

M25 Astern power for main propulsion

(1975)

(Rev.1

1984)

(Rev.2

1997)

(Rev.3

July

2003)

(Rev.4

June

2017)

(Rev.5

Dec

2024)

~~M25.1 In order to maintain sufficient manoeuvrability and secure control of the ship in all normal circumstances, the main propulsion machinery is to be capable of reversing the direction of thrust so as to bring the ship to rest from the maximum service speed. The main propulsion machinery is to be capable of maintaining in free route astern at least 70% of the ahead revolutions[†]. The minimum astern power required by SOLAS II-1 / 28.1 to secure proper control of the ship in all normal circumstances is to be determined by the ship designer and is not to exceed the maximum permissible astern power (MPAP) for which the propulsion plant is designed. Astern trials are to be conducted in accordance with the provisions of ISO 19019:2005, section 5.4: Astern trials.~~

M25.2 Where steam turbines are used for main propulsion, the astern trial is to demonstrate that they are to be capable of maintaining operating at their maximum permissible astern power (MPAP) in free route astern at least 70% of the ahead revolutions[†] for a period of at least 15 minutes. The astern trial is to be limited to 30 minutes or in accordance with manufacturer's recommendation to avoid overheating of the turbine due to the effects of "windage" and friction.

M25.3 ~~For the main~~ Main propulsion systems with reversing gears, controllable pitch propellers or electric propeller drive are to be designed for the maximum permissible astern power, running astern which should not lead to the overload of propulsion machinery.

Note:

The designed maximum astern power, as referred to in SOLAS II-1 / 3.15, defining the maximum astern speed for the design of the main steering gear and rudder stock as per SOLAS II-1 / 29.3.4 and UR S10.2.1.1, shall not to be taken less than the MPAP.

~~M25.4 Main propulsion systems are to undergo tests to demonstrate the astern response characteristics.~~

The astern tests are to be carried out at least over the manoeuvring range of the propulsion system and from all control positions. A test plan is to be provided by the yard and accepted by the surveyor. If specific operational characteristics have been defined by the manufacturer these shall be included in the test plan.

~~M25.5 The reversing characteristics of the propulsion plant, including the blade pitch control system of controllable pitch propellers, are to be demonstrated and recorded during trials.~~

[†]— ~~The ahead revolutions as mentioned above are understood as those corresponding to the maximum continuous ahead power for which the vessel is classed.~~

Note:

1. Rev.4 of this UR is to be uniformly implemented by IACS Societies on:
 - (a) ships contracted for construction on or after 1 July 2018.
 - (b) ships other than those specified in the preceding (a) on which astern testing is carried out in accordance with Z18 on or after 1 July 2018.

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2. Rev.5 of this UR is to be uniformly implemented by IACS Societies on:

- (a) ships contracted for construction on or after 01 January 2026.
- (b) ships other than those specified in the preceding (a) on which astern testing is carried out in accordance with Z18 on or after 01 January 2026.

23. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No. 29.

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