

Flat lifting slings —

Part 2: Specification for flat woven webbing slings made of man-made fibre for general service

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- Associated Offices Technical Committee
- British Railways Board
- Chain Testers' Association of Great Britain
- Chief and Assistant Chief Fire Officers' Association
- Cordage Manufacturers' Institute
- Department of Industry (National Engineering Laboratory)
- Electricity Supply Industry in England and Wales
- Federation of Manufacturers of Construction Equipment and Cranes
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- Freight Transport Association Limited
- Health and Safety Executive
- Man-made Fibres Producers' Committee
- Ministry of Defence
- Port of London Authority
- Tape and Webbing Manufacturers' Association

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Foreword

This revision of BS 3481-2 has been prepared under the direction of the Textile Products and Leather Standards Committee. It supersedes BS 3481-2:1970 which is withdrawn.

The type of sling to which this Part of this British Standard refers comprises man-made fibre webbing of any required length and of 25 mm to 320 mm width that is wrapped with a smooth contact surface around the load so as to offer support across the whole webbing width and to distribute the pressure evenly. For certain loads a stronger, wider sling than is necessary to lift the load may be useful. However, the possibility of uneven loading increases with increase of width and it may be inadvisable to rate a very wide sling as highly as a narrower one. For this reason this standard is only applicable to slings of width up to 320 mm.

The slings are of three types, namely single sling with soft eyes, single sling with metal end fittings and endless sling. They normally lift loads with the sling reeved around the load (choke hitch), or on two parts of the sling (basket hitch). They are tested in straight pull. Disposable flat lifting slings for pre-slung unitized loads are the subject of Part 3 of this standard.

In order to ensure that webbings produced from man-made fibres meet the requirements for flat woven slings, materials are specified (high tenacity polyamide (nylon), polyester or polypropylene continuous multifilament) that have a high wet and dry strength, selective resistance to chemical and microbiological attack and high resistance to abrasion.

The extensible nature of the materials provides a high degree of energy absorption. The increase in length resulting from the application of a load is not entirely lost when the load is removed. Furthermore, some time may elapse before the sling recovers to a fixed length. This characteristic does not affect the usefulness of the sling in most applications, but it makes it necessary to measure the effective length of the sling before the first application of load.

In revising this Part of BS 3481 the format has been radically changed to align it more closely with ISO 4878. The United Kingdom approved the general principles and most of the technical content of this international standard, but found it necessary to deviate from the international text in the instances given below.

Minimum thickness. This British Standard specifies a minimum thickness (see 3.1.4). ISO 4878 contains no such requirement.

Carrying force of slinging. ISO 4878 contains a definition of this concept as the force equivalent to the maximum safe working load. This is a theoretical concept that the United Kingdom considered to be unnecessary in the step-by-step calculation of safe working load.

Safe working load. The process of deriving the safe working load (see 2.29) from the maximum safe working load (see 2.28) is not included in ISO 4878. Only the maximum safe working load is included in the international standard. This also affects the marking and designation requirements given in 5.1 c) and 6.1 d) respectively.

End fittings. In ISO 4878 a minimum requirement only is given for the inside length of the eye in relation to the thickness or diameter of the end fitting. This British Standard specifies both minimum and maximum dimensions. ISO 4878 allows non-metallic end fittings under certain conditions. This British Standard does not permit this.

Basket hitch angles. Only parallel and 90° basket hitches are included in this British Standard. Angles of 45° and 120°, the use of which is deprecated in the United Kingdom, appear in ISO 4878.

In view of these differences a sling that conforms to this Part of BS 3481 will also conform to ISO 4878; a sling that conforms to ISO 4878 may not conform to this Part of BS 3481.

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 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.

