SLOVENSKI STANDARD
SIST EN 788:1998

01-oktober-1998

Vreče za transport živil - Cevaste vreče iz večslojnih folij

Sacks for the transport of food aid - Tubular sacks made of composite film

Säcke für den Transport von Lebensmitteln für die Nahrungsmittelhilfe - Schlauchbeutel-Packung aus Verbundfolie

Sacs pour le transport de l'aide alimentaire - Sacs tubulaires faits d'un film composite

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ICS:

55.080	Vreče. Vrečke	Sacks. Bags
67.250	Materiali in predmeti v stiku z živili	Materials and articles in contact with foodstuffs

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English version

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Contents

Foreword

This European Standard was drawn up by CEN Technical Committee CEN/TC 120 "Sacks for the transport of food aid", the secretariat of which is held by NNI.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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of an identical text or by endorsement, at the latest by November 1994, and conflicting national standards shall be withdrawn at the latest by November 1994.

In accordance with the CEN/CENELEC Internal Regulations, following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies the general characteristics, requirements and methods of test for tubular sacks made of composite film, for example PET/Alu/PE.

This standard applies to tubular sacks made of composite film, for example PET/Alu/PE, for the packaging of foodstuffs with a net filling weight up to 2000 g and a storage life of at least 1 year in tropical climates of 38 °C and 90 % relative humidity.

The tubular sacks may be used as vacuum or inert gas packages.

The packaging surrounding filled tubular sacks is not covered by this standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 10204:1991	Metallic products - Types of inspection documents
EN 22233:1992	Packaging - Complete filled transport packages - Conditioning for testing (ISO 2233:1986)
EN 26590-2:1992	Packaging - Sacks - Vocabulary and types - Part 2: Sacks made from thermoplastic flexible film (ISO 6590-2:1986)
EN 27023:1992	Packaging - Sacks - Method of sampling empty sacks for testing (ISO 7023:1983)
ISO 186:1985	Paper and board - Sampling to determine average quality
ISO 1184:1983	Plastics - Determination of tensile properties of films
ASTM D 3985:81	Standard test method for oxygen gas transmission rate through plastic film and sheeting using a coulometric sensor

3 Definitions

For the purposes of this European standard, the following definitions apply:

NOTE: Other terms used in the manufacture of tubular sacks are defined in EN 26590-2.

3.1 Composite film

A composite structure manufactured by adhesive bonding or extrusion lamination of at least two sheets of film, for example polyester film, aluminium foil or polyethylene film.

3.2 Tubular sack

A container made from a web formed by heat-sealing a longitudinal and bottom seam and closed after filling with a heat-sealed top seam.

3.3 Vacuum packed tubular sack

A tubular sack from which the air is evacuated in order to protect the filling material and which is subsequently sealed hermetically.

3.4 Inert gas filled tubular sack

A tubular sack in which the air is replaced by inert gas, e.g. nitrogen plus carbon dioxide.

3.5 Heat-sealed seams

Longitudinal, bottom and top seams manufactured by heat-sealing the inner polyethylene ply.

4 General characteristics

4.1 Construction

4.1.1 The tubular sacks shall be manufactured from a flat web of composite film wrapped around a roll, for example PET/Alu/PE, formed as a flat sack with a heat-sealed longitudinal, bottom and top seam.

4.1.2 Tubular sacks shall be made of only one ply.

4.1.3 The aluminium foil inserted preferably as a protective layer shall be gas tight.

4.2 Dimensions

4.2.1 The dimensions of the tubular sacks shall be aligned with the dimensions of the surrounding packaging.

4.2.2 The dimensions and dimensional tolerances of the tubular sacks should be agreed upon by the purchaser and the supplier.

4.2.3 The dimensions and dimensional tolerances of the tubular sacks shall be recorded in the ordering documents.

4.2.4 The dimensions and the dimensional tolerances of the composite film roll lengths and roll widths shall depend on the specifications of the tubular sack machines and the size of the tubular sacks and be agreed upon by the supplier and the composite film manufacturer.

4.2.5 Where printed composite film is to be processed, the lay-out and the position of the printing shall be agreed upon by the supplier and the composite film manufacturer.

4.2.6 Dimensions and dimensional tolerances of the printing and lay-out shall be recorded in the ordering documents.

4.2.7 The coefficient of sliding friction of the film shall comply with the specifications of the tubular sack machine and be agreed upon by the supplier and the composite film manufacturer and recorded in the ordering documents.

4.3 Food compatibility

Sacks which come in contact with foodstuffs shall meet the legal requirements of the CEN member states which are applicable to them.

5 Test methods and requirements

5.1 Sampling

5.1.1 The composite film shall be sampled in accordance with ISO 186:1985, where a roll of composite film shall be regarded as a packaging unit as shown in table 1 of ISO 186:1985.

5.1.2 Tubular sacks shall be sampled in accordance with EN 27023. At least 30 units shall be sampled.

5.1.3 Samples shall be taken on the day that the empty tubular sacks are ready for dispatch at the supplier's.

5.1.4 If, as a result of an accident during sampling or testing, re-sampling is necessary, a new sample shall be taken by the same procedure. Selection may then, however, be made from the same units as before unless agreed otherwise.

5.2 Conditioning

5.2.1 Before testing, all samples shall be conditioned in accordance with EN 22233:1992 condition G (temperature + 23 °C ± 2 °C, relative humidity 50 % ± 5 %).

5.2.2 The minimum period for conditioning shall be not less than 8 h.

5.2.3 The various tests described below shall be carried out in the same atmospheric conditions as used for conditioning.
If this is not possible, the tests shall commence within 10 min of conditioning.

5.3 Test date

All tests shall be carried out within 4 weeks of the date that the tubular sacks are ready for dispatch at the supplier's.

5.4 Tests

5.4.1 Determination of the tensile stress at break and elongation at break of the composite film

The tensile stress and elongation at break in a longitudinal and transverse direction shall be determined in accordance with ISO 1184 using 15 mm wide test strips, with a gauge length of 100 mm and a testing speed of 100 mm/min, until total rupture of the composite film.

5.4.2 Adhesion of the composite film

Adhesion in a longitudinal and transverse direction shall be determined between the outer and middle ply (e.g. PET/Alu) and between the inner and middle ply (e.g. Alu/PE) in accordance with ISO 1184 on 15 mm wide and 200 mm long test strips and a testing speed of 100 mm/min, the clamping of the test strip being in order for the layers to be stressed to peel. From both longitudinal and transverse direction 5 test strips shall be taken.