

MEPC.107(49) Compliance Guide

15 ppm bilge separator + 15 ppm bilge alarm + oil content meter — MARPOL Annex I, ships "e 400 GT

IMO Resolution MEPC.107(49) — Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships — is the current type-approval standard for the 15 ppm bilge separator (oily-water separator, OWS) and the 15 ppm bilge alarm required by MARPOL Annex I Regulation 14 on every ship of 400 gross tonnage and above. It replaced MEPC.60(33) on 1 January 2005 and every unit installed on a ship whose keel was laid on or after that date must be MEPC.107(49) approved. This guide summarises what MEPC.107(49) requires of the equipment, of the shipowner and of the inspecting surveyor, and lists the documents that have to be on board.

What MEPC.107(49) requires of the equipment

- 15 ppm limit — the effluent from the OWS must not exceed 15 parts per million (mg/L) of oil under any operating condition (Reg. 14.7). No dilution is permitted.
- 15 ppm bilge alarm — an oil-content meter continuously monitors the effluent. When the reading exceeds 15 ppm, the alarm activates and the automatic three-way overboard stopping valve returns the flow to a holding tank or the bilge (Reg. 14.7 and MEPC.107(49) §3.5). The alarm and the stopping arrangement must be independent of the OWS operator.
- Test-fluid families — Annex II of MEPC.107(49) prescribes three test fluids: Test Fluid A (light distillate, marine gas oil), Test Fluid B (heavy fuel oil emulsion) and Test Fluid C (bilge-water equivalent with detergents and solids). The unit is tested against all three plus a fresh-water challenge.
- Rated capacity — the OWS carries a rated throughput (m³/h). The type-approval performance is only valid at or below this rate; oversizing wastes bilge capacity and undersizing lets emulsions through untreated.
- Marking and identification — every unit carries a manufacturer's plate with the type designation, MEPC.107(49) type-approval certificate number, rated capacity, serial number and year. This plate is what the port-state inspector reads.

What has to be on board

- Type-approval certificate — the MEPC.107(49) certificate for the specific serial number of both the OWS and the 15 ppm bilge alarm, issued by the flag administration or by a recognised organisation on its behalf.
- IOPP certificate — the International Oil Pollution Prevention certificate, with the OWS make, model and rated capacity entered in Supplement Form A/B section 3.1.
- Oil Record Book Part I — every discharge, transfer and internal recovery of bilge water logged with date, position, quantity and OWS operating hours (Reg. 17).
- OWS operating manual — the shipboard operating and maintenance manual specific to the model on board; the survey checks that the manual is present, in the language of the crew and matches the installed unit.
- 15 ppm alarm test log — record of the monthly alarm calibration test (either a zero-check with clean water or the manufacturer-supplied optical challenge, per MEPC.107(49) §3.4).

Common survey findings

The most frequent MEPC.107(49) non-conformity at survey is a missing or defaced manufacturer's plate on the 15 ppm bilge alarm — the alarm is often replaced during retrofit without transferring the plate, and the port-state inspector will not accept the OWS certificate as proof for the alarm. Second most common is a fouled or overdue coalescer / filter cartridge that allows the outlet to exceed 15 ppm on test; MEPC.107(49) §3.7 requires the coalescer to be changed at the interval specified by the maker (typically 6 to 12 months). Third is manual operation of the three-way valve, which MEPC.107(49) prohibits — the valve must be actuated automatically by the alarm signal only.

Compatible equipment on cballast.com

cBallast supplies MEPC.107(49) type-approved bilge separators (RWO OceanClear, Wärtsilä Senitec, Alfa Laval PureBilge and equivalents), 15 ppm bilge alarms, oil-content meter cells, coalescer / filter cartridges and replacement three-way solenoid valves. Reference the make and model, the certificate number and the shipyard ID when quoting so we match the exact spare against the type-approval documentation on board.

Reference compiled by cBallast from IMO Resolution MEPC.107(49) (revised guidelines and specifications), MARPOL Annex I Regulations 14 and 17, and current class-society type-approval requirements. Where the shipboard installation, alarm calibration, filter-change interval or record-keeping differs from the manufacturer's approved arrangement, follow the equipment maker's current instructions and the flag-administration guidance. All trademarks are the property of their respective owners.

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