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# International Standard



# 3969

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Shipbuilding — Inland vessels — Operational documentation

*Construction navale — Bateaux de navigation intérieure — Dossier technique*

First edition — 1979-09-01

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UDC 629.122.004

Ref. ISO 3969-1979 (E)

**Descriptors** : shipbuilding, inland navigation, user-supplier relations, documents, technical documents.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3969 was developed by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in March 1978.

It has been approved by the member bodies of the following countries :

Austria	France	Poland
Belgium	Greece	Romania
Brazil	India	Spain
Bulgaria	Italy	Turkey
Chile	Japan	USSR
Czechoslovakia	Mexico	Yugoslavia
Finland	Netherlands	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Germany, F.R.  
United Kingdom

# Shipbuilding — Inland vessels — Operational documentation

## 0 Introduction

This International Standard has been drawn up in order to standardize the nomenclature of ship operational documentation, the titles and the purpose of certain kinds of documents, and their content and appearance.

This International Standard is applicable to ships operating in inland and territorial waters.

## 1 Scope and field of application

**1.1** This International Standard establishes the purpose of ship operational documents, their classification and titles.

It includes, in addition, the basic provisions for the maintenance and presentation of operational documents, and for the process of their correction and replacement for ships undergoing modification and repairs.

**1.2** The list of documents laid down in this International Standard is a reference list from which a set of principal operational documents may be chosen for any transport vessel.

For special purpose vessels and for vessels on which the installation of special equipment, machinery and systems is envisaged which are not indicated in this International Standard, the titles and the summary list of ship operational documents to be delivered should be specified in each particular case when concluding a contract.

**1.3** The number of copies of each document handed over for the ship as a part of the operational documentation should be agreed between the ship outfitter and the ship owner when concluding a contract.

## 2 Classification

**2.1** Operational documents are of two types :

- a) general ship documents pertaining to a ship as a whole and its component parts : hull, apparatus, systems, shafting, installation of electrical and radio equipment, etc.; these documents are drawn up mainly by the shipbuilder;
- b) documents for completed articles pertaining to the mechanisms, units, instruments, etc., installed in a ship, irrespective of who manufactures and supplies them; these documents are supplied mainly by the equipment manufacturers.

**2.2** Ship operational documents generally consists of :

- a) specification;
- b) drawings;
- c) diagrams;
- d) supply list;
- e) list of spare parts;
- f) logs and certificates;
- g) technical descriptions and maintenance instructions;
- h) list of operational documents.

## 3 Definitions

For the purposes of this International Standard, the following definitions apply :

**3.1 ship operational documentation** : The documentation designed for use in training of personnel in the use of the ship and components, of the rules of operation of the ship by the crew and of preparation for repairs.

It is delivered by the shipbuilder together with the ship and should comply with the actual construction, machinery, apparatus, equipment, etc., of the ship.

**3.2 specification** : A technical document which contains information about the principal characteristics of the ship and gives a brief technical description of all its parts (hull, machinery, electrical and radio-navigation equipment) with reference to the corresponding documents and drawings.

**3.3 supply list** : A document containing a complete enumeration of the equipment and tools (for all parts, including life-saving and fire fighting equipment) supplied with the ship and necessary for the normal operation of the ship.

It does not include articles which are component parts of the devices or equipment which should be in the ship according to the specification (3.2) (for example, anchor chains, rigging of cargo handling gear, etc.). Nor does it include the special equipment and tools intended for certain pieces of machinery, instruments or apparatus and included in their delivery sets.

**3.4 list of spare parts, tools and accessories (STA) :** A document determining the nomenclature, purpose, quantity and places of storage of spare parts, tools, accessories and materials necessary for operation and repair of the ship and its equipment (machinery, apparatus, etc.).

**3.5 log :** A document which certifies the principal particulars and the technical characteristics of constructions and devices guaranteed by the manufacturer and reflects the technical condition of such constructions and apparatus and into which operational information concerning them is entered (duration and conditions of work, maintenance, types of repair, during the whole operational period).

**3.6 certificate :** A document which certifies the principal particulars and the technical characteristics of the ship and its component parts, guaranteed by the manufacturer.

