

Footwear manufacturing wastes — Waste classification and management

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ICS 13.030.01; 61.060

National foreword

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Footwear manufacturing wastes - Waste classification and management

Déchets de fabrication de chaussures - Classification et gestion des déchets

Abfälle bei der Schuhproduktion - Abfallklassifizierung und -management

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Foreword

This document (EN 12940:2004) has been prepared by Technical Committee CEN/TC 309 "Footwear", the secretariat of which is held by AENOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

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Introduction

Waste disposal is increasingly regulated within the European Union. At the same time, waste management costs are increasing. With regards to waste management, the footwear industry needs:

- guidelines in order to better anticipate future regulations and deal with them effectively,
- a tool in order to estimate the effectiveness of the waste management.

This European Standard incorporates such a tool, designed specifically for the footwear industry.

In order to improve the waste management, the footwear manufacturer should perform the following tasks:

- reduce the quantity of waste,
- reuse the waste,
- recycle the waste,
- incinerate and recover energy from the waste,
- treat the waste.

This document could be used by a company that wishes to implement the EN ISO 14001:1996 management system standard.

1 Scope

This document specifies the process steps which are involved in the generation of the waste from footwear manufacture and the usual waste management practices. It also establishes a European list of the usual wastes generated during the footwear manufacturing process.

It can be applied to one specific product, a specific group of products, one specific production technology within the factory or to the whole production of a company.

NOTE The nature of such wastes produced will depend on manufacturing processes, the type of shoe and the materials used.

The tool used to evaluate the effectiveness of the waste management is:

- established directly from the production process or waste generated,
- calculated for a specific product, a specific group of products or a specific production technology which shall be defined or the whole production of the company.

2 Terms and definitions

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

NOTE Attention is drawn to the fact that the terms *waste* and *waste management* are defined in EU Directive 75/442/EEC modified by the EU Directive 91/156/EEC. The term *packaging waste* is defined in EU Directive 94/62/EEC. The term *landfill* is defined in EU Directive 99/31/EC (See annex A).

2.1

process waste

waste directly linked with the footwear manufacturing process

2.2

maintenance waste

waste generated in the factories from maintenance processes

2.3

waste management practice

technology, specific treatment or way of management applied to the waste (for example reusing, recycling, incineration, etc.)

NOTE These practices are listed in Table 3.

2.4

test period

consecutive period of production about which all the required data are collected

2.5

waste quantity

for one type of waste, quantity of waste generated during a given test period when manufacturing a specified final product or group of final products

2.6

controlled landfill

landfill which emissions to the environment are controlled

2.7

special destruction treatment

destruction treatment which is not incineration, recycling nor landfilling

3 Requirements

3.1 Process steps

The footwear manufacturing process steps to take into account to quantify the wastes are given in Table 1.

Table 1 — Footwear manufacturing steps to be taken into account

Parts of the process	Steps to take into account
Storage	storage of raw materials
Design and development	cutting of materials unused samples
Upper manufacture	cutting of upper material cutting of lining material skiving cementing / stitching
Manufacture of other components	cutting of insole material cutting of insock material cutting of sole material sole / heel manufacture or preparation adhesive priming of soles and heels
Assembly	all steps of assembly
Finishing	all steps of finishing
Storage of finished product	warehouse
Maintenance of production equipment	tasks generating wastes

3.2 Waste classification list

The wastes to be taken into account shall be, at least, those specified in Table 2.

Table 2 — Waste classification list

Waste codes	List of possible wastes
	Process wastes
	Upper material cutting waste
	Insole material cutting waste
	Sole material cutting waste
	Injection moulding wastes
	Other
	Dust or sludge (roughing)
	Trimmings
	Other process wastes
080102	Rest of inks, varnishes ... (non halogenated solvent based)
080103	Rest of inks, varnishes ... (water based)
080402	Rest of adhesives (non halogenated solvent based)
080403	Rest of adhesives (water based)
140103	Used solvents (alone or mixed)
200301	Sub-standard shoes
	Packaging wastes
150101	Cardboard packaging: shoe boxes, packing cases, sample boxes, centre tubes from textile rolls
150102	Plastic cones and bobbins
"	Plastic bags and films
"	Jars, tins & drums (plastic) cleaned
"	Jars, tins & drums (plastic) containing < 3% product residue
"	Jars, tins & drums (plastic) containing > 3% product residue
150103	Wooden palettes
150104	Jars, tins & drums (metal) cleaned
"	Jars, tins & drums (metal) containing < 3% product residue
"	Jars, tins & drums (metal) containing > 3% product residue
"	Other metallic packaging waste (aluminium center tubes for textile rolls ...)
	Other wastes (maintenance, etc.)
130100	Hydraulic oil
130200	Motor oil
150102	Damaged or obsolete lasts (plastic)
150201	Used air filters
160205	Out of use equipment
200101	Paper: office, computer
200106	Damaged or obsolete knives, damaged or obsolete lasts (aluminium)
200108	Canteen waste
200301	Wastes similar to domestic waste (drinking cans, workshop sweepings ...)
NOTE In the EU legislative documents, no waste classification is specifically created for the footwear industry: Some wastes from the footwear industry are not listed in the European Waste Catalogue ¹ . CEN/TC 309 will reconsider the coding in this table when the European Waste Catalogue includes wastes regarding specifically the footwear industry.	

