

Temperature Rise Limits of Power and Lighting Transformers

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part H
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Reason for Amendment

Currently, the ClassNK Rules specify that the standard ambient temperature for general electrical equipment such as rotating machines is to be 45°C. In addition, the Rules also specify that such standard ambient temperatures may be modified to 40°C for certain ships in certain cases. However, the requirements for transformers specify that such a temperature may be modified to 40°C or less. Therefore, the relevant requirements of transformers need to be amended in order to harmonize them with the requirements for general electrical equipment.

Furthermore, it is anticipated that, due to the switchover to high voltage electric power supply systems, the adoption of transformers which are capable of suppressing temperature rises through the use of coolant will increase in the future. Therefore, new temperature modification requirements concerning the use of such coolant are needed.

In response to the above, the relevant requirements are amended to reference requirements concerning other general electric equipment.

Outline of Amendment

- (1) The modification method for the ambient temperature of transformers, in cases where the ambient temperature is different from 45°C, is amended.
- (2) Requirements concerning temperature modification for transformers that have cooling systems which use coolants are provided.