



Maritime and Coastguard Agency

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## **Compatibility of Life-Saving Equipment**

**Notice to all Owners, Operators, Masters, Marine Equipment Suppliers & Surveyors**

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**PLEASE NOTE:-**

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

**Summary**

A number of issues have been highlighted with regards to the unsuitability of some immersion suits and lifejackets.

Information provided is intended to give guidance when taking into account the issue of compatibility of immersion suits and lifejackets when jointly used.

### **1. Introduction/ Background**

1.1 Standards for lifejackets and for immersion suit specifications are outlined within the Life-Saving Appliances Code (LSA Code). They do not fully address the wider issue of compatibility and suitability of lifejackets and immersions when worn together, such as buoyancy, flotation position and self-righting performance. Chapter II of the LSA Code outlines the general requirements for Lifejackets (Section 2.2), Immersion Suits (Section 2.3) and Anti-Exposure Suits (Section 2.4).

1.2 In summary, the requirements of the LSA Code include:

- a) "a lifejacket, when worn on its own, will:
  - i) lift the mouth of an exhausted or unconscious person not less than 120mm clear of the water .....; and
  - ii) turn the body of an unconscious person in the water from any position to one where the mouth is clear of the water. (LSA Code 2.2.1.2);
- b) an immersion suit (one which does not have sufficient buoyancy to be also classed as a lifejacket), will when worn in conjunction with a lifejacket, permit:
  - i) the test subject to float face-up with their mouths clear of the water by at least 120mm and be stable in that position; and

ii) a person in fresh water.....shall be able to turn from a face-down to a face-up position. (LSA Code 2.3.3)”

## **2. Guidance**

2.1 The LSA Code tests for immersion suits do not necessarily ensure that any given type of immersion suit is compatible with any given lifejackets. The LSA Code requirements with regards to buoyancy requirements for immersion suits will change as from 1st January 2010, (MSC.207 (81)). Extra care should be taken where the lifejacket is of a design with no “behind the neck” buoyancy – this type of lifejacket could actually lead to a survivor being inclined head down in the water when worn in combination with an immersion suit. It will be necessary to seek advice from the chandler/manufacturer when considering using lifejackets and immersion suits in combination - they may be able to indicate a type of lifejacket and immersion suit which have been tested satisfactorily in combination. Alternatively, operators may wish to conduct their own tests in accordance with the guidance referenced in the following paragraphs.

2.2 The Health and Safety Executive (HSE) commissioned research into the issue of compatibility of immersion suits and lifejackets, with the objective to produce a protocol to enhance the testing regime within the offshore sector. The Protocol assists Duty Holders to satisfy themselves that the different items of equipment are compatible and are suitable for use offshore. The HSE document outlines the acceptable additional criteria for "compatibility testing". The title of the document is:

*Compatibility test protocol for lifejackets and immersion suits on offshore installations. [Offshore Technology Report 2002/021], which was prepared by Mensafe Ltd for the Health and Safety Executive.*

The document is available electronically at the following hyperlink:

<http://www.hse.gov.uk/research/otohtml/2002/oto02021.htm>

## **3. LSA Code & ISM Code**

3.1 Although the LSA Code does specify a number of testing requirements in section 2.3.1.3, this does not fully address the compatibility issues. As such, the HSE document should be noted when assessing the potential implications of incompatible immersion suits and lifejackets within the maritime industry.

3.2 This MGN draws the attention to the principles of the International Safety Management (ISM) Code, which states that the safety management objectives of the Company should, among other things, establish safeguards against all identified risks. Consequently, it should be noted that the shipowner or operator is responsible for ensuring, with advice from the relevant manufacturers, that the LSA system as a whole is fit for purpose, in addition to SOLAS compliance of individual items of equipment. In particular, care should be taken that the full and free movement is available, that fixed gloves do not prevent operators from handling controls of LSA equipment, and that sufficient suits are provided in sizes appropriate for the crew onboard (i.e. including children) as required by Regulation 32.3 of SOLAS Chapter III.

## **4. Other Issues**

4.1 Compatibility of lifejackets and immersion suits is one aspect of the wider issue of compatibility of LSA equipment for all types of survival craft and Marine Evacuation Systems (MES). Specifically, compatibility of MES and lifejackets was highlighted in MGN 273(M) – “Operational issues relating to Marine Evacuation Systems”.

- 4.2 The HSE document may also be of benefit in considering compatibility in line with the principles of SOLAS III/7.2, namely that lifejackets should not impede access to survival craft. By extension, the combined use of lifejackets and immersion suits must provide for an efficient means of abandonment. It should be noted that there should be appropriate sizes of approved lifejackets for all persons onboard.
- 4.3 The 84th session of the IMO Maritime Safety Committee issued guidance on the wearing of immersion suits in totally enclosed lifeboats. This document, MSC.1/Circ 1278 is attached to this MGN as Annex A.

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## **GUIDANCE ON WEARING IMMERSION SUITS IN TOTALLY ENCLOSED LIFEBOATS**

- 1 The Maritime Safety Committee, at its eighty-fourth session (7 to 16 May 2008), considered the recommendations made by the Sub-Committee on Ship Design and Equipment at its fifty-first session, with regard to potential risks of overheating and dehydration associated with the wearing of immersion suits inside totally enclosed lifeboats, and approved the following guidance.
- 2 Experience gained during the January 2007 abandonment of the containership **MSC Napoli** during a winter storm in the English Channel highlighted the potential risks of wearing of immersion suits in totally enclosed lifeboats. Although outside temperatures were frigid, a number of crew wearing immersion suits suffered from overheating and dehydration. In document DE 51/INF.8, the Republic of Korea reported similar experience with immersion suits worn during abandon ship drills in moderate conditions, where crew experienced discomfort in a very short period of time, due both to overheating and to interference with seating arrangements.
- 3 Totally enclosed lifeboats have long been considered to provide adequate protection from hypothermia without the need for the occupants to wear immersion suits. The revised SOLAS regulation III/32 (as amended by resolution MSC.152(78)) requires to carry immersion suits for all persons on board cargo ships, regardless of carriage of totally enclosed lifeboats, stemming from reports of casualties in which the ship sank too quickly for crew to access the lifeboats. Immersion suits were required in order to ensure that thermal protection is available in the event that members of the crew are unable, for whatever reason, to embark on the lifeboats.
- 4 In general, immersion suits should not be worn when boarding totally enclosed lifeboats. While abandon ship drills are a good opportunity to examine and demonstrate the use of immersion suits, crew training during these drills should emphasize that immersion suits are intended primarily to ensure thermal protection in cases where the totally enclosed lifeboat cannot be embarked on.
- 5 Member Governments are invited to use the aforementioned guidance and to bring it to the attention of all parties concerned.