1 Decision 2000/532/EC of the Commission of the European Communities.

3.3 Waste management practices

The practices listed in Table 3 are usual waste management practices to the footwear industry.

Table 3 — Usual waste management practices

Waste management practices	Code
Reuse as it is	A
Recycle within or outside the company (specify)	B
Incinerate with energy recovery	C
Special destruction treatment ^a (specify)	D
Controlled landfill	E
Incinerate without energy recovery	F
Others ^b (specify)	G
^a For example: chemical destruction, biological destruction	
^b For example: sell as raw material	

4 Procedure

The steps shall be the following:

- Waste quantification: calculate the quantity of the wastes generated during the test period (following the list presented in Table 2). For each waste, calculate the ratio quantity/number of pairs produced during the test period in kg/1000 pairs.
- Determine the average mass of the pair of shoe which is representative of the specified final product, group of final products or the whole production being analysed during the test period.
- Use of waste management practices: for each waste, calculate the part treated according to each waste management practices given in Table 3. Fill the table like Table 4.
- Provide the results: if practices coded «B», «D» or «G» are used, specify in technical terms which practice is followed.

5 Calculation methods

5.1 Waste quantity

The wastes included are those generated when producing a defined part of the production of a factory. For example, it can be one type of shoe, one production technology or it could be the whole production.

All waste quantities, even liquid wastes, are converted into kilograms. Then the ratio «kg of waste/1000 pairs» shall be calculated.

The test period shall be maximum 12 months.

5.2 Use of waste management practices

During the test period, it is possible that parts of each waste will be managed according to different practices.

For each waste, calculate the part treated according to each practice listed in Table 3. If there is no documented information on how the waste was treated (except for Reuse), the chosen practice shall be «others».

6 Expression of results

The results shall be provided as indicated in Table 4.

Table 4 — Expression of results

List of solid or liquid waste		Ratio (kg/1 000 pairs) per type of waste management practices (Average weight of the representative pair: ...)							Total
		A	B	C	D	E	F	G	
Waste code	Waste name	Reuse as it is	Recycle within or outside the company (specify)	Incinerate with energy recovery	Special destruction treatment (specify)	Controlled landfill	Incinerate without energy recovery	Others (specify)	
xxx	waste 1								
yyy	waste 2								
	waste 3								
	waste 4								
	...								
	total								

7 Test report

The test report shall include the following information:

- the test period,
- a detailed description to which the results apply (type of footwear, group of footwear, type of technology or the whole company),
- the average weight of the representative pair of shoe to which the results apply and how it has been determined,
- the detailed description of the process steps taken into account to estimate the quantities of waste according to Table 1,
- the method used for the quantification of each waste,
- the results as expressed in Table 4,
- any deviation from this document.

Annex A (informative)

Definitions applicable to this European Standard given by the EU legislation

NOTE It is responsibility of the user of this European Standard to check the latest developments of EU legislation.

A.1 waste

substances or objects in which the holder discards or intends or is required to discard

NOTE Source: Directive 75/442/EEC modified by the Directive 91/156 EEC.

A.2 packaging waste

packagings or packaging materials covered by the definition of waste

NOTE Source: Directive 94/62 EEC.

A.3 waste management

collection, transport, recovery and disposal of waste, including the supervision of such operations and after-care of disposal sites

NOTE Source: Directive 75/442/EEC modified by the Directive 91/156 EEC.

A.4 landfill

waste disposal site for the deposit of the waste onto or into land (i.e. underground), including:

- internal waste disposal sites (i.e. landfill where a producer of waste is carrying out its own waste disposal at the place of production), and
- a permanent site (i.e. more than one year) which is used for temporary storage of waste

but excluding:

- facilities where waste is unloaded in order to permit its preparation for further transport for recovery, treatment or disposal elsewhere, and
- storage of waste prior to recovery or treatment for a period less than three years as a general rule, or
- storage of waste prior to disposal for a period less than one year

NOTE Source: Directive 99/31/EC.

Bibliography

- [1] Council Directive 75/442/EEC of 15 July 1975 on waste, Official Journal L 194, 25/07/1975 P. 0039-0041
- [2] Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste, Official Journal L 078, 26/03/1991 P. 0032-0037
- [3] European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste, Official Journal L 365, 31/12/1994 P. 0010-0023
- [4] Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste, Official Journal L 182, 16/07/1999 P. 0001-0019
- [5] 2000/532/EC : Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, Official Journal L 226, 06/09/2000 P. 0003-0024
- [6] EN ISO 14001:1996 *Environmental management systems - Specification with guidance for use (ISO 14001:1996)*
- [7] Council Directive 91/689/EEC of 12 December 1991 on hazardous waste, Official Journal L 377, 31/12/1991 P. 0020-0027
- [8] Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste, Official Journal L 332, 28/12/2000 P. 0091-0111
- [9] Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics, Official Journal L 332, 09/12/2002 P. 0001-0036

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