

Specification for

Non-powered roller conveyors

ICS 53.040.10

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee MHE/9, Continuous mechanical handling equipment, upon which the following bodies were represented:

- Association of Consulting Engineers
- Automated Material Handling Systems Association
- British Aggregate Construction Materials Industries
- British Coal Corporation
- British Rubber Manufacturers' Association Ltd.
- Coke Oven Managers' Association
- Cranfield University
- Electrical, Electronic, Telecommunications and Plumbing Union
- Electricity Association
- Health and Safety Executive
- Institution of Mechanical Engineers
- Mechanical Handling Engineers' Association
- Solids Handling and Processing Association Ltd.

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Foreword

This British Standard has been prepared by Technical Committee MHE/9, Continuous mechanical handling equipment, and is a revision of BS 2567:1972 which is withdrawn.

This revision was undertaken as a general updating of the standard to bring into it advances in non-powered roller conveyor design since the last edition. A wider range of roller sizes and roller materials have been incorporated including (acrylonitrile-butadiene-styrene) (ABS). Skate wheels as an alternative to rollers have also been added.

All dimensions are now specified in metric units.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 12, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies the main dimensions and materials for the rollers, skate wheels and supporting frames for straight and curved sections of fixed and portable non-powered roller conveyors for industrial use.

Normative Annex A lists the information that shall be obtained from the purchaser and normative Annex B lists the information that shall be obtained from the manufacturer.

Guidance on the design of a conveyor is given in informative Annex C.

The standard only covers the sections that are used to make a conveyor system. The maximum permissible loading of any section of a conveyor is dependent on the installation arrangements, which are not standardized. The actual performance requirements of sections or conveyor systems do not form part of this standard.

This standard does not cover the safety of roller conveyors.

NOTE A series of European Standards is being prepared to give recommendations on the safety of conveyors. Reference should be made to these standards when a conveyor system is being designed, manufactured or installed.

2 Normative references

This British Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this British Standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

3 Definitions

3.1 For the purposes of this British Standard the following definitions apply.

3.1.1

frame section

a fabricated framework of straight or curved form constructed to mount the spindles for the rollers or skate wheels

NOTE Typical frame members and frames are shown in Figure 1, Figure 2, Figure 3 and Figure 4.

3.1.2

stand

a fabricated steel frame to support the conveyor frame section(s) and to raise the conveyor bed to the required working height above floor level

3.1.3

roller conveyor

a frame section(s), fitted with rollers, which may be mounted on a stand. The unpowered rollers extend to the width of the frame section(s) and are freely rotatable by the passage of loads on the conveyor

3.1.4

skate wheel conveyor

a frame section(s), fitted with skate wheels, which may be mounted on a stand. The unpowered skate wheels mounted on fixed shafts are freely rotatable by the passage of loads on the conveyor

3.1.5

pitch

the pitch, p , is the distance between centres of rollers or skate wheel spindles

3.1.6

spindle

a round or hexagonal bar about which the roller or skate wheel rotates. This is also called an axle

3.1.7

radius of a curved section

the radius measured to the inside face of the inner frame rail

4 Dimensions and loading

4.1 Roller dimension and loads

4.1.1 *Steel rollers*

The nominal roller diameters, tube thicknesses and spindle dimensions for steel rollers shall be in accordance with Table 1 and Table 2.

NOTE The ranges of loadings given in Table 1, Table 2, Table 3 and Table 4 are for guidance in the selection of rollers for a particular duty. The allowable loading for a particular installation depends on the bearings fitted and the roller length as well as the factors in Table 1, Table 2, Table 3 and Table 4.

4.1.2 *Aluminium rollers*

The nominal roller diameters, tube thicknesses and spindle dimensions for aluminium rollers shall be in accordance with Table 3.

