. The two projects were filed upon the application of Italy and were later integrated into TC 222 “Feathers and down”.

If a member files a petition, (in case of TC 222 the petition was filed by Italy) the BT starts a new project. In case of the project “feathers and down” a subsequent survey revealed that Austria, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden, Switzerland and Great Britain agreed to the project and assured their active collaboration.

In this case, TC 222 was in charge to deal with the standardisation projects “standardisation of bedding” and “Feathers and down for use as filling material”.

In 1990, TC 222 took up its work. The working programme and aims were fixed. Also the European Commission became interested in the work of TC 222 and affected decisively the fixation of the working programme (Letter of the European Commission addressed to the secretariat of TC 222, dated 4 February 1991).

5.2 Working programme of CEN TC 222

27 standardisation projects

27 work items (projects) are on the current project list of CEN TC 222 upon the application filed by the Italian secretariat (see annex 2).

Responsibility of TC 222: Italy

The Italian Secretariat was assigned by the CEN Central Secretariat in Brussels to be in charge of TC 222 (technical committee) „Feathers and Down“, to organise and co-ordinate work accordingly and to regularly inform the Central Secretariat on the current state of affairs.

Standardisation of finished articles

TC 222 only deals with projects or prepares standards in connection with *processed feathers and down* (processed product for use as filling material) and *finished articles* filled with them.

Regulations for raw feathers and down were not subject to preparation.

5.3 Project list structured according to working groups

Work of TC 222 distributed among Working Groups (WG's)

There are various possibilities to structure prepared standards or aspects of standardisation within CEN TC 222. One procedure is to distribute work among secretariats with different responsibilities.

3 working groups (WG's) within TC 222

The activities of the TC 222 are divided into 3 working groups. The activities of the working groups are co-ordinated and supervised by secretariats. The working groups present the results of their work to TC 222 where they are discussed and resolutions are passed.

„filling material"
WG 1 - Italy

Working group 1(Italian Secretariat) is in charge of all projects resulting from feathers and down used as filling material, accordingly work items 1 - 15 and 23.

„beddings"
WG 2 - Germany

Working group 2 (German Secretariat) deals with feather-and down-filled beddings and, thus is in charge of projects 16, 17, 18 and 24 (annex 2).

„other finished articles"
WG 3 - France

Standardisation projects which neither belong to WG 1 nor WG 2, for instance standardisation of feather- and down-filled sleeping bags, feather- and down-filled clothing etc. are dealt with by a third committee, WG 3 (French Secretariat). WG 3 is responsible for projects no. 20, 22, 25, 27, 28, 33 and 34 (annex 2).

5.4 Projects structured according to the regulation contents of the standards

Structure according to the regulation contents of the standards

EN 45020,1998, part 5.2 distinguishes for example between:

Standardisation refers to finished articles

a) testing standards
b) requirement standards (product standards)
c) terminology standards

Testing standards
Test methods

Testing standards lay down test methods and establish provisions that are binding and shall apply, if tests are carried out in accordance with the standard (EN 45020,1998, page 21, item 5.3). Thus, the test procedure stipulated in testing standards definitely shall be complied with, if the test result refers to the standard.

TC 222 draw up testing standards concerning work items 1 to 4, 6 to 14, 16, 17, 24, 25, 28, 33 and 34 (annex 2).

Example: If the oxygen number was determined *3* according to EN 1162, the result first of all does not indicate whether the product in question meets existing requirements.

Requirement standard (standards for products)

So-called requirement standards (product standards, EN 45020, 1998, p. 21, item 5.4) lay down for instance threshold values.

Among others, they stipulate requirements a product or a product group shall meet, if they refer to this standard. Thus, the fitness for use of products can be guaranteed.

Fixation of requirements

With reference to a requirement standard it is documented that a product meets the requirements laid down in the standard. Thus, the product is in “conformity with the standard”.

Verification

How can the requirements laid down in the standard be verified?

Normative references

The chapter “Normative references” of each standard lays down the test methods that shall apply in order to verify the requirements stipulated in the requirement standard. Number and title of the valid testing standards are cited.

Terminology standards

Terminology standards (EN 45020: 1998, 1998, page 21, item 5.2) deal with concepts. They deal with technical terms (denominations) which are usually defined and sometimes provide notes, illustrations, examples etc. for further explanation.

CEN TC 222 prepared terminology standard EN 1885 that settles terms and definitions for feathers and down.

5.5 Standards prepared by TC 222

In the following, a short introduction of the standards prepared by TC 222 before the publication of this standards manual in order of the project list published by TC 222 (annex 2).

Without citing the entire text of the standards the essential points of the preparation and realisation of the test are summarised. The laboratory staff obtain instructions on condition that they are well grounded in the contents of the standard.

5.5.1 EN 1161 – Test methods – Determination of the moisture content

(WI 1) EN 1161
testing standard moisture content

The full wording of the standard can be obtained from the national standardisation bodies. (Addresses see annex 3)

Apparatus

Abridged version of the standard:

Analytical balance (sensitivy of 1 mg)
Weighing containers with cut and lids
Erlenmeyer piston or round beaker possible (wide cut favourable)
Oven
Desiccator
Note: check desiccating agent regularly

Procedure

Place uncovered weighing container and lid for 2 hours at a temperature of 105°C in the oven.

Cooling to room temperature in the desiccator for not less than 1 h, then container shall be weighed.

Repeat the procedure until a constant mass, within 1 mg is obtained.

Transfer as quick as possible a test specimen of about 5 g to the container, container shall be covered and weighed with an accuracy of 1 mg.

Take care to avoid humidity variations.

Drying of the container with test specimen for 1h (+/- 10 min).

Note: lids shall be placed separately.

Container shall be covered, transferred to the desiccator and cooled for not less than 1 h. Then the container shall be weighed.

Repetition of this procedure until a constant mass, within 1 mg is obtained.

Important: When the drying procedure is repeated, containers and lid shall be placed separately (Repetition of the procedure on a second test specimen).

(W I 2) EN 1162
Testing standard oxygen index number

5.5.2 EN 1162 – Determination of the oxygen index number

The full wording of the standard can be obtained from the national standardisation bodies. (Addresses see annex 3)

Apparatus

Abridged version of the standard:
Analytical balance (sensitivity of 0,1 mg)
Tumbler jar, capacity 2000 ml
Beaker, capacity 2000 ml and 400 ml
Shaking machine

Sintered filter P 160 (G1),
10 cm diameter
One-mark pipette 100 ml
Graduated pipette 5 ml
Microburette graduated in 0,02 ml
Stopwatch
Water Grade 3
3 mol / l sulfuric acid (25 per cent solution)
0,02 mol / l potassium permanganate
important: titrate potassium permanganate solution.

Procedure

A test specimen of 10 g (+ / - 0,1 g) is placed in the tumbler, after adding 1000 ml water the jar is tumbled for at least 1 h at a tumble frequency of 150 n X min $^{-1}$.

When the resulting suspension is filtered, do not squeeze excess water from the test specimen!

100 ml of the filtrate are transferred into a 400 ml-beaker (use one-mark pipette).

Add 3 ml of 3 mol/l sulphuric acid and titrate with 0,02 mol/l potassium permanganate until a lightly pink colour persists for 60 seconds.

Blank test: Water is titrated in the same way until a lightly pink colour persists for 60 seconds.

Repetition of the procedure on a second test specimen.

(WI 3) EN 1163
Testing standard
oil and fat content

5.5.3 EN 1163 – Determination of the oil and fat content

The full wording of the standard can be obtained from the national standardisation bodies.

Apparatus

Abridged version of the standard:
Analytical balance (sensitivity 0,1 mg)
Soxhlet extractor
Extractor flaks

Fat free paper thimbles
Sintered (fritted) glass filter P 100 or fat free paper filter of equal porosity
Condenser
Hot plate
Desiccator
Beaker, capacity 100 ml
Drying oven
Dichloromethane (purified, distilled)

Procedure

A test specimen of approx. 4-5 g is weighed to the extraction thimble, placed in the Soxhlet extractor and provided with sufficient solvent. The test specimen is extracted with at least 20 siphonings.

Then, it is filtered into a tared beaker and the bulk of the solvent is removed by distillation.

In the drying oven the test specimen is dried to a constant mass at 105°C. (the operations are repeated on a second test specimen)

Important: Use exhaust.

(W I 4) EN 1164 Testing standard turbidity

5.5.4 EN 1164 Determination of the turbidity of an aqueous extract

Apparatus

The full wording of the standard can be obtained from the national standardisation bodies.

Abridged version of the standard:
Graduated transparent cylinder
Disc of plastic material with a cross (exact definition see testing standard)
Container, capacity 1000 ml
Analytical balance (accuracy to at least 10 mg)
Tumbler jar, capacity 2000 ml
Beaker, capacity 2000 ml
Shaking machine
Sintered filter P 160, diameter 10 cm

Light source of about at least 600 lx.
Water grade 3

Procedure

A test specimen with a mass of 10 g (+/- 0,1 g) is placed in the tumbler jar, add 1000 ml water, then the jar is tumbled for at least 60 minutes with 150n x min $^{-1}$ in horizontal position.

When the resulting suspension is filtered, do not squeeze excess water from the test specimen.

Put container in the low position and pour in the filtrate. Lift up the container gradually, so that the liquid flows into the graduated cylinder.

Document the height on the cylinder in mm as H_1. (the cross is no longer visible)

Lift up the container for at least 20 mm and gradually lower it so that the liquid flows out of the graduated cylinder.

Record H_2 in mm (cross is just visible again).

The average figures H_1 and H_2 are to be recorded.

Important: If H_1 and H_2 differ more than 10 mm, the procedure has to be repeated.

If the difference persists although the operator had been changed, H_1 and H_2 shall be indicated as individual values. (the operations are repeated on a second test specimen)

(W I 5) EN 1885 Definitions

5.5.5 EN 1885 – Terms and definitions for feathers and down

The full wording of the standard can be obtained from the national standardisation bodies. (Addresses see annex 3)

The most important definitions:

Down	Plumage, forming the undercoating of waterfowl, consisting of clusters of light, fluffy filaments, growing from one scantly sketched down core, but without any quill shaft or vane.
Feather	Horny integument of fowls. It has a shorter and softer vane than quill feathers and, unlike plumules, a well developed quill.
Waterfowl feather	Feather derived from the plucking of waterfowl, such as ducks and geese, and/or picked in eiderducks' nests.
Goose feather	Feather derived from the plucking of geese.
Duck feather	Feather derived from the plucking of ducks.
Down of eiderduck	Down picked from eiderducks' nests.
Landfowl feather	Feather derived from the plucking of landfowl, such as for instance chicken and turkey.
Finished feather	Feather which has been passed through all the working processes, including washing, drying and all hygienic treatments.
New feather	Feather not previously used after plucking as filling material.
Reprocessed feather	Feather which has been previously used as filling material and again subjected to washing, drying and hygienic treatments.

EN 1885 exclusively deals with real definitions (Aleman, U., 1989, p. 24 et seq., see chapter 5.5.13).

5.5.6 EN 1884 – Determination of the microbiological state

(W I 6) EN 1884
testing standard
microbiological state

The full wording of the standard EN 1884 can be obtained from the national standardisation bodies.

An abridged version is not available since the handling of micro-organisms which are potentially hazardous requires personnel trained in microbiological techniques. Code of practice for disinfection, sterilisation and personal hygiene are strictly to be observed. (EN 1884, p. 2 – introduction)

5.5.7 EN 1165 - Determination of water soluble chlorides

(W I 8) EN 1165
Testing standard
water soluble chlorides

The full wording of the standard EN 1165 can be obtained from the national standardisation bodies.

Apparatus

Abridged version of the standard:
Analytical balance (sensitivity 0,1 mg)
Tumbler jar, capacity 2000 ml
Beaker, capacity 2000 ml
Shaking machine
One-mark pipette, capacity 25 ml
Microburette, capacity 10 ml (0,01 ml graduation)
Sintered filter P 100 or chloride free paper filter
Glass funnel
Conical flasks, capacity 250 ml or 300 ml (wide neck)
Gloves
Yellow glasses

Water grade 2
0,1 mol/l nitric acid
0,01 mol/l silver nitrate (to be stored in a brown bottle)
phenolphthalein solution 1,0 % (of mass)
note: solved in 60 % ethanol!
Potassium chromate, solution 3,9 g/l
Sodium carbonate solution, 10,6 g/l

note: pre-test in order to determine the mass of the test specimen.

Procedure

The test specimen is placed in a tumbler jar, add 1000 ml of water, and tumble the jar for at least 60 min at 150n x min $^{-1}$.

Do not squeeze excess water from the sample.

200 ml of the filtrate shall be determined in accordance with items 8.4 to 8.7 of the standard.

Blank test (water) in accordance with items 8.4 to 8.7 of the standard.

(Repeat the procedure on a second test specimen).

5.5.8 EN 1883 sampling in view of tests

(W I 10) EN 1883
Testing standard
sampling in view of tests

Scope:

This European standard specifies a method for obtaining a representative laboratory bulk sample of a lot of feather and down and/or of down and feathers of a manufactured product.

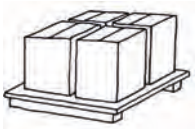
Normative references:
With dated or undated references this European standard incorporates provisions from other publications. The normative references are cited accordingly in the text and the publications are listed hereafter.

