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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 9953-2026

Replacing GB/T 9953-1999

Immersion suits

浸水保温服

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 9953-1999 "Water-immersed Thermal Clothing". Compared with GB/T 9953-1999, the main differences are structural adjustments and editorial changes. Aside from the changes, the main technical changes are as follows:

- a) The type of water-immersible thermal clothing has been removed (see 3.3 of the 1999 edition);
- b) The requirements for the appearance and accessories of water-resistant thermal suits have been changed (see 4.1, 4.2 of the 1999 edition);
- c) An optional method for oil resistance testing has been added (see 5.12);
- d) A strength test for the lifting ring and its components has been added (see 5.16);
- e) The strength test for clothing materials has been removed (see 5.11 in the 1999 edition);
- f) The test method for normal breathing without hypoxia using a closed-face mask has been removed (see

5.14 of the.1999 edition);

g) The inspection rules have been changed (see Chapter 6, Chapter 6 of the.1999 edition). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of Fishing Vessels (SAC/TC157). This document was drafted by: Fisheries Machinery and Instrument Research Institute, Chinese Academy of Fishery Sciences; Jiangsu Huayan Shipbuilding Equipment Co., Ltd.; Ningbo Zhen Hua Lifesaving Equipment Co., Ltd., Jiaxing Rongsheng Lifesaving Equipment Co., Ltd., Zhoushan Quality and Technical Supervision and Inspection Institute, Ministry of Agriculture and Rural Affairs Fisheries Government Support Center, Wuhan Rules and Regulations Research Institute of China Classification Society, China Classification Society Industrial Co., Ltd., Tianjin Ship Inspection Center, China Classification Society Zhejiang Branch, Shanghai Huaxia Fishery Machinery & Instruments Industry & Trade Co., Ltd. The main drafters of this document are: Cao Jianjun, Wang Hairong, Zheng Jianli, Sun Li, Tao Xu, Xu Xiangrong, Niu Jun, Gu Kangli, Li Jiguang, and Gan Tiantian. Peng Liangliang, Wang Hua, Zheng Guiwang, Wu Shanshan, Zhong Wei, Han Mengxia, Hu Xin, Gu Haitao. The release history of this document and the document it replaces is as follows:

---First published in 1988 as GB 9953-1988;

1 Scope

GB/T 9953-2026 is the Chinese national standard covering the immersion suit - the insulated survival suit that keeps a person alive in cold water long enough to be found, with its thermal protection, buoyancy, donning time, visibility and the seals that decide whether it stays dry. It replaces GB/T 9953-1999 and has been in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 9953-1999. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the technical requirements, inspection rules, marking, packaging and storage of water-immersed thermal clothing, and describes the test methods. This document applies to the production and inspection of water-immersed thermal clothing.

4.1 Appearance and Accessories

4.1.1 Immersed thermal clothing should cover the entire body except the face, and the hood should fit snugly against the face, secured by permanently attached gloves. Cover your hands.

4.1.2 Water-immersed thermal clothing should be equipped with devices to restrict or reduce free air inside the trouser legs.

4.1.3 The surface color of the water-soaked thermal clothing should be orange-red or a clearly visible color.

4.1.4 Water-resistant thermal clothing should be available in different sizes and should be suitable for people with a height of at least 1.40m to 1.95m.

4.1.5 After 96 hours of salt spray (NSS) testing, the exposed metal parts of the submerged thermal suit should not show any corrosion and should still meet the requirements. Usage requirements.

4.1.6 Immersive thermal suits should be equipped with a throwable buoy or other device so that they can be attached to another person wearing immersive thermal suits in the water. Put it on.

4.1.7 Water-resistant thermal suits should be equipped with appropriate devices to allow rescuers to lift the wearer out of the water and into a lifeboat or rescue boat.

4.1.8 Immersive thermal suits should be equipped with a life jacket light and a whistle. The life jacket light should be positioned so that as much of its upper hemisphere as possible is visible. The whistle should be positioned so that it can be picked up and used by both the left and right hands.

4.1.9 Immersible thermal suits should have reflective material with a total area of at least 400 cm² to facilitate search and rescue from all directions by air and surface vessels. The material and placement of reflective materials should meet the requirements of IMO MSC.481(102).

4.2 Clothing

4.2.1 After the demonstration, each subject should be able to complete the donning process within 2 minutes at a temperature of (20±2)°C without assistance.

4.2.2 At (-30±2)°C, the donning process should be completed within 5 minutes.

4.3 Ergonomics After donning the water-soaked thermal suit, the test subject should be able to climb up and down a straight ladder at least 5 meters long, and be able to walk, bend over, and move freely. It can move its arms and perform normal tasks when abandoning ship, and can pick up a pencil with a diameter of 8mm to 10mm and write on it.

4.4 Field of View When the subject is wearing a water-soaked thermal suit and sitting in a seat, their lateral field of vision should be no less than 120° while keeping their head in the same direction.

4.5 Floating performance A water-resistant thermal suit can use an auxiliary buoyancy device (such as an artificial air chamber placed behind the wearer's head) to keep the

mouth above the water surface for at least [time missing]. The opening should be 120mm high and remain stable, provided that the height of the opening above the water surface is at least 50mm without any auxiliary buoyancy device.

4.6 Correction performance Subjects wearing water-soaked thermal suits should be able to change from a face-down to a face-up position within 5 seconds in water.

4.7 Water intake and diving

4.7.1 After the subject jumps into the water from a height not less than his/her own height, the mass of water entering the immersion suit should not exceed 500g.

4.7.2 After the subject, wearing the immersion thermal suit, jumps vertically into the water from a height of 4.5m, the immersion thermal suit and its accessories should not be damaged in any way. Displacement or slippage should not have resulted in injury to the subject from the water-soaked thermal suit worn during the trial.

4.8 Leakage prevention performance Subjects wearing water-resistant thermal suits floated in still water for 1 hour or 20 minutes and swam at least 200 meters before being immersed in the water-resistant suits. The amount of water in the thermal clothing should not exceed 200g.

4.9 Swimming and exit performance Capable of swimming 25m while wearing a life jacket and boarding a life raft or climbing onto a rigid platform 300mm above the water. The subjects wearing water-soaked thermal suits should also be able to perform the above actions.

4.10 Oil resistance After sealing all the openings of the water-absorbing thermal suit, immerse it in diesel fuel at a level 100mm above the suit for 24 hours, then wipe it clean. Remove the oil from its surface and conduct the test according to the "leakage test" regulations. The mass of water that seeps into the water-soaked thermal clothing should not exceed 200g.

4.11 Fire resistance Water-soaked thermal clothing should be removed after being exposed to flame for 2 seconds and should not continue to burn or melt.

4.12 Temperature alternation performance After being subjected to alternating environmental temperature tests of -30°C and 65°C, the water-immersed thermal suit should not show any damage or signs of breakage. Images, such as shrinkage, cracking, expansion, or changes in mechanical properties.

4.13 Buoyancy After a water-resistant thermal garment is soaked in fresh water for 24 hours, its buoyancy loss should not exceed 5% of the initial buoyancy.

4.14 Strength After being immersed in water for 2 minutes, the lifting ring and related components of the water-resistant thermal suit should be able to withstand a force of not less than 3200N for a certain period of time. It should not be damaged for 30 minutes; the