
**Ships and marine technology —
Service personnel for the
maintenance, thorough examination,
operational testing, overhaul and
repair of lifeboats and rescue boats,
launching appliances and release
gear —**

**Part 4:
Level 2 in-field competence**

*Navires et technologie maritime — Personnel de maintenance
pour l'entretien, l'examen approfondi, la mise à l'essai en cours
d'exploitation, la révision et la réparation des embarcations de
sauvetage et des canots de secours, des engins de mise à l'eau et des
dispositifs de largage —*

Partie 4: Compétences de niveau 2 sur le terrain



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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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, SC 1, *Maritime safety*.

This first edition cancels and replaces ISO/PAS 23678-4:2020, which has been technically revised.

The main changes are as follows:

- text has been editorially revised in accordance with the ISO/IEC Directives, Part 2, 2021.

A list of all parts in the ISO 23678 series can be found on the ISO website.

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 www.iso.org/members.html.

Introduction

A major objective of the maritime industry is to prevent accidents and incidents from occurring. A global network of competent personnel employed by authorized service providers is vital for lifesaving appliances to remain fit for purpose, sustaining crew confidence and contributing to the prevention of incidents and accidents.

The need to develop an International Standard for this objective is evident from the new requirements in IMO Resolution MSC.402 (96)^[3], entitled “requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances, and release gear” (henceforth referred to as “the IMO Requirements”) adopted 19 May 2016 and entering into force 1 January 2020, as per paragraph 7.1.1.

This document and the associated documents ISO 23678-1, ISO 23678-2 and ISO 23678-3 have been developed to achieve three key objectives:

- develop training documents that would support the IMO Requirements, section 7, paragraph 7.1.1.
- provide a consistent, reliable, and standardized approach to training and provide a clear auditable trail for interested parties to grant authorization supporting the IMO Requirements, section 3, to approved service providers.
- establish a competency framework that would enable personnel certified by authorized service providers to develop and maintain competencies identified by industry experts to a level that enables them to competently work unsupervised on equipment covered by this document.

This document has been developed by identifying common design features in relation to survival craft, davits, winches and release gear makes and types for which service is to be provided. This has been achieved by conducting professional discussions with disciplined experts, to obtain the appropriate information to develop a training programme that is fit for purpose. Successfully completing ISO 23678-1, ISO 23678-2 and ISO 23678-3 enables personnel certified by an authorized service provider to meet the IMO Requirements, section 7, paragraph 7.1.1, and section 8.

Ships and marine technology — Service personnel for the maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear —

Part 4: Level 2 in-field competence

1 Scope

This document establishes a uniform, safe and consistent approach to the in-field competence assessment of personnel for the maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear.

It also provides the necessary information for interested parties to grant authorization, effectively evaluate and audit training, supporting the IMO Requirements^[3], section 3.

It specifies the level 2 in-field initial and ongoing competence assessment for personnel certified by a manufacturer or an authorized service provider to carry out maintenance, thorough examination, operational testing, overhaul and repair of lifeboats (including free-fall lifeboats) and rescue boats (including fast rescue boats), launching appliances and release gear.

The training an individual receives while following a development process is covered in ISO 23678-2 and ISO 23678-3.

The competence requirements contained in this document provide a clear description of performance in-field in respect to:

- a) what practitioners are expected to do;
- b) the underpinning knowledge and skills they require to enable them to do what is expected;
- c) how they can demonstrate what is expected of them;
- d) how their performance can be assessed.

This document is intended to be used in conjunction with ISO 23678-1, ISO 23678-2 and ISO 23678-3.

This document is applicable to the following types of lifeboats (including free-fall lifeboats), rescue boats (including fast rescue boats), launching appliances and release gear.

Survival craft types:

- a) single fall totally enclosed lifeboats with sprinkler and air systems;
- b) twin fall totally enclosed lifeboats with sprinkler and air systems;
- c) partially enclosed lifeboats;
- d) tender lifeboats;
- e) freefall lifeboats;
- f) open lifeboat;

- g) inflatable rescue boats;
- h) rigid rescue boats;
- i) semi-rigid inflatable rescue boats;
- j) rigid fast rescue boats;
- k) rigid inflatable fast rescue boats.

Survival craft propulsion system types:

- a) inboard diesel engines;
- b) outboard engines;
- c) propeller drives;
- d) jet drives.

Davit types:

- a) gravity single and twin fall outrigger;
- b) hydraulic single pivoting/luffing;
- c) hydraulic multi pivot/luffing;
- d) telescopic;
- e) gravity roller track;
- f) gravity free fall primary;
- g) free fall hydraulic secondary;
- h) A-frame hydraulic;
- i) single arm slewing (manual, electric);
- j) davits with stored power systems.

Winch types:

- a) twin drum;
- b) single drum;
- c) gravity-lowering, electric hoisting;
- d) gravity-lowering hydraulic hoisting;
- e) hydraulic hoisting and lowering.

Hook release system types:

- a) on-load/off load (load not over centre);
- b) on-load/offload (load over centre);
- c) off load;
- d) freefall hydraulic;
- e) automatic.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the edition cited applies. For updated reference, the latest edition of the referenced document (including any amendments) applies.

ISO 23678-1, *Service personnel for the maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear — General requirements for training providers*

ISO 23678-2, *Service personnel for the maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear — Service personnel initial training*

ISO 23678-3, *Service personnel for the maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear — Level 1 technical training*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 23678-1 apply.

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

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

4 Level 2 in-field competence

4.1 General

This competence document is designed to meet the in-field and ongoing competence assessment for level 2 service technicians.

Any inspection, maintenance, thorough examination, operational testing, overhaul, and repair shall be carried out according to the maintenance service manuals and associated technical documentation developed by the manufacturer.

See [Figure B.1](#) for an example of a certificate.

See [Tables C.1](#) to [C.3](#) for checklists to assess level 2 service personnel competence.

4.2 Candidate pre-requisites for level 2 service technician in-field assessment

To be assessed against the competence statements, candidates shall either have completed the Initial Refresher training in accordance with ISO 23678-2 and have appropriate evidence of experience in-field, or be deemed competent in accordance with the requirements of ISO 23678-2 and ISO 23678-3. They shall either:

- a) have successfully completed Initial and Level 1 Service Technician controlled environment technical education and training; or
- b) provide evidence to verify a satisfactory level of previous experience (see ISO 23678-1:2022, 4.7.6, for acceptable evidence requirements).