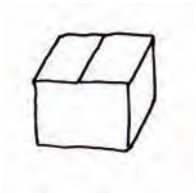
EN 20139 Textiles –Standard atmospheres for conditioning and testing (ISO 139, 1973) EN 20187

Paper, board and pulps – Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples (ISO 187, 1990)

The standard atmosphere specified in EN 20187 does not apply to standardisation of feathers and down!

Definitions





Definitions:

For the application of this standard the following definitions are relevant:

3.1 Lot (or consignment):

All the containers according to one consignment.

3.2 Container:

Units of packaging within the consignment.

3.3 Package:

Elementary unit (which can be unwound) within each container in the consignment.

3.4 Package sample:

Elementary unit selected at random from those of the lot and from which individual samples are drawn.

3.5 Individual sample:

Manufactured article or portion of material drawn in order to prepare a laboratory bulk sample.

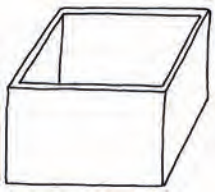
3.6 Laboratory bulk sample:

Manufactured article or portion of the lot taken to be representative of the whole, and which is available to the laboratory. The size and nature of the laboratory bulk sample should be sufficient to overcome adequately the variability of the bulk source and to facilitate ease of handling in the laboratory.

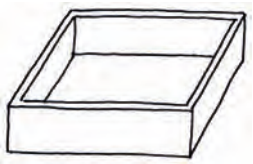
3.7 Test specimen:
Manufactured article or portion of material required to give an individual test result, and selected from the laboratory bulk sample.

3.8 Selected at random:
Sample taken in such a way that each part of the whole has an equal chance of being selected.

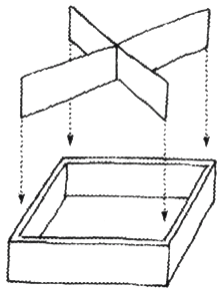
Apparatus



5.1 A container of suitable dimensions in which to mix the laboratory bulk sample.



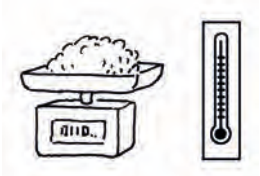
5.2 A square box of about (50 x 50) cm size and 15 cm high.



5.3 A wooden cross whose aim is to divide the square box diagonally.

Procedure

Correct sampling is a very important condition.



6.1 The representative laboratory bulk sample is conditioned according to EN 20139. The temperature and relative humidity are measured or monitored according to EN 20187.

The test specimen for analysis (excluding determination of moisture content) shall be taken from the

conditioned laboratory sample.

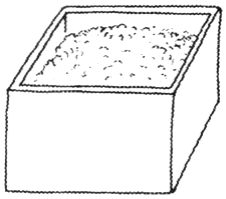
6.2 Feathers and down

6.2.1 If only single package (bag, bale or manufactured article) is to be tested, three individual samples shall be collected using gloves, at three different places in the contents, i. e. the upper, middle, and lower part. The number of individual samples taken shall be in accordance with annex A.

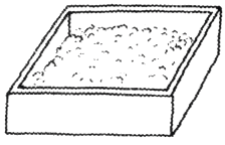
6.2.2 In the case of several packages belonging to one lot, the package sample will be selected at random from different items of the lot and at different places. The number of package samples is governed by annex A, as well as the quantity of material to be extracted from each package.

The individual samples together form the laboratory bulk sample.

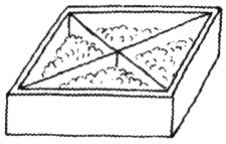
Note: The packages selected should be intact and in good external condition.



6.2.3 The laboratory bulk sample is placed in a suitable container (see 5.1) and carefully mixed.



6.2.4 If the weight of the laboratory bulk sample is greater than the one necessary to carry out all the requested analyses, the mixture (6.3) is transferred to the square box (see 5.2) and equally spread.



The content of the square box is divided with the cross.

The content of two opposite triangles is collected and equally spread, again. The procedure is repeated until a quantity of the laboratory bulk sample remains necessary to carry out the appropriate test.

6.3 The quantity of individual samples taken shall be in accordance with Table A.2 (first two columns), if not otherwise specified in the standard relevant to the test to be carried out.

7. The test report shall include at least the following information:

- the reference to this standard
- date and place of sampling
- identification mark of the sample tested
- name and address of the buyer
- name and address of the seller
- the reference to the lot
- the conditions of the lot
- the number of drawn units
- the reference to the article on which the elementary drawings have been done
- the mass of each elementary drawing
- the global mass of the laboratory sample
- any deviation from the standard procedure and any other circumstances that may have affected the result.

Annex a (normative) Tables on sampling

Table A. 1: Package(s) filled with more than 500 g

Extent of the lot	Number of packages sampled	Mass of each of 3 individual samples to be taken from each package sample g	Total mass to be removed from the lot (laboratory bulk sample) g
1	1	135	405
2 to 15	2	70	420
16 to 25	3	45	405
26 to 50	4	35	420
51 to 90	5	30	450
91 to 150	7	20	420
151 to 280	10	20	600
281 to 500	15	15	675
501 to 1200	20	15	900
Over 1200	25	15	1125

Table A.2: Package(s) filled up to 500 g and manufactured articles (first two columns)

Extent of the lot	Number of packages sampled	Mass of each of 3 individual samples to be taken from each package sample g	Total mass to be removed from the lot (Laboratory bulk sample) g
1	1	40	120
2 to 90	2	20	120
91 to 150	3	14	126
151 to 280	4	10	120
281 to 500	6	7	126
501 to 1200	7	6	126
Over 1200	9	5	135

A.1 The mass of each of three individual samples to be taken from each package sample and the total mass to be removed from the lot listed in the Tables A.1 and A.2 shall be respected, if the analyses to carry out need a total mass of the test specimens equal to or smaller than that prescribed in Tables A.1 and A.2.

A.2 If the total mass of the test specimens necessary to carry out all the analyses required is greater than the total mass to be removed from the lot listed in the tables A.1 and A.2, three individual samples shall always be taken from each package sample but in greater quantity:

The mass of each of the three individual samples shall be such that the total mass of the laboratory bulk sample is sufficient to allow to carry out all the determinations required.

A.3 As concerns Table A.2 in the limit case of a lot constituted of an only package filled with less than 300 g, the laboratory bulk sample consists of the whole filling and the three individual samples shall not, therefore, be drawn.

(W I 11) EN 1882
Testing standard
commercial mass

Definitions

5.5.9 EN 1882 – Determination of the commercial mass of a lot of feather and down

3. Definitions

3.1 Lot (consignment): All the containers filled with feathers and down of a consignment.

3.2 Container: Units of packaging within the consignment the identification of which is quoted explicitly on the dispatch note.

3.3 Package: Elementary unit (which can be unwound) within each container in the consignment.

3.4 Package sample: Elementary unit selected at random from those of the lot, regarded as representative of it and from which individual samples are drawn.

3.5 Individual sample: Portion of material drawn in order to prepare a laboratory bulk sample.

3.6 Test specimen: Portion of material required to give an individual test result (selected from the laboratory bulk sample).

3.7 Gross mass: Mass of a package (comprising contents, wrappers, packaging wires or strapping).

3.8 Tare: Mass of wrappers, packaging wires or strapping that is not considered an integral part of feather and down.

3.9 Net mass: Mass of feather and down (ob-

tained by subtracting the tare from the gross mass).

3.10 Invoiced mass: Mass of a lot (consignment) declared by the seller on the invoice.

3.11 Oven-dry mass: Mass obtained on drying the test specimen, in accordance with EN 1161.

3.12 Dry content: Ratio of the oven-dry mass (3.11) of the test specimen to its initial mass, expressed as a percentage.

3.13 Commercial dry content: Agreed conventional value of the dry content (3.12) of the feathers and down in equilibrium with the ambient atmosphere.

$$\frac{\text{Net mass (3.9) x dry mass}}{\text{Commercial dry content}}$$

Description of the procedure

Determination and calculation of the commercial mass of a lot

a) Take a representative package sample from the lot.
b) Determine net mass of each package sample.
c) Take individual sample (under defined conditions) from each package sample in order to obtain a test specimen.
d) Weigh, dry and determine the dry mass of each test specimen.
e) Calculate the commercial mass of the lot.

Apparatus

Scales, suitable for weighing the package (to a maximum permissible error of 0,1 %).

Analytical balance (sensitivity 0,1 mg)

Weighing containers (bottles) with air-tight covers

Drying oven (105 +/- 2)°C

Tongs

Desiccator with desiccating agent.

Gloves for taking samples

Procedure

All operations of sampling, drawing and weighing shall be carried out indoors, in separate rooms.

Sampling and weighing of package samples

- Select at random the package samples from the lot (consignment). Make sure that the package samples are intact and in good external condition.
- Determination of the gross mass of each package sample (weighing to an accuracy of 0,1%).
- Determination of the tare of each package (weighing accuracy of 0,1%).
- Note: With more than 10 package samples it is sufficient to determine an average tare.
- Calculation of the net mass of each package sample.

Selection of individual samples

Selection of individual samples for preparation of test specimen: Weighing and determination of dry content of test specimens

Sampling

Remove the wrappers.

When taking samples from the bale make sure that:

- each sample is taken from the appropriate zone described below.
- no more than 30 sec. elapse between the exposure of a sample and its confinement in an air-tight bottle so that the weight of the sample does not change before it is weighed.

Points of sampling

Employ three distinct points of sampling situated on a diagonal line of the parallelepiped constituted by the bale and positioned at 20%, 50% and 80% of its length.

One sample of mass of at least 50 g is taken at each point.

Important: Before placing the sample the bottles (and covers) shall be tared.

(Note: A parallelpeptid is a lop- and four-sided prism with a parallelogram that forms its surface area.)

Weighing and determination of dry content of test specimens

- determination of the gross mass of each bottle (accuracy 0,1 mg).
- the test specimen shall be dried in the oven until the mass is constant, and the dry content shall be determined in accordance with EN 1161.

5.5.10 EN 12130-Determination of the filling power (massic volume)

EN 12130 testing standard
Filling power (massic volume)

Abridged version of the standard

Note: At the processing plant, the filling power of the material is determined immediately after the feather material has been processed, and the result is recorded.

The filling power, respectively the massic volume may vary, if the material is stored in the production plant or at the place of sale.

Determination of the filling power after processing of the material

PAS 1003 was developed in order to improve reproducibility of the test result (massic volume).

Reproducibility of the filling power

Then, the method for the reproducibility of filling power will be integrated into EN 12130.

The complete wording of EN 12130 can be obtained from the national standardisation bodies (annex 3).

Apparatus

- Cylinder made of antistatic material with an internal diameter of 289 (+/- 1) mm and 500 (+/- 5) mm high

- Blower
- Plunger and measuring rod of mass giving a pressure of 14,8 (+/- 0,2) Pa
- Stopwatch
- Balance, sensitivity of 0,05 g
- Sample preparation box of wire net,
- exposed for at least 48 h to standard atmosphere
- 20,0 (+/- 0,1) g
- Two test specimen are tested.

Conditioning

mass of test specimen
number of test specimen

Procedure

A test specimen is placed in the cylinder and loosened by blowing air for 60 (+/- 5) seconds.

The plunger and the measuring rod are inserted into the cylinder and are lowered mechanically or manually towards the test specimen.

After a period of 60 s (+/- 2 s) the height of the material shall be read from on the measuring rod.

The procedure is repeated with the same test specimen after it has been loosened by blowing for 7 (+/- 3) s.

Expression of results

Filling power is recorded in millimetres Massic volume is indicated in cm^3/g [2]

5.5.11 ENV 12936 – Determination of the permanent deformation after dynamic fatigue stress under constant load

ENV 12936
European pre-standard
passed April 1999

In accordance with ENV 12936 the compressible quality and subsequent recuperation of the material are tested.

The test procedure was specified in a pre-standard. The pre-standard is of provisional nature and monitored after a period of 2 years, if it is still required or

[2] Cm3/g = Liter/kg

has to be changed. ENV 12936 is mainly applied for testing feathers and down which are used as stuffing for sleeping bags and upholstered cushions.

5.5.12 EN 12131 – Determination of the quantitative composition (manual method)

EN 12131 testing standard quantitative composition

The test of labelling of the filling material feathers and down is carried out in accordance with EN 12131, the manual “tweezers method”.

The analysis in accordance with EN 12131 does not necessarily result in labelling in accordance with EN 12934. EN 12131 is a separate testing standard, the result of which gives information on the composition of the filling material.

The full wording of the standard can be obtained from the national standardisation bodies (annex 3).

Abridged version of the standard:

Apparatus

Apparatus:

- box with cover and lamp
- Weighing containers made of antistatic material
- Tweezers
- Analytical balance with an accuracy of 0,1 mg
- Mixing container

Sampling
Conditioning

Sampling in accordance with EN 1883.

Conditioning of the samples is carried out in accordance with EN 20139.

Temperature and relative humidity are measured in accordance with EN 20187.

Preparation of test specimen

Three test samples are drawn from different places of the conditioned laboratory bulk sample.

With an expected down content equal to or less than 30% each test sample has a mass of about 6 g, with an expected down content of more than 30% of about 4 g.

Important: At least 2 test specimen shall be analysed. If the means of the analysis of the components differ by more than 10% relative, a third sample shall be tested.

Procedure

First separation:

Each component of the specimen shall be identified and placed into the adequately marked weighing container.

The mass of the content of the containers are to be weighed with an accuracy of 1 mg.

The percentage of mass lost shall be calculated. Should the calculation give a loss more than 2%, another sample should be tested.

