BRITISH STANDARD

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Light conveyor belts — Principal characteristics and applications

The European Standard EN 873 : 1996 has the status of a British Standard

ICS 53.040.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee PRI/67, Conveyor belts, upon which the following bodies were represented:

Association of British Mining Equipment Companies
British Apparel and Textile Confederation
British Iron and Steel Producers' Association
British Rubber Manufacturers' Association Ltd
Engineering Equipment and Materials Users' Association
Institute of Materials
Mechanical Handling Engineers' Association
Tun Abdul Razak Research Centre

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National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 4, an inside back cover and a back cover.

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EN 873

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Descriptors: Conveyor belts, description, composition, dimension, characteristics, specifications

English version

Light conveyor belts — Principal characteristics and applications

Courroies transporteuses légères — Caractéristiques et applications principales

Leichte Fördergurte — Grundeigenschaften und Anwendungen

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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 188, Conveyor belts, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by June 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

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Contents

1 Scope

This European standard describes the principal characteristics and applications of light conveyor belts. This description is necessary either for limiting the validity of certain standards to light conveyor belts or for excluding light conveyor belts from the validity of certain standards.

2 Description

2.1 Applications

Light conveyor belts are predominantly used for the indoor transport of unit loads (for example: parcels, boxes, cans, containers, luggage, industrial goods of all kinds and foodstuffs).

In many cases, light conveyor belts are incorporated into a machine as an integral machine element. They are then called machine belts (also known as machine tapes). In that function, they perform either just as a conveying element or as a conveying element which additionally participates in a manufacturing action or in a manufacturing process. In such applications, machine belts sometimes get special names.

Examples for machines using machine belts with a pure conveying function: Paper processing machinery (printing, cutting, etc.), letter sorting/cancelling machines, ticket vending/defacing automats and packaging machines.

Examples for machines using machine belts participating in a manufacturing action or in a manufacturing process: Newspaper folding machines, processing machinery for dough, chocolate and sweets, special processing machines for paper and plastic foil, cigarette manufacturing machines.

Some examples of machine belts with special names are:

– folder-gluer belts, tube-winder belts, printing blankets;

– processing belts in drying, coating, particle board manufacturing and other uses.

Bulk goods conveying with light conveyor belts can be found in the chemical, pharmaceutical, cosmetic, food, agricultural, wood and tobacco industry. However they are almost always in indoor applications or outdoors under cover.

Examples: Granular or powdered materials, corn, rice, fruits, vegetables, wood chips and tobacco.

Outdoor applications of light conveyor belts are seldom encountered but are increasing. An example is agricultural equipment, particularly some harvesting machines.

2.2 Construction

The tensile strength of light conveyor belts is normally provided by mainly synthetic fabric plies (Polyamide, Polyester, etc.) connected with each other either by bonding agents or by means of intermediate layers of different thickness, usually of thermoplastic material.

The covers on both sides are function-related in material, thickness and texture. All combinations are possible, from no coating via thin impregnation to thick coating and from ultra smooth to very rough surface. Coating materials may be thermoplasts (PVC, TPU, etc.), cross-linked synthetics (rubbers, PUR, etc.) and many others, all in very different hardnesses and other varieties of formulation.

Highly specialized constructions are found with machine belts, e.g. very elastic belts, monolithic foils, surfaces with very high or low friction characteristics, etc.

2.3 Dimensions

Light conveyor belts are almost exclusively manufactured in large widths (up to a few meters) and then are cut to any required dimension. The dimensions of light conveyor belts are not standardized. Standardization would not be suitable as the light conveyor belts are predominantly used on not standardized installations.

The overall thickness' vary from a few tenths of a millimetre to about 10 mm.

The widths vary from about 10 mm (machine belts) to a few meters (processing belts).

The lengths vary from about 500 mm to about 100 m.

2.4 Properties

The ultimate tensile strengths vary from less than 100 N/mm of belt width to about 1000 N/mm of belt width.

The maximum admissible working load is about 1/10 of the ultimate tensile strength.

As mentioned in **2.2**, the properties vary within a broad range and are function-related, and in the case of many types, are designed to meet highly specific application demands.

Example 1 : Special light conveyor belts for the electronic industry have highly conductive covers with very small electric surface resistance's and produce no measurable electric field strength when running. These light conveyor belts are highly antistatic.

Example 2 : Normal light conveyor belt covers are mostly insulators which usually generate high electric field strengths. Nevertheless, with some belts no considerable electric field strength is produced when the belt is running because of an electrically conductive layer inside the belt. These belts are antistatic in the sense of light conveyor belt technology.

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