

Code of practice for

Socketing of stranded steel wire ropes

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Mechanical Handling Standards Committee (MHE/-) to Technical Committee MHE/2, upon which the following bodies were represented:

- Associated Offices Technical Committee
- Association of Supervisory and Executive Engineers
- British Coal Corporation
- British Ports Association and the National Association of Ports Employers
- British Steel Industry (Wire Section)
- Bureau Veritas
- Chain Testers' Association of Great Britain
- Department of the Environment (Property Services Agency)
- Federation of Manufacturers of Construction Equipment and Cranes
- Federation of Wire Rope Manufacturers of Great Britain
- Health and Safety Executive
- Institution of Mechanical Engineers
- Institution of Mining Engineers
- Institution of Mining and Metallurgy
- Lloyd's Register of Shipping
- Ministry of Defence
- National Association of Lift Makers
- Zinc Development Association

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Preparation of rope and socket	1
4 Resin socketing	4
5 Metal socketing	4
6 Inspection	5
Appendix A Prototype qualifying tests on socketing materials	6
Appendix B In-service inspection advice	6
Appendix C Flow chart presentation of socketing procedures for stranded steel wire ropes	7
Figure 1 — Nomenclature of parts of sockets	2
Figure 2 — Location of permanent serving	2
Figure 3 — Brush	3
Figure 4 — Socketing procedure flow chart	7
Table 1 — Reference test forces	6
Table 2 — Test rope selection	6
Publications referred to	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Mechanical Handling Standards Committee. The integrity of socketed terminations of ropes relies on the skilled application of proved and accepted procedures. Termination failures can often be attributed to poor socketing and the committee responsible for steel wire ropes has identified the need for a code of practice setting down the procedures necessary to ensure efficient and effective socketed terminations.

This British Standard aligns with ISO 7595 and ISO/TR 7596 but omits certain practices not used in the UK.

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 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 gives guidance on recommended practices for resin and metal (white metal or zinc) socketing of wire ropes complying with BS 302-1 to BS 302-8 and using sockets complying with BS 463¹⁾, for use within service temperature limitations of $-20\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$.

Appendix A gives tests on socketing materials.

In-service inspection advice is given in Appendix B.

Appendix C contains a socketing procedures flow chart.

NOTE 1 The code is generally applicable also to the socketing of other wire ropes and using other sockets, but special precautions may be necessary and the rope's supplier should be consulted.

NOTE 2 When socketing ropes which have wire tensile grades greater than $1\,960\text{ N/mm}^2$ special precautions may be necessary and the rope's supplier should be consulted.

NOTE 3 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 definitions given in BS 302-1 apply, together with the following.

The nomenclature for parts of sockets are given in Figure 1.

2.1

sponsor

the person or organization which takes responsibility for a particular socketing system. In particular he takes responsibility for the socketing material, identification, prototype testing (except where metal complying with BS 643 and BS 3436 is used) and the specification and method of application

2.2

coarse construction rope

rope having eight strands or less and strands with one layer of wires over a king wire

3 Preparation of rope and socket

3.1 General

NOTE 3.1.1 to 3.1.8 should be read before the procedures in 3.2 are carried out.

3.1.1 Serving. In this standard two types of serving are recognized and are designated temporary²⁾ and permanent.

Temporary servings should be used when cutting ropes and spiral strands; however, they are not always necessary when cutting preformed ropes. When used, the temporary servings should be applied to the rope on each side of the cut and need to hold the strands and wires in position during the cutting operation.

Permanent servings are applied to that part of the rope which is partly within or adjacent to the neck of the socket when the operation is completed (see Figure 2).

A permanent serving should:

- a) ensure that the wires and strands are undisturbed during socketing operations; and
- b) permit the passage of the served rope through the neck of the socket.

3.1.2 Permanent serving material. Tinned or galvanized soft wire should be used except in the case of bright wire rope when bright wire may also be used. The diameter of the serving wire should be selected so that the served rope can be passed through the neck or small end of the socket with a radial clearance between the serving wire and the parallel part of the neck.

Alternative material to the above may be used but care should be taken that it does not cause detrimental electrolytic action in service and that it is capable of withstanding the socketing temperatures involved. Copper and brass wires should not be used. Plastics of proven suitability may be used.

¹⁾ Under revision.

²⁾ Temporary serving is synonymous with whipping.