Second separation:

The content of container D is mixed and made as homogenous as possible. Three test specimen (sub-test specimens) of at least 0,2 g are drawn. Each component of the sub-test specimens are put in the suitably marked container.

Important: The non entwined down and feather fibres are removed from the down clusters and plumules by using tweezers, flicking and shaking each single cluster or plumule five times slightly from an up posi-

tion to a down position and up again. Afterwards thoroughly remove entwined feather fibres. If a down fibre is pulled while removing the feather fibre, the down fibre shall be placed into the weighing container F.

The contents of the weighing containers are to be weighed with an accuracy of 0,1 mg.

Calculate the percentage of mass loss. If the mass loss exceeds 2%, another test specimen should be analysed.

(WI 15)
EN 12934
Labelling standard

5.5.13 EN 12934 – Composition labelling of processed feathers and down for use as sole filling material

5.5.13.1 Comments on the requirements for labelling

Labelling standard
(requirement standard 12934)

EN 12934 “Feather and down – Composition labelling of processed feathers and down for use as sole filling material" is one of the most important standards prepared by TC 222.

Geographical scope
19 EU- and EFTA countries

EN 12934 is valid in the EU- and EFTA-countries, at present 19 countries.

In the foreword of the standard it is clarified that this European standard shall be given the status of a national standard.

In 1999 / 2000 each EU- and EFTA country gave EN 12934 the status of a national standard and published

EN 12934 as national standard[3].

Example:

United Kingdom:	BSI EN 12934
Austria:	ÖNORM EN 12934
Germany:	DIN EN 12934

Aim: unification

The purpose of the standard is to standardise the requirements for labelling of processed feathers and down in all CEN member countries.

A task, in the same way existing in all CEN member countries - specification of labelling of the filling material feathers and down - was solved by choosing one among a variety of possible solutions, and the solution was fixed by preparing a common standard.

Scope

Provisions established for the labelling of the composition of the filling material – the three components of the filling material: down (3.1)[4], feather (3.2, 3.3), other elements (3.4) – refer to:

Finished feathers and down

Finished filling material (no raw feather material, see item 1., scope of EN 12934), no matter, if it is offered as loose product or manufactured article (in quilts, clothing, upholstery etc.).

[3] In this text the standards are mentioned with the corresponding numbers, for instance EN 1884. In chapter “comments on the requirements for labelling” in the German version of the standards manual DIN EN 12934 is explicitly underlined since the English and German version of the standard slightly differ.

[4] The numbers in brackets refer to relevant paragraphs of EN 12934.

Maximum content of foreign matter: 0,5%

The percentage of foreign matter of filling material deriving from water- and / or landfowl shall not exceed 0,5%[5] (3.6).

What is foreign matter?

Foreign matter of a filling are: fibres or filaments made of cotton, wool, synthetic material as well as foam rubber particles.

The percentage of foreign matter of the total filling mass may not exceed 0,5%.

If a filling exceeds the admissible percentage of foreign matter, EN 12934 does not apply and this kind of filling material shall not be labelled in accordance with this standard.

Normative references

Chapter "Normative references"[6] (2) refers to valid testing standards that apply to monitor the requirement standard.

Definitions that apply to this standard

Definitions that apply to this standard are made up of real definitions given in EN 1885 and nominal definitions (3).

EN 1885 real definitions "Factual identity of an object"

EN 1885 specifies real definitions in the field of feather and down (Aleman, Ulrich von, 1989, page 25) that define the factual identity of an object. EN 1885 defines the structure of down as "plumage forming the undercoating of waterfowl, consisting of clusters of light, fluffy filaments (...) growing from one scantly sketched down core (...) but without any quill shaft (...) or vane.

Note: Conventionally at least two barbs connected at

[5] All percentages cited in the standard refer to the filling mass.

[6] DIN EN 45020: 1993, page 33, 11: It is distinguished between a rigid reference and a gliding reference. The rigid reference is provided with the date of publication (e.g. EN 1885:1998). Thus, it is referred to a particular standard, later revisions of the standard are not adopted automatically. Example concerning EN 12934: If EN 1885 was changed and these changes should be considered in EN 12934, item 2. of EN 12934 would have to be altered accordingly, so that in any case it is referred to the valid (new) publication (DIN EN 45020, page 33, 11.2.1). Item 2. of EN 12934 refers to so-called undated references to testing standards which are not provided with a date of edition. In case these standards are changed at a later stage, the current version is valid automatically. (For rigid and gliding references see EN 45020:1998, page 33 et seq., no.11)

one point are considered as down." (EN 1885, page 2, 2.12)

EN 12934 Nominal definition "nominal agreement"

In contrast, EN 12934 deals with nominal definitions (Aleman, Ulrich von, Opladen 1989, page 24 and chapter 5.5.13.3 Composition of nominal definitions, EN 12934, 3.).

EN 12934 specifies the definition of a certain term by enumerating a clearly defined number of its characteristics. The nominal definition only specifies a conceptual (nominal) agreement.

For instance, in accordance with EN 12934 the following nominal definition of down applies (3.1):

- Down: Plumage inclusive of:
- down (EN 1885: 1998, 2.12);
- nestling down (EN 1885: 1998, 2.14);
- plumule (EN 1885: 1998, 2.16);
- up to 5% of down fibres (EN 1885: 1998, 2.18

Note: Down fibres are calculated on the down content obtained from the analysis in accordance with EN 12131."

The (real) definition of "down", cited from EN 1885, and additional components are integrated into EN 12934 in the nominal definition of down, the term "down" (chapter 5.5.13.3).

Down fibre

In its entirety, the aforementioned components are down in accordance with EN 12934. The percentage of down fibres is calculated on the down content *obtained from the analysis* in accordance with EN 12131 and *not* on the down content stated on the label.

Calculation example: see 5.5.13.2.1 and 5.5.13.2.2 ("calculation of down fibres" and "calculation of down

fibres obtained from the analysis in accordance with EN 12131").

Definition of feather

The labelling standard broadens the real definition of "feather" (EN 1885, 2.3.1, 2.2 and 2.11) and thus specifies a nominal definition (5.5.13.3).

Real definition = EN 1885

Nominal definition = EN 12934

It is admissible to calculate additionally up to a total percentage of 9 % of feather fibres (EN 1885:1998, 2.17, 2.19, 2.8), broken feathers (EN 1885: 1998, 4.4) and damaged feathers (EN 1885: 1998, 4.6) on the feather content of a filling determined in accordance with EN 12934.

Chicken feather

In accordance with EN 12934 (3.3) landfowl feathers (chicken, turkey etc.) may be labelled as chicken feathers.

Other elements

The percentage of other elements (3.4) is decisive for the classification of a filling (EN 12934 5.2.).

Chapter 5.5.13.3 summarise the aforementioned nominal definitions and draws a clear dividing line between the nominal definition of "down" and the definition of "down cluster", which is a term used by IDFB (International Down and Feather Bureau).

Enumeration of other elements with reference to PAS 1006

Other elements (attention: confusion with foreign matter 3.4) are:

- percentage of down fibres that exceeds the (aforementioned) percentage of 5% of down content
- percentage of feather fibres, broken and damaged feathers (PAS 1006)[7], exceeding the aforementioned tolerance of 9%
- reprocessed feathers and residue (EN

[7] The standard only mentions damaged elements in the headline, not in the enumeration. This caused misunderstandings. PAS 1006 clarifies that a total percentage of 9% of broken and damaged elements may be calculated on the feather percentage. PAS 1006, DIN, January, 2000.

1885, 4.7)

- in class I (EN 12934, 5.2) also chicken feathers belong to other elements (PAS 1006)[8].

[8] PAS 1006 available at Beuth Verlag, Burggrafenstraße, Berlin.

special regulations (notes)

In all, there are 4 special regulations regarding the general definition of “other elements”. Three of them are cited in

EN 12934, another one is specified in PAS 1006.

Chapter 5.5.13.4 in detail deals with the subject “other elements”.

Note	fillings	include in “other elements” also:
1	100% down	Water- and landfowl feathers
2	100% waterfowl feathers	Down and landfowl feathers
3	100% landfowl feathers	Down and waterfowl feathers
4*)	Classes I to III	Landfowl feathers (3.2, 3.2.1, 3.2.2)

*) PAS 1006

Special regulation no 1 other elements with 100% down

In class I, the percentage of other elements of a filling consisting of 100% down shall not exceed 5% (inclusive of water- and landfowl feathers). In this case, the aforementioned enumeration of other elements is supplemented by water- and landfowl feathers. (examples in chapter 5.5.13.4)

Special regulation no 2 Other elements with 100% waterfowl feathers

With a filling consisting of 100% waterfowl feathers also down and landfowl feathers belong to “other elements” (example in chapter 5.5.13.4).

Special regulation no 3 Other elements with labelling 100% landfowl

With fillings consisting of 100% landfowl feathers, also down and waterfowl feathers belong to other elements and thus, are to be considered with reference to classification (example in chapter 5.5.13.4).

Special regulation no 4 For classes I to III (PAS 1006, note 4)

In accordance with PAS 1006 in classes I to III also landfowl feathers belong to other elements. Insignificant percentages of landfowl feathers in waterfowl fillings (5.2 classes I to III) are included in the per-

centages of other elements (5%, 15%, over 15%). (example in chapter 5.5.13.4)

Milled feathers

Milled feathers (3.5) are feathers which have been chopped or curled by means of a mechanical process (EN 1885 4.2.1 and 4.3).

Foreign matter

Foreign matter (3.6) are components that do not contain the elements down, feather or other elements, but for instance cotton fibres (see page 51). In accordance with this standard feathers and down can never belong to foreign matter. Other elements, however, may be calculated to foreign matter (see special regulation no 1 to 4, examples in chapter 5.5.13.4).

Consequently, the standard is applicable to all products which are solely filled with feathers and down. All articles which, for instance, consist of down and feathers and of more than 0.5% synthetics cannot be labelled in accordance with EN 12934.

Finished products

In accordance with EN 12934, feather-and down-filled products are finished articles, if they are solely filled with feathers and down, such as duvets, upholstery, sleeping bags, clothing, bed shoes, caps.

down of eiderduck

Eiderduck down is explicitly defined in EN 1885, 3.1.3.

Differing from labelling of fowl species (EN 12934, 7.1) it is possible to label a filling only consisting of eiderduck down as “eiderduck down”. (Chapter 5.5.13.5, excursus “requirements for labelling eiderduck down”).

(concerning term „down of eiderduck“ see excursion „definition down of eiderduck“).

Labelling requirements

If the composition of a filling is labelled according to EN 12934, the requirements stipulated in this standard are to be complied with.

- labelling of down and feathers

- labelling of fowl species
- percentages of components composition (mass percentage)
- disparities (tolerances)

Indication in % = content of the total filling mass

The percentage composition of a filling reported on the label refers to the total filling mass, indicated in %.

The percentage of other elements shall not result intentionally, but shall result casually from the material for technical reasons (above all, this is important with regard to labelling and testing of eiderduck down fillings, see chapter 5.5.13.5).

Components composition labelling Maximum 3 elements

In accordance with EN 12934, labelling of the composition of a filling is based on three kinds of elements (down, feather, other elements).

Down, feathers

According to classes I, II, IV and V, the label shall report the percentages of down and feathers, each in decreasing order.

Other elements

In classes III and VI the percentages of other elements shall be cited additionally.

In addition to composition labelling of the aforementioned elements further indications concerning the filling material may be cited.

Additional optional denominations

Denominations concerning class, new material, and fowl species are covered by the standard (tables 3 and 4).

Supplement denominations, such as provenance of the filling, are admissible. The kind of indication, however, is not specified explicitly in the standard.

Percentage composition of the elements

The indication of the percentages of the mass of the components (down, feathers, if necessary other elements) is mandatory in decreasing order on labels

= mandatory indication

Rounding

or commercial documents (5.1).

The percentages of down and feathers shall be stated in groups rounded to the nearest 10%, except for fillings with 85% feathers and 15% down.

Possible composition of the filling material in accordance with EN 12934 (denomination on the label) percentages of the total filling mass (5.1)

Percentages of the total filling mass of down and feathers			
down	Feathers	labelling order	
100	0	d %	---
90	10	d %	f %
80	20	d %	f %
70	30	d %	f %
60	40	d %	f %
50	50	d %	f %
40	60	f %	d %
30	70	f %	d %
20	80	f %	d %
15	85	f %	d %
10	90	f %	d %
0	100	f %	---

d: down, f: feathers

Calculation of the components „down“ and „other elements“ considering chart 2

If the denomination of the percentages in labelling of the components on the label is correct or not, can be assessed by table 2 EN 12934.

The percentages of the components (down, feathers and other elements) are obtained from the analysis of a filling in accordance with EN 12131.

The tolerances mentioned in chart 2 - disparities between test results and labelling - are relevant for calculating percentages to be reported on the label.

Table 2 – Disparities between test result and labelling	
Percentages in labelling	Test result in ranges %
100	95,0 – 100,0
90	85,0 – 94,9
80	75,0 – 84,9
70	65,0 – 74,9
60	55,0 – 64,9
50	45,0 – 54,9
40	35,0 – 44,9
30	25,0 – 34,9
20	17,5 – 24,9
15	12,5 – 17,4
10	7,5 – 12,4

In classes I and II (with a maximum percentage of other elements of 5% respectively 15%) the percentage of feathers is determined by calculating the difference between the down percentage of the filling and 100 percent total filling mass (100 minus percentage of down obtained from the analysis = feather percentage). 5% or 15% maximum percentages of other elements are calculated on or included in the feather content.