**3.7 technical descriptions and maintenance instructions** (of mechanical, electrical and radio-technical systems, installations devices, pipelines, etc.) : Documents designed for use in

- a) studying the above devices, the principle of and the rules for operation of the ship's equipment;
- b) repair of failures occurring during operation;
- c) carrying out adjustments and regulations by the ship's crew;
- d) carrying out the scheduled preventive inspections and repairs by the ship's crew and with the means available aboard;
- e) maintenance required during long periods of inaction.

**3.8 list of operational documents :** A collection of all operational (design) documents, both those showing calculations and those of the working design documents which were used while preparing the design.

For each ship this list is compiled on the basis of the standard nomenclature laid down in the list in clause 5 with additions introduced in compliance with 1.2.

## 4 Principal requirements for contents and presentation of documentation

**4.1** The execution of operational documents shall comply with national standards and the rules for drawing up design documentation and also, in the case of documents to be handed over to a foreign ship owner, with the corresponding requirements of this International Standard and with the provisions of the contract.

**4.2** The wording of the records to be made in operational (design) documents shall be clear, comprehensible and unambiguous.

**4.3** If design documents are included in the list of operational documents, there shall be no references to those documents which have not been included in the list.

**4.4** The texts of the documents, the inscriptions and tables in the drawings shall be made in the language(s) provided for in the contract for the ship delivery.

**4.5** Technical descriptions and maintenance instructions of various ship's apparatus, systems, pipelines, etc., included in operational design documentation, shall be illustrated with all necessary diagrams, drawings, figures or photographs.

In the absence of technical descriptions and maintenance instructions, any necessary diagrams shall be provided.

**4.6** It is admissible to combine individual technical descriptions and maintenance instructions of apparatus, systems, pipelines, electrical equipment, etc., into common (master) descriptions and instructions within the specialization in the ship as a whole.

**4.7** Operational documents shall be produced by a method ensuring their identity with the original or with a duplicate on a white, blue-print or sensitized transparent paper. Operational documents may also be produced in the form of photographs with an appropriate reduction which shall not affect the legibility of either the drawing or the text.

**4.8** Each ship shall be provided with a set of operational documents corrected in accordance with any modifications made in the process of building and commissioning the ship.

**4.9** The operational design documents most frequently used during operation shall be pasted on a textile or other base to increase their wear resistance (one copy for the set supplied to the ship).

NOTE — The documents to be pasted on a wear resistant base are denoted by the letter "T" in the column headed "Notes" of the standard nomenclature of clause 5. In some cases, the nomenclature of these documents may be altered upon agreement with the customer.

**4.10** The list of operational documents shall be compiled in accordance with the format shown in figure 1.

**4.11** The project and working design documents (drawings, calculations, tables, etc.), corrected according to any changes made during the building and the commissioning of a ship, become operational documents for that ship after stamp No. 1 (see figure 2) has been affixed.

On those operational documents which should be corrected after conversion, modification or repair of the ship, stamp No. 2 (see figure 3) shall be affixed in addition to stamp No. 1.

**4.12** All operational (design) documentation shall be assembled in sets and placed in hard-cover paper-cases 230 mm × 325 mm or 325 mm × 460 mm, ensuring their safety during the entire period of operation of the ship.

Dimensions in millimetres

No	Designation of document	Title	Number of copies	Notes
10	70	65	8	
180				

Figure 1 — Standard format for list of operational documents

Dimensions in millimetres

OPERATIONAL		32
for . . . . .	(name of ship)	
supplier . . . . .	(name)	
date		
		15
		15
80		

Figure 2 — Stamp No. 1

Dimensions in millimetres

OPERATIONAL		40
for . . . . .	(name of ship)	
after . . . . .	(category of repair)	
supplier . . . . .		
repairer . . . . .		
date		15
		15
80		

Figure 3 — Stamp No. 2

**4.13** Each paper case shall bear its title and number on the upper cover and on the back, and an inventory of the documents if contains (as per the form indicated in figure 1) shall be pasted on the inside of the cover.

**4.14** The procedure of making up the sets of operational documents lies within the competence of the supplier of the ship, who is responsible for their compliance with the requirements of this International Standard and the terms of the contract.

**4.15** Operational documents shall be handed over to the ship owner at the moment of signing the document of acceptance. However, some operational documents from the standard list, except for the documents on stability and unsinkability, may be delivered within 3 months after the signing of the document of acceptance. If necessary, the procedure for handing over the documents may be provided for in the contract for the ship delivery.

