



BSI Standards Publication

Code of practice for the safe use of cranes

Part 2-9: Inspection, maintenance and thorough examination – Cargo handling and container cranes

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2013

Published by BSI Standards Limited 2013

ISBN 978 0 580 78198 8

ICS 53.020.20

The following BSI references relate to the work on this document:

Committee reference MHE/3/11

Draft for comment 13/30259760 DC

Publication history

First published September 2013

Amendments issued since publication

Date	Text affected
------	---------------

Currently in preview, click buy full version

Contents

Foreword *ii*

Introduction *1*

- 1 Scope *1*
- 2 Normative references *1*
- 3 Terms and definitions *2*
- 4 General *2*
- 5 Personnel carrying out pre-use checks, in-service inspections, maintenance and thorough examinations *2*
- 6 Pre-use checks and in-service inspections *2*
- 7 Maintenance of cargo handling and container cranes *5*
- 8 Thorough examination of cargo handling and container cranes *5*
- 9 Overload testing of cargo handling and container cranes *15*
- 10 Non-destructive testing of cargo handling and container cranes to supplement thorough examination *17*
- 11 Assessment of wire rope condition and discard criteria *17*

Annexes

Annex A (informative) Container cranes – Examples of checklists for pre-use checking and in-service inspection *19*

Annex B (informative) Mobile harbour cranes – Examples of checklists for pre-use checking and in-service inspection *21*

Annex C (informative) Straddle carrier cranes and rubber tyred gantry cranes – Examples of checklists for pre-use checking and in-service inspection *23*

Annex D (informative) Level luffing and slewing jib cranes – Examples of checklists for pre-use checking and in-service inspection *26*

Annex E (informative) Crane containing top safety frames (man riding cages) used to access containers on ships – Examples of checklists for pre-use checking and in-service inspection *27*

Annex F (informative) Container spreaders – Examples of checklists for pre-use checking and in-service inspection *28*

Bibliography *31*

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 32, an inside back cover and a back cover.

Foreword

Publishing information

This sub-part of BS 7121-2 is published by BSI Standards Limited, under license from the British Standards Institution and came into effect on 30 September 2013. It was prepared by Subcommittee MHE/3/11, *Crane safety and testing*, under the authority of Technical Committee MHE/3, *Cranes and derricks*. A list of organizations represented on these committees can be obtained on request to their secretary.

Relationship with other publications

The BS 7121 series is being revised. The following new sub-parts of BS 7121-2 have been published or are in preparation.

- Part 2-1: *Inspection, maintenance and thorough examination – General*;
- Part 2-3: *Inspection, maintenance and thorough examination – Mobile cranes*;
- Part 2-4: *Inspection, maintenance and thorough examination – Loader cranes*;
- Part 2-5: *Inspection, maintenance and thorough examination – Tower cranes*;
- Part 2-7: *Inspection, maintenance and thorough examination – Overhead travelling cranes including portal and semi-portal cranes, hoists, and their supporting structures*;
- Part 2-9: *Inspection, maintenance and thorough examination – Cargo handling and container cranes*.

When all sub-parts of BS 7121-2 have been published, it is intended that CP 3010 will be withdrawn and BS 5744 will be revised to cover manually operated and light cranes only.

This sub-part of BS 7121-2 is intended to be used in conjunction with BS 7121-2-1.

Information about this document

The Health and Safety Executive (HSE) commends the use of this British Standard to those who have duties under the Health and Safety at Work etc. Act 1974 [1]. This standard was drawn up with the participation of HSE representatives and it will be referred to in the relevant HSE publications.

The BS 7121-2 series has been accepted by the HSE as representing the consensus of opinion based on practical experience for safety of cranes.

Hazard warnings

WARNING. This British Standard calls for the use of procedures that can be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

Use of this document

As a code of practice, this sub-part of BS 7121-2 takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this sub-part of BS 7121-2 is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Particular attention is drawn to the following specific regulations:

- Health and Safety at Work etc. Act 1974 [1];
- Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 [2];
- Provision and Use of Work Equipment Regulations (PUWER) 1998 [3];
- Supply of Machinery (Safety) Regulations 2008 (as amended) [4].

NOTE Details of the Lifting Operations and Lifting Equipment Regulations 1998 [2] and the Provision and Use of Work Equipment Regulations 1998 [3], together with an HSE Approved Code of Practice and HSE Guidance, are given in HSE publications Safe use of lifting equipment [5] and Safe use of work equipment [6].

Currently in preview, click buy full version

Introduction

Cargo handling and container cranes are used to load and unload vessels, internal transfer vehicles, road vehicles and trains. They can also be used to lift containers or materials to and from temporary storage. The cranes can be installed in a static location, or on rails or wheels such that the crane can traverse a quay or storage area. They can handle containers, unit loads or bulk materials using specialist grabs.

1 Scope

This sub-part of BS 7121-2 gives recommendations for the pre-use checks, in-service inspection, maintenance, thorough examination (in service and following exceptional circumstances) and supplementary testing of cargo handling and container cranes used in ports and inland facilities. This sub-part of BS 7121-2 is applicable to the following types of cranes:

- ship to shore or quay cranes;
- slewing jib cranes, including mobile harbour cranes;
- level luffing slewing jib cranes;
- rail mounted gantry cranes;
- rubber tyred gantry cranes;
- straddle carrier cranes;
- scotch derricks;
- boat hoists.

This sub-part of BS 7121-2 also covers lifting attachments for use in conjunction with the cranes, including container spreaders, overheight frames, rotators, grabs, magnets and crane baskets used to access containers on ships.

This sub-part of BS 7121-2 is not applicable to permanently installed cranes on marine and other water borne vessels.

This sub-part of BS 7121-2 is not applicable to loader cranes permanently installed on quays or in other static locations (see BS 7121-2-4).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 7121-2-1:2012, *Code of practice for the safe use of cranes – Part 2-1: Inspection, maintenance and thorough examination – General*

BS ISO 4309:2010, *Cranes – Wire ropes – Care and maintenance, inspection and discard*