In classes III and VI the percentage of other elements shall be reported on the label.

In classes III and VI the feather content is calculated as follows: 100% minus (down content plus other elements) = feather content.

In classes IV and V the percentage of feathers is calculated the difference to 100% as it is the case with classes I and II (100% minus down percentage obtained from the analysis = feather percentage).

Classification
(Order of the filling material)

Labelling “new”

other elements =
indicator of classification

Class I = indicator for “new”

Classification (order) of the filling material (5.2)

The filling material is classified by means of the content of other elements the filling contains[9].

Table 1 (5.2 „classes“) classifies by means of maximum limits of other elements.

The class *may* be reported (optional indication) in addition to the mandatory indications such as percentages of down and feathers and other elements.

Any filling *may* be labelled as „new“ when the elements it contains have not previously been used as filling material (5.2.2).

EN 12934 assumes that a filling material has been processed right after plucking, if the percentage of other elements does not exceed 5%.

In EN 12934, the content of other elements (broken elements, fibres, reprocessed feathers and reprocessed down) is an *indicator* that shows, if the material has previously been used as filling material. As a rule, fillings consisting of reprocessed material or with percentages of it, contain feather and down fibres and broken elements exceeding 5%, so that the filling cannot be labelled as „class I“, any more.

From the higher percentage of other elements can be deduced that the filling material has been previously used. This does not apply to fillings which contain milled feathers. These fillings may also be labelled “new”, for instance “New milled feathers”.

Blends of land- and waterfowl or landfowl fillings may be labelled “new”, if the contents of other elements (broken feathers, fibres etc.) does not exceed 5%.

[9] Classification is the division of objects according to clear rules (see Aleman, Ulrich von, 1989, p. 68, organized interests in the Federal Republic of Germany)

Labelling “New chicken feathers, 100% feathers” is admissible. Hence, landfowl and waterfowl fillings are clearly differentiated, since in this case the supplement “class I” is not admissible.

EN 12934, Table 1: Components composition labelling

Fowl species	Content of „other elements (see 3.4) (%)	Classification	Elements and composition (%)
Waterfowl	up to 5	„class I and/or „new“	down...% feather...%
	more than 5 to 15	„class II“	down...% feather...%
	more than 15	„class III“	down...% feather...% other elements...%
Landfowl and blends of land- and waterfowl	up to 5	„class IV“ and/or „new“	down...% feather...%
	more than 5 to 15	„class V“	down...% feather...%
	more than 15	„class VI“	down...% feather...% other elements...%
Landfowl and/or waterfowl		„class VII“	unspecified composition

Classes (I to III waterfowl, IV to VII landfowl and blends of land/waterfowl):

Table 1 classifies labelling of the components composition using the criteria “waterfowl” and “landfowl” and “land-and waterfowl blends”.

Classes I to III comprise waterfowl fillings

In classes I to III fillings consisting of waterfowl are classified.

Classes IV to VI landfowl and waterfowl blends

Landfowl fillings and land- and waterfowl blends are classified in classes IV to VI.

Classes in detail

Class I and/or „new“ (optional indication)

The indications “new” and “class I” may be reported on the label as far as new material deriving from waterfowl is concerned, and the content of other elements does not exceed 5% (EN 12934, 5.3.1).

In Germany, the indication “new feathers and down class I“ is comparable to the denomination „Originalware“ (original product = not previously used) according to the German RAL-Regulation 092 A2.

Percentage of the total filling mass = mandatory indication

The percentages of feathers and down shall be disclosed on the label (mandatory regulation 5.1).

Class II without „new“

If the percentage of other elements ranks between 5% and 15% of the total filling mass, waterfowl down and feather fillings may be labelled “class II”, but without indicating the addendum ”new” (EN 12934, 5.3.2).

Due to a high percentage of other elements it is assumed that such fillings contain previously used feathers and down. Thus, the addendum “new” is not admissible. The feather and/or down percentages of the total filling mass shall be reported on the label in decreasing order.

Filling material labelled as „class II“ may contain a maximum quantity of 5,0% residual matter (quill marrow, quill parts, waste) that are included in a percentage of 15% of other elements. A percentage of other elements of up to 15% is calculated on the feather content and must not be specified.

Class III

Fillings consisting of waterfowl feathers and/or down containing more than 15% of other elements shall additionally disclose on the label, besides the feather and down percentage, the rounded percentage of other elements (EN 12934, 5.3.3).

In this case it is assumed that the filling contains considerable percentages of material that has previously been used as filling material.

Fillings labelled as „class III“ shall not exceed a quantity of 5% of residual matter (quill marrow and parts, waste). The content of residual matter shall not exceed 5%.

Fillings with a content of residual matter exceeding 5% shall be classified „class VII“ - „unspecified composition“.

Classes IV

In class IV (5.4.1), landfowl feathers or land- and waterfowl blends may be labelled as “new” and/or “class IV”, if the percentage of other elements does not exceed 5%.

The content of down (if the filling contains down) and feathers shall be indicated. For instance, new landfowl feathers are also classified class IV.

Class V

Class V (5.4.2) comprises fillings consisting of landfowl and/or waterfowl feathers with permitted quantities of other elements from 5% up to 15%. 15% of other elements may include a maximum content of residual matter not exceeding 5%. The label shall disclose the percentages of down and feathers. The maximum content of 15% of other elements is calculated on the feather percentage.

Class VI

With landfowl and/or waterfowl fillings with a percentage of other elements exceeding 15% and with a maximum content of residual matter of 5% the per-

centages of down and feathers and the other elements shall be stated on the label.

Milled Feathers
percentage up to 9%

With fillings containing up to 9% of milled feathers, the milled feathers are classified „other elements“ and shall be indicated on the label accordingly (EN 12934, 5.5.1)

percentage of milled feathers exceeding 9%

With fillings containing more than 9% of milled feathers, the percentage of milled feathers shall be rounded to the nearest 10% and reported on the label (EN 12934, 5.5.2).

no classification permitted

For such fillings no classification shall apply. The filling, for instance, may be labelled as “new milled feathers”.

unspecified composition

The category „unspecified composition“ was set up for fillings which are used for instance for decoration articles, upholstered cushions (EN 12934, 5.6).

In this range of application the down content of the product, the fowl species and percentage of new material is not essential.

Disparities

Disparities between the down content stated on the label and the down content obtained from the analysis are permissible, if the figures correspond to chart 2 - Disparities between test result and labelling (EN 12934, 6.).

Table 2 - Disparities between test results and labelling

Percentages in labelling	Test result ranges, %
100	95,0 - 100,0
90	85,0 - 94,9
80	75,0 - 84,9
70	65,0 - 74,9
60	55,0 - 64,9
50	45,0 - 54,9
40	35,0 - 44,9
30	25,0 - 34,9
20	17,5 - 24,9
15	12,5 - 17,4
10	7,5 - 12,4

Analysis of down content

Analysis in accordance with EN 12131

In order to ensure correct labelling it has to be clarified, if the test result corresponds to the ranges stated in chart 2.

If the down content disclosed on the label is correct or not, can be verified by means of this table.

Denominations disclosed on the label are verified by means of EN 12131 and considering EN 1885.

Verification of labelling Lower threshold for down in accordance with EN 1885 (down cluster)

In order to establish the admissible maximum threshold for down in accordance with EN 12934, it is necessary to know the admissible lower threshold value, so-called down cluster. The down percentage of one range, for instance 50%, shall contain 45% down, already inclusive of 5% down fibres calculated from the down content obtained from the analysis in accordance with EN 12131 (see chapter 5.5.13.7 Lower threshold for down cluster).

The minimum content of down cluster in this grade (down 2.12, 2.14, 2.16, EN 1885) amounts to 42,86% (chapter 5.5.13.7).

Note: Down cluster is defined by components defined in EN 1885: down (2.12), nestling down (2.14), plumules (2.16). In usage, these components are integrated into the term “down cluster” (chapter 5.5.13.3).

Labelling of fowl species

In accordance with EN 12934 the fowl species may be reported on the label (7).

In classes I, II, IV and V the fowl species may be disclosed on the label, the indication is optional (7.).

Indications „waterfowl“ or „goose / duck“

If the producer wants to state fowl species on the label, he can choose, if either waterfowl species “goose” or “duck” or solely „waterfowl“ may be reported on the label. If it is intended to specify the fowl species, the filling shall be classified in accordance with table 3 (the highest percentage is to be reported at first):

Table 3: Waterfowl species - Examples for optional denominations on the label in accordance with the percentages

Percentage(s) composition	Denomination(s)
100 to 90,0 goose 0 to 9,9 duck	pure goose
89,9 to 70,0 goose 10,0 to 29,9 duck	goose
69,9 to 50,0 goose 30,0 to 49,9 duck	goose / duck
69,9 to 50,0 duck 30,0 to 49,9 goose	duck / goose
89,9 to 70,0 duck 10,0 to 29,9 goose	duck
100 to 90,0 duck 0 to 9,9 goose	pure duck

Addendum “pure”

A label may disclose the supplement „pure“, if the minimum percentage of the respective fowl species amounts to 90%.

With the labelling

New pure goose down and –feathers
50% down
50% feathers

the content of the fowl species “goose” shall at least come to 90%, i. e. the filling may only contain up to 9,9% duck down and feathers.

2 possibilities of labelling the fowl species – misinterpretations possible

7.1, first paragraph of the German translation of EN 12934 says: “If a filling contains either only one ore more waterfowl species, only the denomination “waterfowl” shall be reported on the label.” (7.1, first paragraph).

The formulation “shall only” does not claim a unique position, but signifies that *it is admitted to report only the denomination “waterfowl” on the label*. The denomination “waterfowl” to be possibly indicated on the label does not mean that - in accordance with this regulation – exclusively the fowl species “waterfowl” shall be stated on the label.

The standard provides another possibility to state the fowl species on the label. It is also possible to denominate the kind of waterfowl, i. e. goose or duck.

“It is possible to add the animal species on the label with reference t Table 3.” (7.1, second paragraph)

If the standard intended to only admit the first way of indicating the fowl species (“waterfowl”), the regulation in the 2nd paragraph (table 3) would not make sense.

Summary:

German version of the standard:

2 alternatives of indicating the fowl species

In accordance with item 7 of the German version of the standard it is admissible to label the fowl species as “waterfowl” and/or “goose and/or duck”. Both indications are optional and not mandatory, since the declaration of the fowl species may be reported on the label.

English and French versions of the standard (chapter 5.5.13.10)

Usually, a European standard, published in the 3 compulsory languages German, English and French shall contain the same wording.

Due to a translation error the English and French versions differ from the German version.

In accordance with the English and French versions it is not possible to label the fowl species alternatively as “waterfowl” or “goose / duck”. In accordance with these versions it is admissible to indicate in addition to “waterfowl” the fowl species “goose / duck” which leads to very extensive denominations on the label.

(chapter 5.5.13.10)

EDFA Membership Meeting 2000

Intended denomination
German wording

On occasion of the membership meeting on 17th and 18th October 2000 in Rüdesheim-Assmannshausen the problem was discussed en detail among the members of the Association of the European Bed-feather and Bedding Industries. It turned out that the experts of TC 222 had agreed on and passed the version laid down in the German issue.

So far, the translation error had not been discovered. The regulation laid down in the German version is generally accepted.

Down of Eiderduck

A filling consisting of down of eiderduck may be labelled as „down of eiderduck“. (chapter 5.5.13.5)

Landfowl

With a filling containing either one or more landfowl species, the denomination “landfowl” shall be reported on the label. (7.2)

The filling contains for instance:

50% chicken
50% turkey
fowl species on the label = “landfowl”.

Blends of landfowl and waterfowl species

Blends of landfowl and waterfowl plumage shall be reported on the label in accordance with chart 4 (7.3):

Table 4: Blends of landfowl and waterfowl species

Percentage(s) composition)		Denomination(s
100 to 90,0	landfowl	landfowl
0 to 9,9	waterfowl	
89,9 to 50,0	landfowl	landfowl / waterfowl
10,0 to 49,9	waterfowl	
89,9 to 50,0	waterfowl	waterfowl / landfowl
10,0 to 49,9	landfowl	
100 to 90,0	waterfowl	waterfowl
0 to 9,9	landfowl	

A filling labelled as fowl species „waterfowl“, may contain 9,9% of landfowl (chart 4). This filling, however, may not be labelled as “class I”, if the percentage of other elements exceeds 5% (among others landfowl in accordance with EN 12934 and PAS 1006).

Indication of landfowl and waterfowl in groups of 10%

Apart from statements in table 4, percentages of fowl species, either landfowl or waterfowl, can be reported on the label in groups of 10% in decreasing order. (7.3)

For instance:
60% new waterfowl down
30% new landfowl down
10% new waterfowl feathers
class IV

or

new waterfowl down and –feathers
and new landfowl feathers
60% down
40% feathers

class IV

Exception

Exception
landfowl in classes I to III is calculated on the content of other elements!

With a filling consisting of waterfowl and labelled as “waterfowl” it has to be seen to it that the filling has to be labelled as „new“ and „class I“. Thus, it is clear that the percentage of landfowl feathers calculated on the content of other elements may not exceed a maximum percentage of 5%. In accordance with PAS 1006, note 4 in classes I to III landfowl feathers belong to “other elements”.

Verification of the labelling standard

Sampling and analysis shall be carried out in accordance with EN 1883 and 12131 in order to verify the requirement standard (8.0).

