C802.2-12

Minimum efficiency values for dry-type transformers

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Preface

This is the third edition of CSA C802.2, *Minimum efficiency values for dry-type transformers*. It supersedes the previous editions, published in 2006 and 2000.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Subcommittee on Dry-Type Transformer Efficiency, under the jurisdiction of the Technical Committee on Industrial Equipment and the Strategic Steering Committee on Performance, Energy Efficiency, and Renewables, and has been formally approved by the Technical Committee.

Notes:

(1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*

(2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*

(3) *This Standard was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*

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(b) relevant clause, table, and/or figure number;
(c) wording of the proposed change; and
(d) rationale for the change.

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Minimum efficiency values for dry-type transformers

1 Scope

1.1
This Standard specifies efficiency values for dry-type transformers. The total ownership cost (TOC) methodology is recommended as the means for achieving these efficiencies, particularly for electric utilities. This Standard also specifies an optimal method for users other than utilities, based on a modified TOC methodology that meets the conditions of energy cost.
Note: *See Table 1 for minimum efficiency values.*

1.2
This Standard covers single-phase and three-phase self-contained units or components of larger assemblies, 60 Hz, ANN, rated 15 to 833 kVA for single phase and 15 to 7500 kVA for three phase.

1.3
This Standard describes the special features that influence efficiency and provides modifications to the efficiency values specified in Table 1 where such modifications are necessary.

1.4
This Standard specifies the test methods and procedures for determining transformer efficiencies.

1.5
This Standard does not apply to
(a) autotransformers;
(b) grounding transformers;
(c) rectifier transformers;
(d) sealed transformers;
(e) nonventilated transformers;
(f) testing transformers;
(g) furnace transformers;
(h) welding transformers;
(i) encapsulated transformers;
(j) drive (isolation) transformers with two or more output windings or a rated low-voltage line current greater than 1500 A;
(k) transformers operating at a nominal frequency other than 60 Hz;
(l) special impedance transformers;
(m) transformers with a nominal low-voltage line current of 4000 A or more;
(n) on-load regulating transformers;
(o) resistance grounding transformers;
(p) transformer with two or more independent windings for more than one independent output voltage; and
(q) transformers with a low-voltage winding and a BIL above 30 kV.