

Specification for

Conveyor and elevator belting —

**Part 2: Rubber and plastics belting of
textile construction for use on bucket
elevators**

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Co-operating organizations

The Rubber Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- British Association of Synthetic Rubber Manufacturers
- British Rubber Manufacturers' Association Ltd.*
- Department of Trade and Industry*
- Ministry of Defence
- Malaysian Rubber Producers' Research Association
- Rubber and Plastics Research Association of Great Britain*
- Rubber Growers' Association
- Society of Motor Manufacturers and Traders Ltd.

The Government department and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Association of Solid Woven Belting Manufacturers
- British Association of Balata Belting Manufacturers
- British Man-made Fibres Federation
- British Plastics Federation
- Electricity Supply Industry in England and Wales
- Engineering Equipment Users' Association
- Federation of Associations of Mining Equipment Manufacturers
- Institution of Mechanical Engineers
- Mechanical Handling Engineers' Association
- National Coal Board

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Foreword

This British Standard has been prepared under the authority of the Rubber Industry Standards Committee.

BS 490 was first published in 1933 and subsequently revised in 1943 and 1951. In 1965 a partial revision led to the publication of Part 1 which deals with conveyor belting and the first edition of Part 2 dealing with elevator belting was published in 1968.

The principal changes in the present revision are:

- a) the exclusive use of metric units;
- b) the inclusion of belting manufactured with plastics materials;
- c) the inclusion of belting having a solid woven carcass;
- d) the greater emphasis placed upon a preferred range of widths which have been agreed internationally.

The use of natural and/or synthetic rubbers and the use of natural and/or man-made fibres are permitted in this British Standard.

In the preparation of this standard, consideration has been given to the work of ISO/TC 41 "*Pulleys and belts (including vee-belts)*", of the International Organization for Standardization (ISO) and the following recommendations for conveyor belts have been followed as far as possible.

ISO/R 251, *Widths and lengths of conveyor belting*.

ISO/R 252, *Ply adhesion of conveyor belts*.

ISO/R 282, *Sampling of conveyor belting*.

ISO/R 283, *Full thickness tensile strength and elongation of conveyor belts — Specification and method of test*.

ISO/R 432, *Characteristics of construction of ply type conveyor belts*.

ISO/R 433, *Marking of conveyor belts*.

It is proposed to prepare further Parts of this standard covering belting for other purposes.

For terms used in connection with conveyor and elevator belting, reference should be made to BS 3558 "*Glossary of terms used in the rubber industry*", BS 3618 "*Glossary of mining terms*", and BS 3810 "*Glossary of terms used in materials handling*", Part 2 "*Terms used in connection with conveyors and elevators (excluding pneumatic and hydraulic handling)*".

WARNING. Belting made to this British Standard will not necessarily be electrically insulating at any stage of its life and should not therefore be used as an insulator for any electrical work.

Certification. Attention is drawn to the certification facilities described on the inside back cover of this standard.

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 to iv, pages 1 to 14, 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 minimum requirements in materials and construction for rubber and/or plastics belting of textile construction designed for use on bucket elevators in normal ambient conditions.

Other conditions of use, including special requirements, for example, for hot or oily or corrosive materials, shall be the subject of agreement between the manufacturer and the purchaser.

Recommendations for the minimum grade and thickness of general purpose rubber covers are given in Appendix A. A list of the information which should be supplied by the purchaser of belting is given in Appendix F.

If either non-flammable belting or anti-static belting is required, reference should be made to BS 3289.

2 References

The titles of the British Standards referred to in this standard are listed on page 14.

3 Designation

Belting complying with the requirements of this British Standard shall be designated according to the grade of the cover if present (see clause 8) and the type of belting, defined by the full thickness tensile strength (see clause 15).

4 Construction

The belting shall consist of a carcass with or without rubber or plastics covers. The carcass shall either consist of one or more plies of woven fabric or be of a solid woven fabric and shall be impregnated with a rubber or a plastics mix. The whole shall be either fused or vulcanized together in a uniform manner.

For carcass protection a layer or layers of open-mesh or cord fabric (termed a breaker) may be placed between the cover and the carcass or may be embedded in the cover. Where such a layer is incorporated it shall be considered to be part of the cover thickness and not counted as a fabric ply. Alternatively, a fabric ply may be integrally woven with the carcass on either one or both of the surfaces and shall be considered to be part of the cover thickness.

5 Fabric

The fabric used shall be evenly and firmly woven and be as free from foreign matter and such defects as knots, lumps and irregularities of twist as is normal in the best manufacturing practice.

6 Lengths

6.1 General. The length of belting shall be specified by the purchaser and shall include such lengths as are required by him for testing and such additional lengths as are required for making joints.

6.2 Stock roll. The length of belting in a stock roll shall be its measured length and no length tolerance shall be applicable.

6.3 Open-ended length. Belting which is ordered to a definite open-ended length shall be supplied with a tolerance on length of $+2 - 0\%$.

7 Widths

Unless otherwise agreed the belting shall be in one of the widths specified in Table 1. If required for replacement purposes in existing installations, belting in one of the alternative widths specified in Table 2 may be provided.

The tolerances on width shall be in accordance with the dimensions given in Table 3.

Table 1 — Preferred widths of elevator belting

mm	mm	mm
150	500	1 200
200	650	1 400
300	800	1 600
400	1 000	

Table 2 — Non-preferred widths for use as replacement belting in existing installations

mm	mm	mm
250	900	1 350
600	1 050	1 500
750		

Table 3 — Tolerances on widths

Width	Tolerance	Total variation in any single length of belting
mm		
below 650	± 6.5 mm	6.5 mm
650 and over	$\pm 1\%$ of nominal width	1 % of nominal width