Labelling of filling always required

Each bedding, each bale, each bag solely filled with down and feathers which refer to this requirement standard shall be labelled in accordance with this standard (9.0). The full wording of the standard can be obtained in the 3 CEN-languages (German, English, French) from the standardisation bodies of the EU- and EFTA countries (addresses in annex 3).

5.5.13.2 Calculation of down fibres and calculation of down and feather fibres from the result obtained from the analysis in accordance with EN 12131

5.5.13.2.1 Calculation of down fibres (EN 12934, 3.1 definitions)

A filling material of 1000g (100%) is analysed in accordance with EN 12131.

Down percentage in accordance with EN 1885, 2.12, 2.14, 2.16:	200 g filling material (20%)
Percentage of down fibres in accordance with EN 1885, 2.18:	30 g filling material (3%)

Calculation example:

Down percentage in accordance with EN 1885, 2.12, 2.14, 2.16:	200 g filling material (20%)
Percentage of down fibres in accordance with EN 1885, 2.18:	30 g filling material (3%)

The percentage of other elements includes the remaining content of down fibres of 20 g (2% of the filling material) calculated from the result obtained from the analysis of down and plumules which exceeds 5% (EN 12934, 3.4).

5.5.13.2.2 Calculation of feather and down fibres from the result obtained from the analysis in accordance with EN 12131

down and plumules		
The elements *down and plumules* analysed (identified) in the second separation in accordance with EN 12131 are placed in container F. (Mass = mass of the test specimen)	Mass of down and plumules obtained from the analysis in accordance with EN 12131 required in EN 12934, 3.1 for further calculation. (Mass = mass of the test specimen)	calculation: mass of the test specimen: 200 g (20%) (x 0,05 or 5:100) = 10 g (1% of the filling material)
down fibres		
Element *down fibres* analysed (identified) in the second separation in accordance with EN 12131 positioned in container G.	In accordance with EN 12934, 3.1 up to 5% of down fibres (calculated from the down content obtained from the analysis in accordance with EN 12131) are defined as down, and thus may be calculated on the down content.	classification: up to 10 g (1% of the filling material)
other elements		
	In accordance with EN 12934, 3.4 a percentage of down fibres (calculated from the down content obtained from the analysis in accordance with EN 12131) exceeding 5% is not classified “down” and shall be calculated on other elements.	classification: up to 10 g (1% of the filling material)

5.5.13.3 Composition of the nominal definition in accordance with item 3, EN 12934 (the real definition of down is laid down in EN 1885, 2.12)

3.1 Down

- down (2.12 EN 1885 : 1998)
- nestling down (2.14 EN 1885 : 1998)
- plumule (2.16 EN 1885 : 1998)

The technical language of the branch denominates the 3 components together as „down cluster“.

EN 12934 adds a fourth component:

- down fibres up to 5% (2.18 EN 1885 : 1998)

Note: Down fibres are calculated on the down content obtained from the analysis in accordance with EN 12131.

3.2 Feather

Plumage without down or quill feathers with a minor content (totally not more than 9 %) of

- feather fibres (2.17 EN 1885, 1998)
- broken feathers (4.4 EN 1885, 1998)
- damaged feathers (4.6 EN 1885, 1998)

Note: Feather fibres, broken and damaged feathers are calculated on the feather content obtained from the analysis in accordance with EN 12131.

3.3 Landfowl feather

Feathers of any kind of landfowl

- chicken feather (3.2.1 EN 1885, 1998)
- turkey feather (3.2.2 EN1885, 1998)

3.4 Other elements

- down fibres (exceeding 5%) (2.18 EN 1885, 1998)
- feather fibres (2.17 EN 1885, 1998) and
- broken feathers (4.4 EN 1885, 1998) and
- damaged feathers (4.6 EN 1885, 1998) (totally more than 9%)
- reprocessed feathers and down (4.2.2 EN 1885, 1998)

- residual matter (4.7 EN 1885 : 1998)

3.5 Milled feathers

Chopped or curled by means of a mechanical process (4.3 EN 1885, 1998)

3.6 Foreign matter

Natural fibres other than feathers and down and any kind of man-made or non-fibrous synthetic material (< 0,5%).

5.5.13.4 Special regulations „other elements“ (EN 12934 definitions 3.4)

EN 12934 lays down 4 special regulations concerning the composition of “other elements”.

Note	fillings	include in „other elements“ also:
1	100% down	water- and landfowl feathers
2	100 % waterfowl feathers	down and landfowl feathers
3	100% landfowl feathers	down and waterfowl feathers
4*)	class I to III	landfowl feathers (3.2, 3.21, 3.2.2)

*) PAS 1006

concerning note 1

With a filling, class I consisting of 100% down, the components water and landfowl feathers shall be classified as “other elements” which may not exceed 5%.

Possible result obtained from the analysis:

Down in accordance with EN 12934:	95%
other elements:	5%

(The 5% of other elements may for instance consist of 1% of down fibres and 1% of feather fibres in accordance with EN 12934, 3.4, and 3% feathers in accordance with EN 12934, 3.2).

Correct labelling:

New (waterfowl-) down class I,
100% down

If a filling labelled with 100% down contains more than 5% feathers in accordance with EN 12934, the admissible percentage of other elements in class I is exceeded. With fillings labelled 100% down feathers are calculated on the percentage of other elements.

The correct denomination would be:

New down and feathers class I,
90% down, 10% feathers

In this case, feathers are not calculated on the percentage of “other elements”, but are reported on the label as “element of the composition (%)”.

concerning note 2:

With a filling belonging to class I consisting of 100% waterfowl feathers, the elements “down” and “landfowl feathers” shall be calculated on the maximum percentage of “other elements” which shall not exceed

5%.

I.e. a down percentage obtained from the analysis of for instance 8% would significantly exceed the maximum limit of 5% of other elements. Thus, the filling would have to be classified class II.

The correct denomination would be:
New feathers and down class I,
90% feathers, 10% down.

concerning note 3:

With a filling belonging to class IV consisting of 100% landfowl feathers, the elements “down” and “waterfowl feathers” shall be calculated on the maximum percentage of other elements not exceeding 5%.

concerning note 4 (PAS 1006):

In classes I to III also landfowl feathers are classified as “other elements” in accordance with PAS 1006. Hence, also landfowl feathers can be a component of “other elements”.

Characteristic marks of down of eiderduck

5.5.13.5 Requirements for labelling of “down of eiderduck “

EN 1885, 1998, item 3.1.3 defines the term “down of eiderduck” as follows:

“Down (2.12) picked from eiderducks’ nests (Anas somateria mollisima)”.

Down of eiderduck can be identified by its brownish colour and sticky structure.

In nature, this filling material serves to pad out the nests and to protect the brood against weather factors such as cold and wind.

Natural requirements are optimally met by the sticky

structure of down of eiderduck, since the down closely stick together.

At the bedfeather companies, however this makes processing of the material complicated. Separation of the material by air stream sorter is impossible so that it mainly has to be processed by "hand operation".

The terminology and the labelling standard take into consideration the specific feature of the material (EN 1885 and EN 12934).

EN 1885 (terminology standard) lays down the real definition of the term "down of eiderduck": "… down picked from eiderducks' nests …". In EN 12934 this definition is confirmed without any alterations (3.8).

Real definition of the term "down of eiderduck" = nominal definition = indication reported on the label

The definitions of the terms "down of eiderduck" are identical. Moreover, EN 12934 lays down that the real definition of "down of eiderduck" may be applied as labelling for fillings, if the filling consists of down of eiderducks (7.1).

EN 12934, 7.1 emphasises that *only* a *filling* consisting of down of eiderduck may be labelled as "down of eiderduck". If *down of eiderduck* only form one component of a filling, it shall not be labelled as "down of eiderduck".

The composition labelling
80% down of eiderduck
20% feathers
is not admissible.

Labelling "down of eiderduck" not admissible with blends of down of eiderduck and other down of geese and ducks

Also filling materials consisting of blends of goose down, other duck down and down of eiderduck may not be labelled as "down of eiderduck".

The indications "waterfowl" (7.1) respectively "goose/duck" or "duck/goose" can be reported on the

label.

Admissible percentage of “foreign matter”, “other elements”

With regard to filling composition labelled as “down of eiderduck” the following conclusions can be drawn:

1. A filling consisting of down of eiderduck shall not contain more than 0,5% of foreign matter (EN 12934, 1., paragraph 3 and 3.6).

2. A filling consisting of down of eiderduck containing up to 5% of other elements is acceptable (EN 12934, 3.4.).

Reasons:

Foreign matter

1. In correspondence to EN 12934, 3.4 foreign matter comprises „natural fibres other than feathers and down and any kind of man-made fibres or non-fibrous synthetic material“.

For instance, this could be a thread which got into the filling during the process of manufacturing.

EN 12934 unambiguously defines an admissible maximum content of foreign matter of 0,5% for fillings of any kind.

Other elements

2. „Other elements“ are defined “broken and damaged elements” such as:

- down fibre (EN 1885, 1998, 2.18) more than 5%
- feather fibre (EN 1885, 1998, 2.17, 2.19, 2.8) and broken feathers (EN 1885, 1998, 4.4, 2.3.1 and 2.7), totally more than 9,0%.
- reprocessed feathers (EN 1885, 1998, 4.2.2 and 2.3.1) and reprocessed down
- residual matter (EN 1885, 1998, 4.7).

Note 1: With fillings consisting of 100% down water- and landfowl is included in the percentage of “other

elements".

Note 2: With fillings consisting of „100% of waterfowl feathers" other elements include down and landfowl feathers.

Note 3: With fillings consisting of „100% of landfowl feathers" other elements include down and waterfowl feathers (3.4).

The content of other elements shall be casual and shall be justified on technical ground and shall not be caused by systematic addition (4).

The system of the standard shows that other elements are also accepted in fillings which are labelled "100%". The admissible percentage of "other elements" was considered with regard to the classification of the filling material (in class I up to 5%, chart 1, EN 12934).

If this system is transferred to fillings consisting of down of eiderduck, in class I these fillings shall contain 95% of down of eiderduck in accordance with EN 1885.

Fillings consisting of down of eiderduck, class I may be labelled as "New down of eiderduck, class I".

Summary:
EN 12934 + EN 1885

Result:

The labelling of fillings consisting of down of eiderduck in accordance with EN 12934 can clearly be deduced from EN 12934 in correlation with EN 1885.

"(New) down of eiderduck (class I)"
(at least 95% of down of eiderduck)

In class I (New), a filling consisting of down of eiderduck shall at least contain 95% down of eiderduck, since slight components of other elements or down and feathers are inevitable for technical reasons.

5.5.13.6 Calculation of the results obtained from the analysis in accordance with EN 12131 and verification of the labelling :"Hungarian goose down and feathers class I, 50% down, 50% feathers

Declaration class I:

Elements in accordance with EN 12131	Results obtained from the analysis in accordance with EN 12131 g	%	Calculation of the results obtained from the analysis	Elements-waterfowl %	other elements %
Down	1,7100	42,75	(x 0,05) + 2,14 [1])	44,89	---
Down fibres	0,1840	4,60	(minus) – 2,14	---	2,46
Feathers	1,8760	46,90	(x 0,09) + 4,22[2])	51,12	---
damaged-/broken feathers feather fibres (total)	- 0,1728 0,0444 (0,2172)	- 4,32 1,11 (5,43)	(minus) – 4,22	---	- 1,21
Landfowl feathers residue	0,0080 0,0048	0,20 0,12			0,20 0,12
	4,0000 g	100,00 %		96,01%	3,99%
colour: white	New: new	Fowl species: Goose down and feathers	class: class I	Elements and composition % 60 % Feathers 40 % Down	

[1]) EN 12934, 3.1 -... up to 5 % down fibres
Note: Down fibres are calculated from the down content obtained from the analysis in accordance with EN 12131.

[2]) EN 12934, 3.2 -... (totally not more than 9%) of feather fibres, broken and damaged feathers.
Note: Feather fibres, broken and damaged feathers are calculated from the feather contentobtained from the analysis in accordance with EN 12131.

result: Down 44,89
Feathers 51,12
others Elements 3,99

Evaluation: The labelling is not correct, since a filling labelled with 50% down shall contain at least 45% down. The down content obtained from the analysis only comes to 44,89%. Thus, the filling should be labelled

"60% feathers, 40% down". The contents of other elements is below 5%, hence class I is correct.

Declaration class II:

Elements in accordance with EN 12131	Results obtained from the analysis in accordance with EN 12131		Calculation of the results obtained from the analysis	Elements-waterfowl %	Other Elements %
	g	%			
Down	1,6456	41,14	(x 0,05) +2,06[1])	43,20	
Down fibres	0,2120	5,30	(minus) – 2,06	---	3,24
Feathers	1,7480	43,70	(x 0,09) +3,93[2])	47,63	---
damaged / broken feathers (total)	0,2844 0,0636 (0,3480)	7,11 1,59 (8,70)	(minus) – 3,93	---	4,77
Landfowl feathers residue	0,0192 0,0272	0,48 0,68			0,48 0,68
	4,0000 g	100,00 %		90,83 %	9,17 %
Colour:	New:	Fowl species	Class: class II	Elements and composition %: 60 % Feathers[3)] 40 % Down	

[1]) EN 12934, 3.1 -....up to 5 % Down fibres
Note: Down fibres are calculated from the down content obtained from the analysis in accordance
with EN 12131.