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## 5 Nomenclature of ship operational documents

1	2	3	4	5
No.	Title	Designation of document <sup>1)</sup>	Number of copies <sup>1)</sup>	Notes
1	<b>Ship general documents</b>			
1.1	List of operational documents			
1.2	List of working design documents			
1.3	List of orders for equipment and materials			
1.4	Supply list			
1.5	List of painting of ship			
1.6	Ship's log			
1.7	Specification for all parts			
1.8	Basic theoretical drawings			
1.9	Scheme of arrangement of life-saving and fire-fighting equipment			
1.10	Documents on stability and unsinkability			
1.11	Information on stability and unsinkability for the master			
1.12	Capacity curves of ship with table of volumes and co-ordinates of their centre of gravity			
1.13	Summary table of displacement, centre of gravity positions, trim and initial stability for various cases of loading			May be included in documents of 1.10
1.14	Information on stability (corrected on the basis of inclining test data)			
1.15	Information on damage stability and trim, list and freeboard (unsinkability) corrected on the basis of inclining test data			
1.16	Drawing of draught marks arrangement and load-line			T
1.17	General arrangement drawings			T
1.18	Drawing of cut-outs for loading and unloading large-size equipment and machinery			

1) To be filled in when concluding a ship delivery contract.

1	2	3	4	5
1.19	Weight calculation			
1.20	Instruction for loading the ship with loose cargoes			
1.21	List of schemes to be hung in ship, with set of schemes			T
1.22	Drawing of ship docking arrangements			
2	<b>Hull</b>			
2.1	Table of loft ordinates			
2.2	Midship section			
2.3	Shell skin expansion			
2.4	Structural drawings of hull and superstructures			
2.5	Structural drawings of longitudinal and transverse bulkheads			
2.6	Structural drawings of hydrofoil arrangements and skirts			
2.7	Drawings of stems and brackets			For ships with propellers subject to high loads
2.8	Drawings of impermeable or pressurized compartments with indication of rooms (compartments) subject to water- and gas-tightness tests, standards and methods of tests			
2.9	Scheme of arrangement of bottom and side openings			
2.10	Drawings of arrangement of permeable and impermeable hatch covers, hand-holes, doors, scuttles and other closures			
2.11	Ladder arrangement drawings			
2.12	Technical descriptions and maintenance instructions of ship devices including special ones (with schemes)			
2.13	Scheme of arrangement of fittings for division of loose cargoes			
2.14	Scheme of insulation of rooms with indication of standard designs of insulation			
2.15	Drawings of plating of decks, platforms and floors			
2.16	Drawings of cementation of ship and of ballast placing			
2.17	Scheme of fire protection			



1	2	3	4	5
2.18	Scheme of hull test for tightness			
2.19	Scheme of arrangement of eye-bolts for assembly and dismantling works			
2.20	Drawings of foundations for main machinery and boilers			
2.21	General arrangement schemes of masts, derricks, spars and rigging			
3	<b>Machinery</b>			
3.1	Technical descriptions and maintenance instructions of engine-boiler plant (with diagrams)			
3.2	Technical descriptions and maintenance instructions of ship propulsion plant systems (with diagrams)			
3.3	Technical descriptions and maintenance instructions of ship systems (with diagrams)			
3.4	Drawings of general arrangement of machinery and equipment in engine room; boiler, engine, diesel-generator, pump, refrigerator, etc., rooms			T
3.5	Drawing (diagram) of arrangement of bottom and outboard fittings			
3.6	Shafting log			
3.7	Technical descriptions and maintenance instructions of shafting			
3.8	Drawings of general arrangement of shafting			
3.9	Drawings of shafting main units (shafts, thrust and carrier bearings, bulkhead glands, shaft connections, braking and shaft-turning devices)			
3.10	Calculations of torsional vibrations of main engine-shafting-propulsor system			
3.11	Checking results of shafting torsional vibrations by torsigraphing			
3.12	Drawing of steering nozzle			
3.13	Scheme of control of controllable pitch propellers			
3.14	Drawing of dismantling of rudder, propeller and propeller shafts			
3.15	Drawing of assembled rudder with rudder head			
3.16	Drawings of rudder parts (rudder blade, head, pintles, bearings, etc.)			