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Service personnel for the 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 —

Part 3:
Level 1 technician training

Reference number
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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

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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.*

A list of all parts in the ISO/PAS 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.

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Introduction

The industry recognises that a major objective 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.

It has been recognized from the new requirements in IMO Resolution MSC.402 (96) for 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 (henceforth referred to as "the IMO Requirements") adopted 19th May 2016 and entering into force 1st January 2020, that it is necessary to develop an International Standard. This necessity is based on the IMO Requirement in paragraph 7.1.1:

"Employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or a manufacturer's established certification programme. In either case, the certification programme shall comply with section 8 for each make and type of equipment for which service is to be provided;"

This document and the associated ISO/PAS 23678-1, ISO/PAS 23678-2 and ISO/PAS 23678-4 have been developed to achieve three key objectives.

1. The first objective was to develop training documents that would support the IMO Requirements, section 7, paragraph 7.1.1.
2. The second objective was to develop training documents that would provide a consistent, reliable, and standardised approach to training and provide a clear auditable trail for interested parties to grant authorisation supporting the IMO Requirements, section 3, to approved service providers.
3. The third objective was to develop training documents 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 the service technician training in ISO/PAS 23678-2, ISO/PAS 23678-3 and ISO/PAS 23678-4 enables personnel certified by an authorized service provider to meet the IMO Requirements, section 7, paragraph 7.1.1, and section 8.

The ISO/PAS 23678-series on service technician training consists of:

— Part 1 Guidance to training providers; describes the competence route of the candidate and the resources that the training provider needs to deliver the training.

— Part 2 Initial training; describes the training programme for initial familiarisation and induction training that is classroom education. The training programme focuses on introducing individuals to the complex terminology, rules and regulations, organisations, health and safety which a service technician needs to understand in order to carry out their role.

— Part 3 Level 1 training; describes the controlled environment education and training delivered at a training school. The training programme focuses on the technical training for type specific lifesaving appliances.

— Part 4 Level 2 in-field competence; describes the requirements for initial in-field and ongoing competence assessments.

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NOTE ISO/PAS 23678-1, ISO/PAS 23678-2 and ISO/PAS 23678-3 are referencing typical in-house/training school training programmes. ISO/PAS 23678-4 is typical in-field performance of the personnel trained and recording of their competence.

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Service personnel for the 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 —

Part 3: Level 1 technician training

1 Scope

This document establishes a uniform, safe and consistent approach to the technical training of personnel for the 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.

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

It specifies the training requirements for the Level 1 controlled environment education and technical training 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 Level 1 training is split into two Stages, both covered in this document:

— Stage 1, Service Technician technical controlled environment education and training, has five modules that consist of classroom-based theory followed by practical sessions. The five modules encompass the scope and range of technical knowledge and skills required to assume type specific design coverage of survival craft, release systems, davits and winches. The modules focus on supporting the requirements in part of the IMO Requirements, paragraphs 8.1, 8.2.1.1-8.2.1.6, 8.2.2, and 8.2.3.

— Stage 2, Service Technician technical controlled environment experience and assessment, where candidates undertake a minimum of four supervised scenarios-based practical exercises assessments covering the range of type specific complete systems for which they will be certified.

This document is intended to be used in conjunction with ISO/PAS 23678-1, ISO/PAS 23678-2 and ISO/PAS 23678-4.

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;

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e) freefall lifeboats;

f) open lifeboat;

g) inflatable rescue boats;

h) rigid rescue boats;

i) semi ridged 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;

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d) freefall hydraulic;

e) automatic.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the terms, definitions and abbreviated terms given in ISO/PAS 23678-1 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 http://www.electropedia.org/

4 Level 1 Service Technician Stage 1 technical training

4.1 General

This programme is designed to meet the technical controlled environment training and assessment requirements for all prospective service technicians. The Level 1 Service Technician training document explains how competence shall be assessed and certified.

4.2 Candidate pre-requisites for Level 1 Service Technician Stage 1 technical training

a) hold or be working towards a nationally recognised qualification in engineering or mechanics, but not unduly excluding similar qualifications; and

b) hold a valid Initial Service Technician certificate.

4.3 Aims and objectives of Level 1 Service Technician Stage 1 technical training

4.3.1 Aim

This programme is designed for individuals who have completed the Initial Service Technician training and need to gain the technical theoretical and practical knowledge to enable them to carry out maintenance thorough examination, operational testing, repair and overhaul of lifeboats (including free-fall lifeboats), rescue boats (including fast rescue boats), launching appliances and on-load release gear under supervision.

4.3.2 Key objectives

The key objectives are:

a) ensure candidates can interpret technical documentation developed by the manufacturers and apply the information to their role;

b) ensure candidates can identify, interpret and apply to their role key legislation, industry guidelines, rules, regulations and conventions;

c) ensure candidates have the required technical underpinning knowledge and practical skills to carry out maintenance thorough examination, operational testing, repair and overhaul of lifeboats

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