[2]) EN 12934, 3.2 -.... (totally not more than 9 %) of feather fibres, broken and damaged feathers.
Note: Feather fibres, broken and damaged feathers are calculated from the feather content obtained from the analysis in accordance with EN 12131.

3) The contents of other elements shall be part of the declared feather percentage.

Declaration class III:

Elements in accordance with EN 12131	Results obtained from the analysis in accordance with EN 12131		Calculation of the results obtained from the analysis	Elements-waterfowl %	Other Elements %
	g	%			
Down	1,5920	39,80	(x 0,05) + 1,99[1])	41,79	---
Down fibres	0,1768	4,42	(minus) – 1,99	---	2,43
Feathers	1,4840	37,10	(x 0,09) + 3,34[2])	40,44	---
damaged / broken Feathers Feather fibres (total)	0,5084 0,0760 (0,5844)	12,71 1,90 (14,61)	(minus) – 3,34	---	11,27
Landfowl feathers Residue	0,0616 0,1012	1,54 2,53			1,54 2,53
	4,0000 g	100,00 %		82,23 %	17,77 %
Colour:	New:	Fowl species:	Class: class III	Elements and composition %: 40 % Feathers 40 % Down 20 % Other elements	

[1]) EN 12934, 3.1 -....up to 5 % Down fibres
Note: Down fibres are calculated from the down content obtained from the analysis in accordance with EN 12131.

[2]) EN 12934, 3.2 -.... (totally not more than 9 %) of feather fibres, broken and damaged feathers.
Note: Feather fibres, broken and damaged feathers are calculated from the feather content obtained from the analysis in accordance with EN 12131.

5.5.13.7 DIN EN 12934 – Lower threshold for down cluster

Table 2: Disparities between test results and labelling

Percentages in Labelling (Label)	Test result ranges % (lower) threshold	Down fibres up to 5 5 % [1])	Down in accordance with EN 1885 [2]) (result obtained from the analysis) minimum content %
100	95 up to 100,0	4,52 up to < 4,76	90,48 up to < 95,24
90	85 up to < 95	4,05 up to < 4,52	80,95 up to < 90,48
80	75 up to < 85	3,57 up to < 4,05	71,43 up to < 80,95
70	65 up to < 75	3,10 up to < 3,57	61,90 up to < 71,43
60	55 up to < 65	2,62 up to < 3,10	52,38 up to < 61,90
50	45 up to < 55	2,14 up to < 2,62	42,86 up to < 52,38
40	35 up to < 45	1,67 up to < 2,14	33,33 up to < 42,86
30	25 up to < 35	1,19 up to < 1,67	23,81 up to < 33,33
20	17,5 up to < 25	0,83 up to < 1,19	16,67 up to < 23,81
15	12,5 up to < 17,5	0,60 up to < 0,83	11,90 up to < 16,67
10	7,5 up to < 12,5	0,36 up to < 0,60	7,14 up to < 11,90

[1]) EN 12934, 3.1 - Note:
Down fibres are calculated on the down content obtained from the analysis in accordance with EN 12131.

[2]) EN 1885 - 2.12 – Down 2.14 – nestling down, 2.16 – plumules.

5.5.13.8 Interaction of EN 12131 and EN 12934 (testing and requirement standard)

With regard to the interaction of EN 12131 and EN 12934 there is a wide-spread misunderstanding concerning the calculation of the lower threshold for down cluster. Although EN 12934 is a requirement and not a testing standard it contains several calculations.

EN 12131 (determination of the quantitative composition) is a testing standard which was passed in June, 1998.

EN 12934 (composition labelling) is a requirement standard passed in December, 1999.

All charts and indications in EN 12934 lay down requirements for composition labelling of the filling material and do *not* serve as a basis for calculations.

Calculations are made in accordance with EN 12131, at the same time EN 12934, 3.1 and 3.2 refer to EN 12131. (Down fibres are calculated on the down content *obtained from the analysis* in accordance with *EN 12131* and feather fibres, broken and damaged feathers are calculated on the feather content *obtained from the analysis* in accordance with *EN 12131*).

Sequence of operations resulting from the interaction of the two standards:

1. Sampling in accordance with EN 1883
2. Analysis in accordance with EN 12131

3. Calculation of the content of down fibre (totally not more than 5%) and the percentage of broken and damaged feathers (totally not more than 9%) with reference to the results obtained from the analysis in accordance with EN 12131.
4. Determination of labelling

The result obtained from the analysis in accordance with EN 12131 and recalculated in accordance with EN 12934 is compared with chart 2, EN 12934 in order to establish whether the indications on the label are correct.

It is stated if the down content corresponds to the indications on the label and/or to what test result range (%) the down content of the filling material corresponds which was obtained and calculated from the analyses, and what mandatory labelling results from it.

Hence, based on chart 2, EN 12934 it is not the case that for instance a filling (50% down, 50% feathers) contains 2,25 % of down fibres.

Chart 2, EN 12934 only states admissible tolerances for compelling indications which shall be reported on the label.

The calculation of the content of down fibres (result obtained from the analysis 42,75 x 5 / 100) comes to 2,14 %.

down	
(result obtained from the analysis)	42,75%
down fibres	
(totally not more than 5%)	2,14%
down content (total)	44,89%

Note: The minimum percentage of 45% is not obtained.

The lower threshold for down (declaration 50% down/50% feathers) consists of

down	
(result obtained from the analysis)	42,88%
down fibres	
(totally not more than 5%)	2,14%
(result obtained from the analysis 42,88 x 50 / 100)	
down content (total)	45,00%

Note: The minimum percentage of 45% is obtained.

This would be not correct: With the lower threshold forming the basis for the calculation of the fibre content, the down content obtained from the analysis is fixed 95%. Then, the feather content obtained from the analysis shall also be fixed 91%. For such a calculation, EN 12934, 3.1 would have to state:

“Note: Down fibres are calculated on the down content (= 95%) obtained from the analysis in accordance with EN 12131.”

Thus, the text “the calculation totally not more than 9%” concerning the feather content (EN 12934, 3.2) would also have to be altered:

“Note: Feather fibres, broken and damaged feathers are calculated on the feather content (= 91%) obtained from the analysis in accordance with 12131).”

Hence, the important thing is always the result obtained from the analysis.

Calculation of feathers:

Percentage of feathers obtained from the analysis	46,90%
feather fibres, damaged and broken feathers totally not more than 9% (calculated with the formula 46,90 x 9 / 100)	4,22%
total feather content in accordance with 3.2	51,12%

If the calculation of the feather content obtained from the analysis is based on the aforementioned 91%, the calculation is to be carried out as follows:

Percentage of feathers obtained from the analysis	46,90% (= 91%)
feather fibres, damaged and broken feathers totally not more than 9%	4,64% (= 9%)
total feather content in accordance with 3.2	51,54%

Note: The down and feather content obtained from the analysis are determined composition elements.

The basic unit to express the physical unit mass is kilogram.

The percentages of feather fibres, damaged and broken feathers (totally not more than 9%) respectively down fibres (totally not more than 5%) to be added to the elements “feathers” and “down” are calculated on the respective result obtained from the analysis.

EN 12934 is a “requirement standard” and not a testing standard which serves to establish the element composition.

Down and feathers in accordance with the definitions (3.) contain down fibres respectively feather fibres, broken and damaged feathers which have already been added.

Disparities stated in chart 2. show first of all lower threshold values which have to be adhered to in order to state correct percentages in composition labelling.

5.5.13.9 Comparison composition labelling RAL 092 A2 – DIN EN 12934

Example - 1 -

Filling composition (new feathers and down)	Labelling in accordance with RAL 092A2	DIN EN 12934
95% Goose feathers 5% duck feathers colour: white Provenance:Hungary	White Hungarian pure original Goose feathers	White Hungarian new pure Goose feathers class I 100% feathers
		white Hungarian new pure waterfowl feathers class I, 100% feathers

Example - 2 -

Filling composition (new feathers and down)	Labelling in accordance with RAL 092A2	DIN EN 12934
15% Goose feathers 85% duck feathers colour: half white Provenance:Hungary	East European grey original duck half down	Grey East European new duck feathers and down class I 85% Feathers 15% Down
		new waterfowl feathers and down class I 85% Feathers 15% Down

Example - 3 -

Filling composition (new feathers and down)	Labelling in accordance with RAL 092A2	DIN EN 12934
30% Duck down 70% Goose feathers colour: white Provenance: Hungary	White Hungarian original-Goose three-quarter down	White Hungarian new goose feathers and down class I 70% Feathers 30% Down
		White Hungarian new Waterfowl feathers and down class I 70% Feathers 30% Down

Example - 4 -

Filling composition (new feathers and down)	Labelling in accordance with RAL 092A2	DIN EN 12934
50% duck down 50% Goose feathers colour: white Provenance: Poland	White Polish feathery original goose- and duck down	White Polish new goose feathers and down and new duck feathers and –down class I 50% Down 50% Feathers
		White Polish new waterfowl down and feathers class 50% Down 50% Feathers

Example - 5 -

Filling composition (new feathers and down)	Filling composition (new feathers and down)	DIN EN 12934
60% Goose down 30% Duck down 10% Goose feathers colour: white Provenance: Poland	White Polish Original Goose down	White Polish new goose down and feathers class I 90% Down 10% Feathers
		White Polish new waterfowl down and feathers class I 90% Down 10% Feathers

5.5.13.10 – Fowl species composition labelling
EN 12934 (12 / 99)

shall have identical wording in all languages
This is not the case, however.

German Version	English and French Version
7. Fowl species composition labelling	*7. Fowl species composition labelling*
The declaration of the fowl species may be reported on the label and / or in the covering documents in accordance with the requirements specified in 7.2 and 7.3 only for fillings of classes I ..., II ..., IV ... and V.	The declaration of the fowl species may be reported on the label and / or in the covering documents in accordance with the requirements specified in 7.2 and 7.3 only for fillings of classes I ..., II ..., IV ... and V.
7.1 Waterfowl species	*7.1 Waterfowl species*
If either only one waterfowl species is present in the filling or more species are present, the denomination „waterfowl“ only may be reported on the label.	If either only one waterfowl species is present in the filling or more species are present, the denomination „waterfowl“ only shall be reported on the label (German version: may).
It is possible to add the animal species on the label with reference to table 3.	It is possible to add the animal species on the label with reference to table 3.
	Example: White Hungarian new waterfowl down and feathers class I 60% down, 40% feathers, species of fowl: goose, duck.
German version: Alternative: 1. White Hungarian new waterfowl down and feathers class I, 60% down, 40% feathers. 2. White Hungarian new goose down and feathers class I, 60% down, 40% feathers.	

5.5.13.11 – The European standard in 4 points

Examples for new labelling of fillings by means of 4 new indications on the label:

Euro-Standard:

(Recommendation for denominations to be reported on the label)

colour	Provenance	① New	② fowl species	③ class	④ percentages of down and feathers of the total mass of the filling
White	Hungarian	New	Waterfowl down and –feathers	Class I	60 % Down 40 % Feathers

alternative:

White	Hungarian	New	Goose down and feathers	Class I	60 % Down 40 % Feathers

alternative:

Down and feather class I	60% Down 40% Feathers
New Down and Feathers	60% Down 40% Feathers
Down and Feathers	60% Down 40% Feathers

up to now in accordance with RAL 092 A2: White Hungarian feathery original Goose down

Filling composition: Original (New) – feathers and down

40% Goose down
40 % Goose feathers
20% Duck down

fowl species: 80% Goose
20% Duck

6 Standardisation and the law (valid for Germany)

6.1 Legal nature and validity of industry-wide technical standards

Industry-wide technical standards also important for consumer protection

Industry-wide technical standards stipulate the requirements, *inter alia*, for goods and services, as described in the previous chapters on the "Requirements Standards" (e.g. EN 12934, Labeling Requirement).

This is why they are becoming more and more important for consumer protection, especially with the substantiation of claims by customers (Brinkmann, W. 1984, p. 28 et seq.). For this reason, a brief description will be given here of the legal validity of industry-wide technical standards in general, but not of the harmonised technical standards[10], as harmonised technical standards have no significance for the labor of TC 222.

Harmonised technical standards, such as the aforementioned technical European standards, are subject to the same processing procedure (DIN Normenheft 10, Geschäftsgang Din 820-1 and 820-2, Jörissen, J. p. 21).

[10] A harmonized standard is a technical standard which serves to implement EU- directives. They are based on an order for standardisation given by the EU Commission , a so-called mandate (EG-directive 83/189/EWG) (Chapter 1, item 7.3).

Compliance with technical standards that are not harmonised standards

Technical standards are not directly legally valid

Technical standards are not directly legally valid (Breulmann, Günter, 19993, p. 68 et seq.) They would be, if they were deemed to be

Laws or public statutes

Ordinances (statutory rules and orders)

Legal custom

Technical standards are not laws

Technical standards are not *laws*; as private societies, standardisation organisations can not make generally binding laws. Laws are made by the Federal Parliament and the State Parliaments (Marburger, P., 1979, p. 330).

Technical standards are not ordinances (Legal norms)

Technical standards are not *legal norms* or *ordinances.* This applies even if they are referred to in such ordinances.

Ordinances (legal norms) are issued by an agency which has legislative authority.

Laws empowering standardisation institutions to issue legal norms do not exist.

Technical standards are not legal custom

Therefore, technical standards are not legal norms, as there is no compulsion to apply such standards (Zemlin, H., 1973, p. 105).

Finally, technical standards in general are not considered to be legal custom (Breulmann, G., 1993, p. 71).

