



PANAMA MARITIME AUTHORITY
Directorate General of Merchant Marine
Segumar Panama

Merchant Marine Circular No. 165

To: Owners/Operators of Panamanian Vessels, Recognized Organizations and Masters.

Subject: Guidelines for Periodic Testing of Immersion Suits and Anti-Exposure Suit Seams and Closures

References: MSC.1/Circular.1114; SOLAS Regulation III/20.7

The purpose of this Merchant Marine Circular is to inform all parties involved with Panamanian flag vessels, of the approved guidelines adopted with the purpose to avoid the deterioration over time of the seams and closures of immersion suits and anti-exposure suits.

The monthly shipboard inspections of immersion suits and anti-exposure suits are very helpful in identifying obvious problems with a suit, but do not adequately address deterioration of seams and closures (zippers, etc.); which may not be readily apparent by visual inspection. Such deterioration can be detected by pressurization of the suit with air, and testing of the seams and closures for leaks with a soapy water solution.

In order to ensure adequate strength and water tightness of seams and closures of immersion suits and anti-exposure suits with age, it is requested that each suit be subjected to an air pressure test, which we describe next, at intervals not exceeding three years, and every two years for suits over ten years of age:

- .1. A suitable head piece, fitted with a mean to inject air into the suit, should be inserted into the face orifice of the suit and secured so as to minimize leakage around the face seal. A low-pressure monitoring device, either integral to the fitting for air injection or as a separate device, should also be inserted. If the suit is fitted with detachable gloves and/or boots, the wrists and/or cuffs should be sealed by inserting a short length of suitable diameter plastic pipe and securing the gloves and/or boots with suitable wire ties or hose clamps. The zipper should be fully zipped, and any face flap closed. The suit should then be inflated to a pressure of 0.7 to 1.4 kPa (0.1 to 0.2 psi). If an auxiliary inflatable means of buoyancy is provided, it should be inflated through the oral valve to a pressure of 0.7 kPa (0.1 psi) or until firm to the touch.
- .2. Each seam and closure of the suit - and each seam, oral tube and attachment points and joint or valve of any auxiliary inflatable means of buoyancy - should then be covered with a soapy water solution containing enough soap to produce bubbles (if leakage is noted at a foot valve to the extent that air pressure cannot be maintained, the valves should be sealed for the test).
- .3. If leaks are revealed by the propagation of bubbles at seams or closures, the leaking areas

should be marked and, after cleaning the suit thoroughly with fresh water and drying it, repaired in accordance with the suit manufacturer's recommendations.

4. It is recommended that the air pressure test be performed at a suitable shore-based facility equipped to make any necessary repairs in accordance with the manufacturer's recommendations. In view of the wide variety of materials and adhesives used in immersion suits and anti-exposure suits, any repairs to a suit shall be carried out by a facility which has access to the original manufacturer's recommended servicing instructions, parts and adhesives, and suitably trained personnel. The air pressure test may be carried out on board ship if suitable equipment is available.

Recognized Organizations are requested to include the air pressure test of Immersion Suit and Anti-Exposure Suit Seams and Closures in the items to be checked during the surveys for Safety Equipment Certificate and Passenger Ship Safety Certificate.

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