

Specification for

Drive sprocket assemblies for chain conveyors for mining

[ISO title: Mining — Drive sprocket assemblies for chain
conveyors]

UDC 622.647.222:621.85.051.5

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Mining and Quarrying Requisites Standards Committee (MQE/-) to Technical Committee MQE/6, upon which the following bodies were represented:

- Association of British Mining Equipment Companies
- British Chain Manufacturers' Association
- British Valve Manufacturers' Association Ltd.
- Health and Safety Executive
- Institution of Mining Engineers
- National Coal Board

This British Standard, having been prepared under the direction of the Mining and Quarrying Requisites Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 May 1985

© BSI 12-1999

The following BSI references relate to the work on this standard:
Committee reference MQE/6
Draft for comment 82/79440 DC

ISBN 0 580 14435 6

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
1 Scope and field of application	1
2 References	1
3 Definitions	1
4 Drive sprocket assembly	1
5 Sprocket ring and barrel	2
Annex Design formulae	6
Figure 1 — Typical sprocket assembly	3
Figure 2 — Tooth profile	4
Table 1 — Sprocket assemblies and corresponding chain centres	2
Table 2 — Sprocket dimensions	5
Publications referred to	Inside back cover

National foreword

This British Standard has been prepared under the direction of the Mining and Quarrying Requisites Standards Committee and is identical with ISO 5613:1984 “Mining — Drive sprocket assemblies for chain conveyors” published by the International Organization for Standardization (ISO). The United Kingdom has taken part in the preparation of the International Standard through Sub-committee 2 of Technical Committee 82 of the International Organization for Standardization (ISO).

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

Cross-references

International Standard	Corresponding British Standard
ISO 610:1979	BS 2969:1980 <i>Specification for high tensile steel chains (round link) for chain conveyors and coal ploughs</i> (Identical)
ISO 1082:1984	BS 4831:1985 <i>Specification for shackle type connector units for chain conveyors for mining</i> (Identical)
ISO 5612:1984	BS 6591:1985 <i>Specification for scraper bars for chain conveyors for mining</i> (Identical)

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.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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 and field of application

This International Standard specifies the requirements for a range of sprocket assemblies for use with twin outboard chain assemblies for chain conveyors. These assemblies incorporate sprocket rings designed to accept chains complying with ISO 610, shackle type connectors complying with ISO 1082 and scraper bars complying with ISO 5612.

2 References

ISO 610, *High-tensile steel chains (round link) for chain conveyors and coal ploughs*.

ISO 1082, *Mining — Shackle type connector units for chain conveyors*.

ISO 5612, *Mining — Scraper bars for chain conveyors*.

3 Definitions

For the purpose of this International Standard, the following definitions apply:

3.1

drive sprocket assembly

an arrangement which comprises the drive sprocket rings and connecting barrel, shown in Figure 1, or a barrel incorporating integral drive sprocket rings

3.2

drive sprocket ring

a toothed wheel by which the chain of a chain conveyor is driven

3.3

connecting barrel

a cylindrical spacer between two drive sprocket rings

3.4

sprocket pocket

that part of a complete sprocket ring into which either a chain link or shackle type connector sits

3.5

inspector

the representative of the purchaser

4 Drive sprocket assembly

4.1 Design

Drive sprocket assemblies as shown in Figure 1 shall conform to the dimensions and tolerances stated in Table 1 and Table 2 which are based on the design formulae given in the Annex. Unless otherwise specified by the purchaser and having regard to these limitations, it is the manufacturer's responsibility to ensure that the assembly and its components shall be of adequate strength for the duty which they are required to perform, when related to the dimensions and mechanical properties of the appropriate chain (see ISO 610).

4.2 Assembly

When constructing the drive sprocket assembly shown in Figure 1, the profiles of each complete sprocket ring shall be aligned with the other within the permitted tolerances stated in 5.1. Where applicable, care shall be taken to adopt the correct welding procedure for the steels used for the sprocket rings and the barrel.

4.3 Dimensional tests

The dimensions for each sprocket assembly given in Table 2 shall be verified by methods agreed between the purchaser and the manufacturer.

NOTE An associated guidance document on methods of verifying sprocket dimensions is being prepared.

4.4 Workmanship

Where applicable, all welds shall be smoothly finished, and on visual examination, have no harmful fissures, notches or other imperfections.

Magnetic and/or fluorescent crack deflection, gamma radiography or other forms of non-destructive testing shall be specified only by agreement between purchaser and manufacturer. Such methods of testing and the criteria to be applied shall be clearly defined and agreed at the time of the enquiry and order.

4.5 Marking

Each sprocket assembly shall be visibly and permanently marked with

- a) the manufacturer's registered trade name or trade mark;
- b) the size and pitch of chain and the chain centres (see Table 1);
- c) any other marking as agreed between the purchaser and the manufacturer.