

# Fresh water load line marks

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Maritime New Zealand Position Statement

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## Purpose of this position statement

This position statement sets out Maritime New Zealand's (Maritime NZ's) position on the requirement for fresh water load line marks. It's intended to provide clarification to Maritime NZ recognised surveyors and operators.

## Vessels this position statement applies to

This position statement applies to all New Zealand vessels to which Maritime Rules 47.1 and 47.2 applies.

## Issue

A question has been asked whether ships not operating in fresh water or not intending to use the fresh water load line are required to mark a fresh water line.

## Maritime NZ's view

The purpose of load lines is to help prevent overloading of the ship. The fresh water load line is intended for ships operating in both sea water and fresh water (including "brackish" water, i.e. with specific gravity of between 1 and 1.025). This accommodates the difference of water densities allowing a ship to load to its maximum loading capacity when in water of less specific gravity than sea water. The position of the fresh water load line relative to the summer line is determined by the fresh water allowance according to Reg.40(7) of the load line convention or Maritime Rule 47.63 (referenced at the end of this document). While it's always allowed to be marked when applicable (unless as otherwise described below), a fresh water load line does not contribute to the safe operation of the vessel if it does not operate in fresh water or the fresh water load line is not intended to be used.

The law is not very clear in how the requirements for specific seasonal lines apply, particularly where certain seasonal lines may not be relevant for the intended purpose of the vessel. The principle is outlined in the *International Convention on Load Lines, Regulation 6 - Lines to be*

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used with the load line mark. Regulation 6(5) states:

*“(5) Where the characteristics of a ship or the nature of the ship’s service or navigational limits make any of the seasonal lines inapplicable, these lines may be omitted.”*

Surveyors doing the freeboard calculations need to talk to the operators and should determine whether a fresh water load line is needed considering its characteristics, nature of service or operating limits. In Maritime NZ’s view, a fresh water mark may be omitted where:

- a vessel does not operate in fresh water; or
- a fresh water load line is not intended to be used.

When no fresh water line is marked, the “no submersion” principle as per Article 12 of the convention still applies, which means in such case the summer load line, or other appropriate lines, shall not be submerged at any time when the ship departs, during the voyage or on arrival even when in fresh water.

For ships operating in inland waters of fresh water only, when the loading / calculation is based on fresh water density and summer freeboard assigned accordingly, the fresh water allowance according to Reg.40(7) of the load line convention or MR 47.63 is no longer applicable and as result, in such case, the fresh water load line **should not** be marked.

## Further clarification

When a vessel has a fresh water load line and is used, it needs proper equipment, e.g. bucket and certified / calibrated hydrometer, to enable its crew to sample the sub-surface water and measure its specific density. The crew is also expected to have relevant knowledge of load lines, their use in operation (including the use of the equipment involved).

## Rule reference

Determination of fresh water allowance is described in the following rules.

### **Maritime Rule 47.63 – Determination of freeboard**

(5) Except as provided in subrule (6), the minimum freeboard in fresh water of unit density must be obtained by deducting from the minimum freeboard in salt water—

$$\Delta \div 40T$$

where:  $\Delta$  = displacement in salt water in tons at the summer load waterline T = tons per centimetre immersion in salt water at the summer load waterline.

(6) If the displacement at the summer load waterline cannot be certified, the minimum freeboard in fresh water of unit density must be obtained by deducting from the minimum freeboard in salt water one-forty-eighth of the summer draught, measured from the top of the keel to the top of the summer load line mark.