This would presuppose that a long-lasting and consistent application exists, which in turn is accepted by the parties affected as being legally binding (Palandt-Heinrichs, Introduction, Note VIe, Breulmann, 1993, p. 71).

In view of the necessity of adapting the standardisation to technical developments, the element of long-lasting and consistent exercise is not met (Marburger, P., p. 337-340).

Technical standards are not directly legally valid; they are recommendations

Therefore, technical standards are not directly legally valid. They are recommendations of the respective standardisation organisation and are not to be classified as written law, neither written Community law nor written national law (Breulmann, p. 69, Marburger, p. 330 et seq., Brinkmann 2, p. 59).

Nevertheless, technicians in Germany frequently assume that technical standards, first of all requirement standards, are legally binding (Marburger, p. 338).

Requirements Standard = Recommendation as to how a problem should be resolved

A requirements standard not only draws attention to how a certain problem can be solved, but at the same time, it is to be understood as a recommendation that the problem should be resolved in the indicated way (Jörissen, p. 1).

Manufacturers have a freedom of choice, but

Thus manufacturers are at liberty to make (label) their products in accordance with a standard or rely on another statutory provision (freedom of choice) (Jörissen, p.3).

Standard has high de facto relevance ("Compliance compulsion")

Even though this freedom of choice exists, compliance with technical standard is of high *de facto* relevance, as a "de facto compliance compulsion" is exercised on enterprises (Jörissen, p. 3).

A product that is not manufactured or labelled in conformity with a standard frequently can not be sold as well as a product which has been manufactured and labelled according to the standard. Standard conformity is frequently equated with product quality, which considerably increases the pressure on manu-

facturers and distributors to comply with existing standards (Jörissen, p. 3 et seq., experience from activities in the *Kontrollgemeinschaft Federn-Siegel*).

Technical standards are recommendations, nevertheless of legal significance for third parties

Even though technical standards are recommendations, according to their legal nature, for resolving a recurring task and of themselves do not develop any statutory legal impact (Breulmann, p. 75), they have legal significance for third parties, *inter alia*, when the government or the issuer of an ordinance refers to such standards (Rossnagel, p. 169, Eichener/Voelzkow (2) p. 271). In these cases they are frequently harmonised standards which go back to mandates and have high legal relevance in connection with the various reference techniques (for more details, please see Marburger, Jörissen, Rossnagel, Echnener/Voelzkow (2)).

In the literature, the legal relevance of harmonised standards is discussed, especially against the background that legislative authority is being exercised by "private governments", which is risky from the point of view of democratic theory (Eichnener/Voelzkow (1) and (2), p. 276 et seq.).

No harmonised standards were prepared by TC 222. Standards or draft standards do not go back on a mandate.

Nevertheless technical standards prepared by TC 222 can also become legally binding.

When do technical standards become legally binding?

Three cases are good examples of how standards can become legally binding in other contexts.

Legal validity of standards

Legal importance of standards

with
- Contracts

- Putting uncertain legal terms into specific terms

- Anticipatory expert opinions

Contract law

Example: EN 12934

Putting uncertain legal terms into specific legal terms

6.2 Legal validity of technical standards which are no harmonised standards

6.2.1 Possibilities under which technical standards can become legally binding

Standards acquire, even under the aspect that they are "merely" recommendations, strong legal significance, be it that they are the subject-matter of contracts or are consulted by courts in order to make uncertain legal terms ("current state of the art", "generally accepted rules") (Marburger, p. 24 et seq., Rossnagel, p. 172) more concrete.

Moreover, courts frequently use standards as "anticipatory expert opinions", whereby they quasi become legally binding (Breuer, p. 85).

6.2.1.1 Private-sector contracts

Technical standards can become legally binding, if they are agreed between the contracting parties as being valid (contract law) (Marburger, 1979, p. 375).

If a requirements standard, such as EN 12934, forms the basis for a contractual agreement by and between the parties, the supplier (in this case: manufacturer) covenants that the goods meet the requirements described in the standard. The customer (in this case: distributor) in turn covenants to pay the agreed purchase price. The standard is thus an integral part of the contract and legally valid.

6.2.1.2 Putting the legal term: "accepted rules of technology/engineering standard" into specific terms

Technical standards can be of great de facto relevance with regard to enforcement, even though they are not legal standards, as they serve to put uncertain legal terms "generally accepted rules of technol-

ogy/engineering standard", "state of the art", "reasonable care" into specific terms (Jörissen, J., 1997, p. 1).

Not infrequently, the courts assume by virtue of the circumstances of a market (wide application of the standard by the market participants) that a standard is an accepted rule of technology in the market (e.g. labelling practice), which is consulted as a measure for evaluating a case.

In cases where market participants have not applied the standard, they must provide counter-evidence that the labelling used contains the same criteria and information as the labelling rule of a European standard which was developed by an international body of experts. It is likely to be difficult and costly to furnish proof to the contrary.

In many cases these are regulations that should be met. These kinds of regulations are inter alia very common in the building authorities law. A construction company ought to obey the DIN regulations concerning light dividing walls. If the regulations are not met and any damages occur subsequently which the claiming builder-owner considers to be caused by non-compliance with the DIN regulations, the construction company can - if necessary – prove that the damages were caused by other reasons. If evidence cannot be provided and the court concedes that the builder-owner is right, the construction company becomes liable for damages.

(Bellebaum, A., Soziologische Grundbegriffe, p. 43).

Determination of an accepted rule of technology

To ascertain that a standard is an "accepted rule of technology", two essential criteria may be derived from the literature:

developed by a committee of experts

It seems very likely that a rule of technology is in

in practice by means of a fixed process

conformity with the generally accepted state-of-the-art as it was developed and published by a balanced committee of experts in practice in correspondence with a fixed process (Breuer, R. p. 80).

Recognition by a group of experts in practice

If the opinion has formed in expert circles that the standard has proved its usefulness in practice and has been tested, one can speak of an “accepted rule of technology” (Reihlen, H. 1989, p. 449).

The described criteria are so-called well-established facts which plead for a standard being accepted as a generally recognised rule of technology, and applied by courts as “prima facie evidence” (Breuer, R. p. 81).

6.2.1.3 Use of standards as anticipatory expert opinions

Use of standards as anticipatory expert opinions

In addition, technical rules are also viewed as being “anticipatory expert opinions” by disclaiming an expert opinion and instead quoting the standard for assessment of the case.

Indications of this process have already been observed. Whether the court will go along with this by obtaining an expert opinion or views the standard as an anticipatory opinion, is at the court’s discretion (Breuer, R., p. 85, Müller-Foell, m., p. 145 et seq.).

6.3 Requirements Standard DIN EN 12934 – *an accepted rule of technology*?

6.3.1 Test of DIN EN 12934 in comparison to RAL 092 A 2

Test of EN 12934 (Labelling standard of the bedfeather industry)

The importance of a technical standard in a legal dispute is always to be judged on a case-by-case basis. What is crucial is whether the standard reflects the market situation, was developed by means of a stipulated and democratic process, and is accepted and practised by experts.

Is DIN EN 12934 an accepted rule of technology?

When the current requirements standard of the bed-feather industry, EN 12934, is examined with regard to the aforementioned criteria, it is able to be confirmed that the criteria of a recognised rule of technology have been met, even if it is still in the process of asserting itself in the market, because:

Criteria for Assessment

Development

it was developed in accordance with established procedure by a recognised standardisation institution and all of the relevant parties were included;

Topicality

It is current (publication in Germany in December 1999 and in the other EU states and EFTA in the latter half of 1999 or early 2000);

It is already being applied in Europe (conversion of the labelling by the relevant industrial and trade circles, such as Denmark, Austria and Germany, documented by the activities and training courses of the Association of the European Bedfeather and Bedding Industries, of the Verband der Deutschen Daunen- und Federnindustrie e.V. and the Kontroll-gemeinschaft Federn-Siegel e.V.).

Use in the Market

As of July 2000, the Kontrollgemeinschaft has included articles of bedding in its monitoring activities, which are based on the new labelling practice of DIN EN 12934.

As of April 2001, solely labels are used that are based on the new labelling practice laid down in DIN EN 12934.

(Memorandum of the Annual General Meeting of the Kontrollgemeinschaft Federn-Siegel e.V. dated May 10th/11th, 2000 and circular letter dated Feb. 2001).

The Situation in Germany

6.3.2 The Situation in Germany

RAL 02 A2 and DIN EN 12934

In Germany, DIN EN 12934 is in the process of replacing the RAL 092 A 2 with regard to the labelling of down and feathers and thus finished articles filled with down and feathers.

Berlin Court of Appeal 1994 Judgement re RAL 092 A2

In the practice of the bedfeather industry, the Berlin Court of Appeal (Kammergericht) (5th Civil Court dated 20 December 1996, Case No. 5U 3704/94) has recognised the importance of a technical rule (here: RAL provision) for the German market.

At that time, the attempt was made to ascertain whether a deviation from the declared down content and the actual content meant that to the fact that consumers were being defrauded and that the supply of such falsely declared products had to be prohibited.

The court determined that the aforementioned labelling regulation reflected common practice and recognised it as an accepted rule of technology

Thus the court attributed high importance to a technical rule developed by private rule-makers. The court ascertained the validity of the RAL 092 A2 quality and labelling regulation as a generally accepted rule of technology.

The products concerned were labelled in accordance with this technical rule.

At that time, DIN EN 12934 was already being developed by the European TC 222, but was not completed.

Products labelled in accordance with this requirements standard were not even on the market at that time.

A similar issue involving DIN EN12934 has not been decided by a court.

The Situation today

If a court had to make a decision now after the publication of DIN EN12934, as to whether the DIN EN 12934 (Issue date 1999) or RAL 092 A2 (issue date 1972) represents an accepted rule of technology, then the aforementioned criteria for this individual case would have to be checked in detail. Whether or not the decision would once again be made in favour of RAL appears to be very doubtful.

Surely it would have to be taken into consideration that the standard was developed by a recognised standardisation institution and not by private rule-makers; and this is very strongly reflected in the nature and manner of its development.

RAL Process

The RAL agreement is essentially developed in a written process, which is divided into an investigation and a recognition process.

A first draft of the intended agreement is forwarded to experts with the request for their comments. After evaluation of the statements received, the RAL agreement is drafted and possibly also discussed. The recognition process ends with the signature of the parties involved under the final version. RAL is only valid in the Federal Republic of Germany. (Marburger, Regeln der Technik, p. 230 et seq.).

DIN (CEN) Process

A standard is developed in accordance with the DIN or CEN rules which were presented in the first chapter of this handbook. This process of forming public opinion leading to a standard is much more time-consuming and is subject to the compulsion to comply with basic rules which are regulated in the contract between the standardisation institution and the government.

A rule-maker, such as the RAL, is not subject to this compulsion to this degree. Surely as many parties as possible will have to be encouraged to participate in the preparation of an RAL agreement. Ultimately, the importance of a regulation in the market depends to a crucial degree on how many market participants have collaborated on the regulation.

Group of parties reaching a consensus when developing an RAL agreement is much smaller than under DIN (CEN) rules

The group of parties reaching a consensus included in the preparation of a regulation, is never going to be as big for an RAL regulation as for a DIN EN Standard, as RAL is not active throughout Europe.

But the same rule also applies to a standard, namely that the success of a standard depends on how quickly and extensively the regulation is accepted by the parties involved.

Conversion on the German market is going full steam ahead

Rapid conversion measures are observed in the German market, so that it must be assumed that DIN EN 12934 will soon replace RAL 092 A2 as the decisive rule of technology in the market.

The aforementioned measures taken by the members of the Verband der Deutschen Daunen- und Federnindustrie e.V. and the extensive conversions in the Kontrollgemeinschaft Federn-Siegel e.V. bear witness to this conversion.

As about 60 % of the articles of bedding offered in the German market are furnished with the Federn-Siegel (seal) and the association has already completed the conversion from RAL 092 A2 to DIN EN 12934, the aforementioned “replacement process” is fully under way (Hedderich on behalf of the Kontrollgemeinschaft Federn-Siegel e.V., publication in the trade journal “Haustex” March 2001).

Coexistence of RAL 092 A2 and DIN EN 12934

It is foreseeable that articles of bedding labelled according to RAL 092 A2 will continue to be offered on the German market. The coexistence of both labelling regulations is surely not fortuitous, but possible, as long as the previous RAL agreement is valid (Hedderich, Haustex, March 2001, p. 16 et seq.).

Slow expiration of RAL 092 A2 is expected

Both regulations may be used by market participants until, for example, RAL 092 A2 is withdrawn by the RAL. Only the Committee for Quality Assurance and Labelling, the RAL, can withdraw the aforementioned regulation, if business no longer considers its application to be useful. As at the moment there is no indication of whether and when the RAL will withdraw this labelling regulation, a slow expiration of the aforementioned RAL agreement is expected.

Standards are not laws but have high *de facto* relevance

6.4 Summary – Regulation Structure in Germany and other European countries

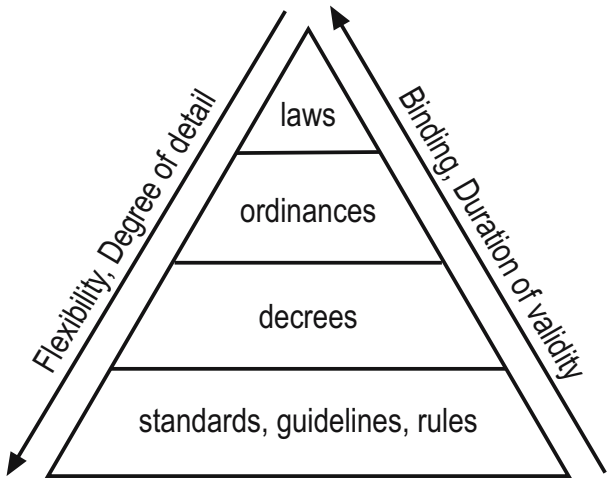
The application of standards is voluntary, private rule-making organisations may not make generally binding laws. The monopoly to make laws is held by the government in accordance with the constitution.

