



Standard Practice for Human Engineering Design for Marine Systems, Equipment, and Facilities¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This practice establishes general human engineering design criteria for marine vessels, and systems, subsystems, and equipment contained therein. It provides a useful tool for the designer to incorporate human capabilities into a design.

1.2 The purpose of this practice is to present human engineering design criteria, principles, and practices to achieve mission success through integration of the human into the vessel system, subsystem, and equipment with the goals of effectiveness, simplicity, efficiency, reliability, and safety for operation, training, and maintenance.

1.3 This practice applies to the design of vessels, systems, subsystems, and equipment. Nothing in this practice shall be construed as limiting the selection of hardware, materials, or processes to the specific items described herein. Unless otherwise stated in specific provisions, this practice is applicable to design of vessel systems, subsystems, and equipment for use by both men and women.

1.4 Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.

1.5 This practice is not intended to be a criterion for limiting use of material already in the field in areas such as lift repetition or temperature exposure time.

1.6 *Force Limits*—If it is known that an item is to be used by an already established occupational specialty, for which physical qualification requirements for entry into that specialty are also established, any discrepancy between the force criteria of this practice and the physical qualification requirements shall be resolved in favor of the latter. In this event, the least stringent physical qualification requirement of all specialties which may operate, maintain, transport, supply, move, lift, or otherwise manipulate the item, in the manner being considered, is selected as a maximum design force limit.

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.07 on General Requirements.

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1.7 *Manufacturing Tolerances*—When manufacturing tolerances are not perceptible to the user, this practice shall not be construed as preventing the use of components whose dimensions are within a normal manufacturing upper or lower limit tolerance of the dimensions specified herein.

1.8 This practice is divided into the following sections:

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