

**PARTE II RULES FOR THE CONSTRUCTION
AND CLASSIFICATION OF VESSELS
IDENTIFIED BY THEIR MISSION**

TITLE 32 OIL TANKERS

SECTION 5 ENGINES AND MECHANICS

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CHAPTER A SCOPE

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A1. SPHERE OF APPLICATION

A1. SPHERE OF APPLICAITON

100. Fitting in the Rules

101. The Rules herein shall apply to machinery and propulsion engine facilities and auxiliaries of vessels of its Title 32, intended for the carriage of bulk liquids of the Class 3, service notation K2 and K3.

102. to 104. – See Title 11

200. Norms

201. The propulsion facilities and all the equipment and accessories employed on the vessels covered by these Rules shall be designed, constructed and tested complying with the latest revisions of pertinent norms of INMETRO and, in the absence thereof, those of the following organizations:

- ASTM - American Society for Testing and Materials;
- ANSI - American Society Standard Institute;
- ASME - American Society of Mechanical Engineers.

300. Statutory requirements - See Title 11

CHAPTER D INSTALLATION PRINCIPLES

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D1. SPECIFIC CONDITIONS

D2. DISPOSITION OF THE MACHINERY

D3. TRANSMISSION OF ORDERS - See Title 11

D4. IDENTIFICATION OF THE MACHINERY - See Title 11

D1. SPECIFIC CONDITIONS

100. Seamanship facilities – See title 11

200. Inclination – See title 11

300. Design temperature

301. The design of the installations of auxiliary machinery and equipment should be based at a temperature of 45° C in the engine room and at a temperature of 32° C of the raw water drawn, of the inside or of the sea.

302. to 303. – See Title 11

304. None of the external parts of engines used in the cargo loading or unloading operations should exceed the temperature of 200° C.

400. Fuels

401. Internal combustion engines using only fuel with a flash point > 55° C will be accepted.

402. In accordance with the conditions specified in the NORMAM 02, fuels with flash point less than 60° C (such as alcohol or gasoline) shall not be used.

500. “Cargo area”

- See Part II, Title 32, Section 1, sub-chapter A.2.

D2. DISPOSITION OF THE MACHINERY

100. General arrangement

101. to 104. – See Title 11.

105. Engine rooms with internal combustion engines operating cargo pumps, or during cargo or tank handling, should be located out of the “cargo area”.

106. The prime movers of the cargo pumps should be installed outside the cargo area. The RBNA may authorize, upon analysis, the use of hydraulic or electric motors explosion-proof, in the "cargo area".

107. In ships of type V, auxiliary engines with internal combustion may be installed in the cargo area.

108. Internal combustion engines installed on exposed deck shall be located in deckhouses that allow ventilation and maintenance. There should be bulkhead separating them from the pump room, with height above the pump of at least 1500 mm and clearance for each side of the pump at least 1500 mm. In the case of cargo with flash point less than 60° C , the deckhouses should have no openings at less than 3 (three) meters from any source of fumes, as cargo pump, air pipes and ventilation openings of the peak tanks that act as cofferdam of the "cargo area".

109. There can be no equipment or device producing sparks in the cargo area.

110. The heaters, cooking or cooling equipments are only admitted in the accommodation spaces and should not use liquid, solid or liquefied gas fuel. In the Engine Room may be installed heaters, cooling or air conditioning systems that use liquid fuel with a flash point greater than 55° C.

200. Ventilation

- See Title 11

300. Accesses

- See Title 11

400. Illumination

- See Title 11

500. Engine Room bilge drainage

- See Title 11

600. Thermal insulation

- See Title 11

700. Protection equipment – preventive measures

701. – See Title 11

702. The drive shaft passes through the bulkheads of the Engine Room should be gas-tight and approved by the RBNA. The drive shaft penetrations of cargo pumps, from a compartment above the deck, should be gas leak-proof.

703. The drive shafts and any turning parts or furniture should have protection covers.

704. The engines will have provided means of being stopped, from outside the compartment in which they are.

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