

Specification for non-calibrated long link steel chain for general engineering purposes

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Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted by the Mechanical Handling Standards Committee (MHE/-) to Technical Committee MHE/1, upon which the following bodies were represented:

- Associated Offices Technical Committee
- British Chain Manufacturers' Association
- British Forging Industry Association
- British Ports Association and the National Association of Ports Employers
- British Railways Board
- British Steel Industry
- Chain Testers Association of Great Britain
- Corporation of Trinity House
- Department of Trade and Industry (National Physical Laboratory)
- Federation of Wire Rope Manufacturers of Great Britain
- Health and Safety Executive
- Lloyd's Register of Shipping
- Ministry of Defence

This Draft for Development, having been prepared under the direction of the Mechanical Handling Standards Committee, was published under the authority of the Board of BSI and comes into effect on 23 December 1987

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Foreword

This Draft for Development has been prepared under the direction of the Mechanical Handling Standards Committee to meet the needs of industry for a publication to cover chain dimensionally outside the scope of BS 6405 which covers short link chain.

Chain produced in accordance with this Draft for Development is not suitable for lifting purposes. This recognizes the lack of suitable compatible connecting components such as hooks, and the trend, in lifting operations, towards the use of higher tensile strength steels for chain and other components as reflected by International Standards and British Standards. Calibrated chain has not been included in this Draft for Development because of the wide variation in the design of pocketed wheels for use with this grade of chain, which makes it impractical to standardize the proportions of the chain links.

For chain for lifting applications, reference should be made to BS 4942-1 to BS 4942-6.

In view of the purposes for which chain in accordance with this Draft for Development may be used and the importance of reliability, the opportunity has been taken to detail some requirements, including those for materials and heat treatment in such a way that the chain maker may best benefit from technological advances in steelmaking and chain production. For example, no precise steel specification is given but, in accordance with the philosophy on performance standards of the Technical Committee ISO/TC 111, Round steel link chains, lifting hooks and accessories, of the International Organization for Standardization (ISO), responsibility for the choice of steel is vested in the chain maker, subject only to certain general requirements.

It should also be noted that, in defining the mechanical properties of the finished chain, the ratio of maximum service load to proof force to minimum breaking force of 1 : 2 : 5, previously specified for class 2 chain in BS 6405, has been retained.

In the preparation of this Draft for Development, cognizance was taken of the following publications:

- a) NPL Report NAC 79 (April 1977) "A new design formula for chain links" by G T Anthony, T A E Gorley and J G Hayes;
- b) "Industrial numerical analysis" Oxford Science Publication (1986). Chapter 2 "A simple new design formula for chain links".

Attention is drawn to Appendix A which gives recommendations for the use, care and maintenance of chains.

Details on which particular comments are requested in order to facilitate a full review of this Draft for Development two years after publication are given below.

Manufacturers and users are asked to:

- 1) monitor the supply of the various sizes and geometries included in this publication;
- 2) record the applications for which particular sizes and geometries of chain are used and in what lengths or tonnages.

When this information is available, it is intended that the list of sizes and geometries of long link chain based on grade 30 will be reviewed.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature because at the present time it is not possible to rationalize either the sizes or geometries of non-calibrated long link steel chain of grade 30. It should be applied on this provisional basis so that information and experience of its practical application may be obtained.

A review of this Draft for Development will be carried out not later than two years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of “*BSI News*”. According to the replies received, the responsible BSI committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Observations which it is felt should receive attention before the official call for comments will be welcomed. These should be sent to the Secretary of BSI Technical Committee MHE/1 at the BSI Head Office address as shown on the back cover.

Because of the provisional nature of the Draft for Development, BSI requests manufacturers not to mark products with claims of compliance with this publication. The inclusion of the number and date of this publication in the test certificate (see clause 7) is for reference purposes only.

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.

