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Irish Standard
I.S. EN 16440-1:2015

Testing methodologies of refrigerating devices for insulated means of transport -
Part 1: Mechanical cooling device with forced air circulation evaporator with or without heating device

I.S. EN 16440-1:2015

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Testing methodologies of refrigerating devices for insulated means of transport - Part 1: Mechanical cooling device with forced air circulation evaporator with or without heating device

Méthodes d'essai des appareils de réfrigération pour moyens de transport isothermes - Partie 1 : Systèmes de réfrigération mécanique avec évaporateur à circulation d'air forcée ou convection et dispositifs de chauffage optionnels

Prüfung von Kühleinrichtungen für wärmegeämmte Transportmittel - Teil 1: Transportkältemaschinen mit zwangsbelüftetem Verdampfer mit oder ohne Heizeinrichtung

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EN 16440-1:2015 (E)

Foreword

This document (EN 16440-1:2015) has been prepared by Technical Committee CEN/TC 413 “Insulated means of transport for temperature sensitive goods with or without cooling and/or heating device”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2015 and conflicting national standards shall be withdrawn at the latest by July 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This European Standard applies to mechanical cooling devices with air circulation heat exchangers with or without heating device. The mechanical cooling devices are intended to be used with insulated transport equipment. They include a drive or a means of force transmission and are provided with all the components necessary for the controlled thermal transport system. The mechanical cooling devices can be powered with independent engine and/or vehicle engine and/or any other source of energy. This standard specifies the testing methodologies.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 228, *Automotive fuels - Unleaded petrol - Requirements and test methods*

EN 589, *Automotive fuels - LPG - Requirements and test methods*

EN 590, *Automotive fuels - Diesel - Requirements and test methods*

EN ISO 5801, *Industrial fans - Performance testing using standardized airways (ISO 5801)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO/IEC Guide 99:2007, *International vocabulary of metrology - Basic and general concepts and associated terms (VIM)*

3 Terms and definitions, symbols and uncertainties

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC Guide 99:2007 and the following apply.

3.1.1

air volume flow

V_A

volume flow delivered by the fans in the evaporator unit

3.1.2

calorimeter box

thermally insulated room in which the evaporator unit of the cooling device is placed

Note 1 to entry: A calorimeter box can also be substituted by a suitable thermally insulated means of transport.

3.1.3

compressor/condenser unit

part of the cooling device including compressor, condenser, fans, housing, drives (electric motor, internal combustion motor, hydraulic engine and similar) and the operating panel with the control devices

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