INTERNATIONAL STANDARD

First edition 2019-06

Ships and marine technology — Marine cranes — Noise limits and measuring method

Navires et technologie maritime — Grues marines — Limites de bruit et méthodes de mesure



Reference number ISO 21131:2019(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Page

Contents

Fore	eword		iv
1	Scop)e	
2	Nori	mative references	
3	Terr	erms and definitions	
4	Area	a classification	2
5	Nois	e level limits and personnel noise exposure duration	2
6	Measurement methods 6.1 Measurement equipment		
	6.2 6.3	6.1.1 General	
7	Mea 7.1 7.2	surement uncertainty and report Measurement uncertainty Measurement report	
8	Prot 8.1 8.2 8.3	tection from noise General Protection from noise for the operating console Protection from noise for the engine room	
9	Nois	se warning panels	4
Bibl	iograp	hy	

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see <u>www.iso</u> .org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <u>www.iso.org/members.html</u>.

Ships and marine technology — Marine cranes — Noise limits and measuring method

IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. For the purposes of colour matching, see ISO 3864-4 which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This document specifies noise limits, noise measurement methods and hearing protection for marine cranes, including electro-hydraulic cylinder luffing cranes, electro-hydraulic wire rope luffing cranes and electric wire rope luffing cranes.

This document is applicable to the noise assessment of marine cranes and for the protection of their operators.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3746, Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane

ISO 3828, Shipbuilding and marine structures — Deck machinery — Vocabulary and symbols

ISO 4306-1, Cranes — Vocabulary — Part 1: General

IEC 61672-1, Electroacoustics — Sound level meters — Part 1: Specifications

3 Terms and definitions

For the purposes of this document, the terms and definition given in ISO 4306-1 and ISO 3828 and following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at <u>http://www.electropedia.org/</u>

3.1

operating console

location at which the crane's operator activates the motions of the crane

3.2

engine room

location inside the crane's structure that contains the drives, *power units* (3.5) and *drive mechanisms* (3.6)

3.3

structure exterior

exterior of the crane tower body and boom structure