

Specification for

Yachtsmen's safety harnesses and safety lines

UDC 629.125.12-781.2:614.811

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Cooperating organizations

The Personal Safety Equipment Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following:

British Footwear Manufacturers' Federation	Institute of British Foundrymen
British Rubber Manufacturers' Association Ltd;	Institution of Civil Engineers
British Safety Council	Institution of Mechanical Engineers
British Steel Corporation	Institution of Occupational Safety and Health
Cement Makers Federation	Institution of Production Engineers
Chemical Industries Association	International Institution of Safety Management
Council of Ironfoundry Association	Iron and Steel Trades Confederation
Department of Industry (National Engineering Laboratory)*	Medical Research Council
Electricity Supply Industry in England and Wales	Ministry of Agriculture, Fisheries and Food
Engineering Employers Federation	National Coal Board
Engineering Equipment Users' Association	National Metals Trades Federation
Federation of Civil Engineering Contractors	Royal Society for the Prevention of Accidents*
Glass Manufacturers' Federation	Trades Union Congress
Health and Safety Executive	Transport and General Workers Union
Industrial Safety (Protective Equipment) Manufacturers Association*	

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the Technical Committee entrusted with the preparation of this British Standard:

Cordage Manufacturers Institute	Ship and Boat Builders National Federation
Little Ship Club	Tape and Webbing Manufacturers Association
Marine Trades Association	Coopted members
Royal Ocean Racing Club	
Royal Yachting Association	

This British Standard, having been prepared under the direction of the Personal Safety Equipment Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 November 1982

© BSI 07-1999

First published December 1967
First revision September 1975
Second revision November 1982

The following BSI references relate to the work on this standard:
Committee reference PSM/21
Draft for comment 81/35445 DC

ISBN 0 580 13035 5

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Cooperating organizations	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Design	1
4 Materials	1
5 Construction	2
6 Performance	2
7 Instructions	3
8 Marking	3
Appendix A Test for non-magnetic properties	4
Appendix B Dynamic test	4
Appendix C Recommendations for record-keeping, storage, examination and maintenance of safety harnesses and safety lines	5
Appendix D Palm and needle whipping	6
Figure 1 — Typical test dummy	4
Figure 2 — Illustrations of palm and needle whipping	7
Table 1 — Dimensions of the dummy	4
Publications referred to	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Personal Safety Equipment Standards Committee. It is a revision of the 1975 edition which is withdrawn. This present edition updates requirements in accordance with the technical developments that have taken place in the intervening years, and includes, in Appendix C, for the first time, recommendations for record-keeping, storage, examination and maintenance of safety harnesses and safety lines.

The main purpose of a yachtsman's safety harness is to prevent the wearer from falling overboard. If he does so, its secondary purpose is to ensure that he remains attached to the yacht and has the best chance of survival. Minimum design loads have been specified for components of the safety harness and safety line, but it should be noted that the ability of a particular design to arrest the wearer in the event of a fall is dependent on the energy absorption of the complete unit. It should not, therefore, be assumed that a harness and line made from components which meet the load requirements will necessarily also meet the performance requirements of this standard.

The special requirements of children's safety harnesses and safety lines for use in yachts are given in BS 4474, and those for integral lifejackets/safety harnesses in BS 3595.

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 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

This British Standard specifies requirements for yachtsmen's safety harnesses and safety lines. Compliance tests are given in Appendix A and Appendix B.

Appendix C contains recommendations for record-keeping, storage, examination and maintenance.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

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

2.1

primary straps and components

those straps or components that take the majority or full load in the event of a fall

2.2

secondary straps and components

those straps or components that take the minority or no load in the event of a fall and that are intended mainly for locating purposes

3 Design

3.1 Safety harnesses. The safety harness shall consist of an arrangement of webbing straps designed to permit the attachment of a safety line in the front of the harness at the level of the centre of the chest when the safety harness is correctly adjusted (see 3.2).

The safety harness shall be adjustable and shall permit a degree of adjustment around the chest so that it can be worn outside either light clothing or heavy sea clothing. It shall be capable of adjustment down to at least 82 cm chest girth.

NOTE 1 The webbing straps of a safety harness may be incorporated into a garment provided that the garment possesses an overall strength sufficient to comply with clause 6 and is manufactured from materials that will not rot or corrode in service at sea.

Unless the safety harness has an integral or permanently attached safety line, means for attaching a safety line shall be provided. All attachment points on the safety harness shall possess sufficient strength with the appropriate safety line to comply with clause 6. In harness designs which provide for attachment of the safety line at the securing buckle, the correctly adjusted harness shall remain intact on the wearer when the safety line is removed. The two sides of the buckle shall be held together either by a device other than the safety line hook or by a secondary locking movement.

The safety harness shall be such that it shall not be possible for components, other than safety lines, to be removed completely.

Integral lifejacket/safety harnesses manufactured to comply with this standard shall also comply with the requirements of BS 3595.

NOTE 2 An appropriate testing sequence for the combined article is given in Appendix B of BS 3595:1981.

NOTE 3 For normal purposes the harness is tested in its entirety, except for the dynamic test (see Appendix B).

3.2 Safety lines. Safety lines shall be capable of attachment to the safety harness at one end. They shall either be separately attached or permanently sewn or spliced to the harness, or shall form an integral part of the harness.

Safety lines shall be capable of attachment to a suitable anchorage at the non-harness end by means of a hook complying with 3.3.

If the safety line incorporates intermediate hooks to shorten the scope of the line, these hooks shall be of sufficient strength to comply with clause 6 when tested with the line shortened by their connection.

The effective length between bearing points of the safety line inclusive of fittings shall be from 1.0 m to 2.0 m.

If the safety line incorporates a shock absorber, the total length of the safety line inclusive of fittings and shock absorber shall not exceed 2.65 m after the test given in appendix B has been carried out and with the dummy at rest.

3.3 Hooks. Hooks shall be of the self-closing variety. The opening of the hook shall be sufficiently large to accept, and close fully on, a metal cylinder of 12 mm diameter. If fitted with locking devices, they shall be such that they can be undone in a single action using one hand.

4 Materials

4.1 Safety harness. The yarn used for harness materials shall be of bright, high tenacity continuous multi-filament polyamide (nylon) or polyester fibres having a uniform breaking strength. The minimum breaking load of the harness material shall be 1 000 kg (equivalent to a force of 9.81 kN) per 25 mm width when tested in accordance with Appendices B and E of BS 3254:1960.

The primary straps shall be not less than 38 mm in width and the secondary straps shall be not less than 19 mm in width.