Technical rules can, however, become legally binding, if their validity is agreed by the parties to a contract. The same applies, if the technical specifications can be described as being an accepted rule of technology or state of the art.

Technical standards do not have any legal, but they do have a high *de facto* relevance.

The regulation structure valid in Germany can be seen in the following illustration (Hartlieb, Die Bedeutung des DIN Deutsches Institut für Normung e.V. im Wirtschaftssystem der Bundesrepublik Deutschland, 1984, p. 73).

Chart: Regulation structure in Germany



In other European countries organisation of technical standards was partially solved in a different way.

In Great Britain the responsibilities of British Standards (BSI) are laid down in a “Royal Charta”, and the statutes of the standardisation body were approved by the “Crown council”.

In France, technical standards prepared by the private organisation “Association Francaise de Normalisation” (AFNOR) are supervised and approved by a national commissioner. Standards this way revalued by the state are - in contrast to the German solution - similar to legal standards and are to be rated higher in respect to their grade of liability (Voelzkow, H., 1996, p.228).

Annex 1

Derivation of the term “technical standard” from the general term “standard”

The term “standard” is of Latin origin and signifies “guideline”, “rule” (Muschalla, R., (2) 1984, p. 42). The term “standardisation” comprises various aspects such as ethics, social behaviour, rules of technology, policy and law.

What corresponds to a standard is “normal”, what contradicts a standard is “abnormal” or “not normal” (Muschalla, R., (2) 1984, p. 42).

Ethic standards

In the field of philosophy, ethic standards occupy a large part of the discussion. Society creates standards which frequently human beings have to go into with.
Humans constantly live in a field of tension between what they *are* and what they *should be* in accordance with the general law of society, i. e. a standard.

It is very difficult to find a definition of the term “ethic standard” which is generally valid. The definition comprises human actions, habits, moral principles as well as assessment (bad/good) and, whether it is for the benefit of the general public (Muschalla, R., (2) 1984, p. 42).

Considering that something could possibly be developed respectively assessed in accordance with a standard, human action in accordance with a standard orientates by what is good or general. The result is assessed in correspondence to the dimensions good / bad and whether general of partial interests have been satisfied. Philosophy describes a standard as something that “absolutely ought to be met” which serves as an orientation for humans (and is desirable), but in practice is hardly ever reached (fulfilled).

In contrast to the explanation of a standard from a philosophical point of view (as something that absolutely ought to be met), social standards (customs) can be practised by anyone (Böhme, G., 1984, p. 14).

Social standards

Social standards are closely connected with ethic standards, since both are dealing with human existence and behaviour.

In a society, the fulfilment of social standards, however, is more or less forced and is subject to sanctions (Böhme, G., 1984, p. 14).

Whereas departure from ethic standards (“being bad”) will not be punished immediately (at most punishment in eternity), departure from social standards is frequently followed by immediate sanctions (Böhme, G., 1984, p. 15 et seq.).

Technical rules

The term “technical rule” is a generic term which integrates all rules, such as standards, RAL-regulations, VDE [11]directives (inquiry carried out by the Technical University Dresden, explanations on the questionnaire).

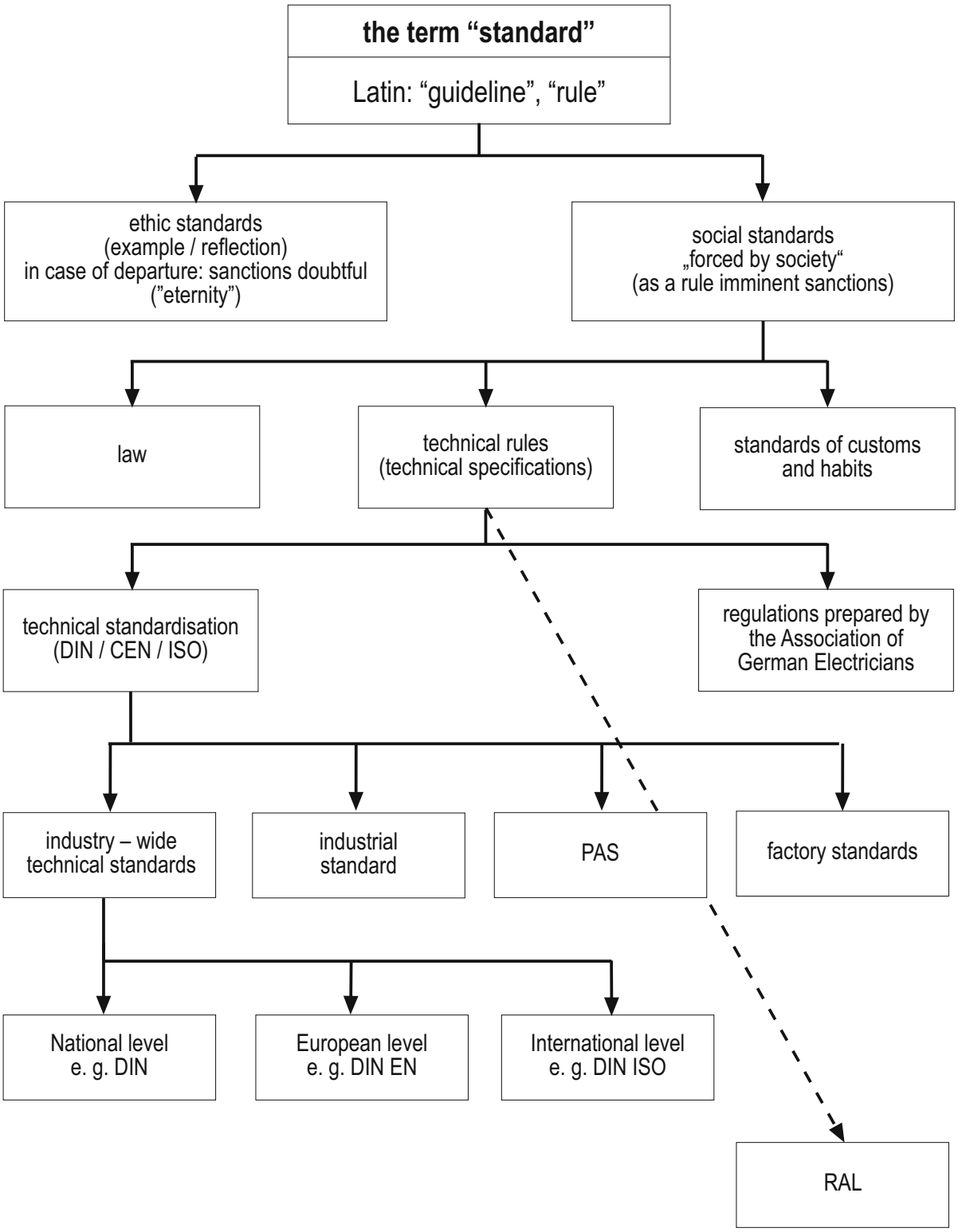
Although the application of technical rules is optional, they have social binding force to a high degree (Böhme, G., Berlin 1984, p. 16).

Technical standardisation is adjusted to collective use and signifies systematic unification of material and immaterial objects for the use of the public carried out by interested parties (DIN 820-1).

In the following a diagram on the derivation of the term “technical standard” from the general term “standard”.

[11] VDE: Association of German Electricians

Derivation of the term “technical standard”



Summary of definitions of terms given in annex 1

1. The term “standard” is of Latin origin and is used in the wider sense of guideline, behavioral norm, regulation.

2. Social standards comprise standards of customs and habits as well as technical rules and laws.

3. Technical rules
“Technical rule” is a generic term which integrates all other rules (Standards, directives, RAL-regulations). (Inquiry on the “use of standardisation for the economy as a whole” carried out at the Technical University Dresden)

4. Specification
is a document that lays down intra-plant technical requirements and stipulates characteristics of a product such as quality levels, possibilities for use, security or dimensions; including assessment of terminology, logos, testing and testing procedures, packaging, labelling and inscriptions, which are to be met by a product, a procedure or service (standards, directives, RAL-regulations). (Inquiry on the “use of standardisation for the economy as a whole” carried out at the technical university Dresden)

5. Technical standardisation
Technical standardisation signifies systematic unification of material and immaterial objects for the use of the public carried out by interested parties. It shall not lead to advantages for individuals. (DIN 820-1).

6. Industry-wide standards
are documents prepared with consensus and accepted by a recognized institution. For general and repeated application, they lay down rules, guidelines or characteristics for activities or the results of activities and at the same time aim at an optimal degree of order in a given connection (EN 45020: 1998, item 3.2, in: DIN Normenheft 10, 2001, p. 269).

7. Industrial standards
are documents prepared and applied by one or various companies.

8. Factory standards
are documents prepared by a company for internal use. A factory standard is developed in accordance with requirements specific to the company and are not accessible to the public.

9. PAS
A PAS is a public available specification which has been developed by a restricted group of parties reaching a consensus.

10. Consensus
General consent characterized by the fact that adhering objections to essential contents lodged by any important group of the affected interested parties is missing. In the course of a standardisation procedure it is attempted to consider the aspects of all parties involved, and to clear up all contrary arguments.

The definitions mentioned in 1. to 5. and 7. to 10. were taken from:
„Erläuterungen zum Fragebogen für das DIN Projekt "Gesamtwirtschaftlicher Nutzen der Normung – Eine Befragung von mittelständischen und großen Unternehmen in Deutschland, Österreich und der Schweiz", herausgegeben von der Technischen Universität Dresden, 14.9.1998 (explanations on the questionnaire of the DIN project:
„Use of standardisation for the economy as a whole" – interviews of small to medium-sized businesses and industrial heavy-weight in Germany, Austria and Switzerland, published by the Technical University in Dresden).

Annex 2

CEN/TC 222 Feather and down
Project list (Status 2001-11-29)

WI	WG	EN	working title	next step	remarks
1	*1*	*EN 1161*	*Determination of moisture content*	-	*standard 96-10*
2	*1*	*EN 1162*	*Det. of the oxygen index number*	-	*standard 96-10*
3	*1*	*EN 1163*	*Determination of the oil and fat content*	-	*standard 96-10*
4	*1*	*EN 1164*	*Det. of the turbidity of an aqueous extract*	-	*standard 98-10*
5	*1*	*EN 1885*	*Terms and definitions for filling*	-	*standard 98-06*
6	*1*	*EN 1884*	*Determination of microbiological state*	-	*standard 98-11*
8	*1*	*EN 1165*	*Determination of water-soluble chlorides*	-	*standard 96-10*
10	*1*	*EN 1883*	*Sampling in view of tests*	-	*standard 98-11*
11	*1*	*EN 1882*	*Det. of the comm. mass*	-	*standard 98-11*
12	*1*	*EN 12130*	*Determination of the filling power*	-	*standard 98-06*
13	*1*	*ENV 12936*	*Deformation after dynamic fatigue stress*	-	*prestandard 99-04*
14	*1*	*EN 12131*	*Quantitative compos. of feather material*	-	*standard 98-06*
15	*1*	*EN 12934*	*Composition labelling*	-	*standard 99-12*
16	*2*	*EN 1167*	*Measuring the sizes of quilts*	-	*standard 96-08*
17	*2*	*EN 12132-1*	*Test. fabr. down proof - Pt 1: Rubbing test*	-	*standard 98-10*
18	2	(EN 13186)	Specif. for f. and d. filled bedding articles	2nd enquiry	prEN 13186
20	*3*	*EN 13536*	*Manufactured articles filled with feather and down - Requirements for clothing - Light use*	-	*standard 02-01*
22	3	(EN 13854)	Manufactured articles - Requirements for upholstered parts and cushions	final draft	prEN 13854
23	*1*	*EN 12935*	*Hygiene and cleanliness requirements*	-	*standard 01-12*
24	*2*	*EN 12132-2*	*Test. fabr. down proof - Pt 2: Impact test*	-	*standard 98-10*
25	*3*	*EN 13542*	*Compressibility of clothing filled with feather and down*	-	*standard 02-01*
27	*3*	*EN 13543*	*Water absorption of fillings*	-	*standard 02-01*
28	*3*	*EN 13088*	*Total mass and determination of the mass of the filling*	-	*standard 01-06*
33	3	(EN 13855-1)	Manufactured articles filled with f/d – Measurement of thickness and compress. of cushions – Part 1: Test method by rotation	final draft	prEN 13855-1
34	3	(EN 13855-2)	Manufactured articles filled with f/d – Measurement of thickness and compress. of cushions – Part 2: Test method by oscillation	final draft	prEN 13855-2
35	1	prEN 1885-A1	Feather and down – Terms and definitions; Amendment 1	draft	correction in EN 1885
WI	WG	EN	working title	next step	remarks
36	2	prEN 12132 -2 A1	Feather and down – Method for testing the down profness of woven fabrics – Part 2: Impact test	draft	correction in EN 12132-2

(EN...) = European Standard in preparation
prEN = Draft European Standard

Annex 3
CEN members

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