SLOVENSKI STANDARD
SIST EN 378-3:2017/oprA1:2019

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Hladilni sistemi in toplotne črpalke - Varnostnotehnične in okoljevarstvene zahteve - 3. del: Mesto postavitve in zaščita oseb - Dopolnilo A1

Refrigerating systems and heat pumps - Safety and environmental requirements - Part 3: Installation site and personal protection

Kälteanlagen und Wärmepumpen - Sicherheitstechnische und umweltrelevante Anforderungen - Teil 3: Aufstellungsort und Schutz von Personen

Systèmes frigorifiques et pompes à chaleur - Exigences de sécurité et d'environnement - Partie 3: Installation in situ et protection des personnes

Ta slovenski standard je istoveten z: EN 378-3:2016/prA1

ICS:

27.080	Toplotne črpalke	Heat pumps
27.200	Hladilna tehnologija	Refrigerating technology

SIST EN 378-3:2017/oprA1:2019 en,fr,de

EUROPEAN STANDARD

NORME EUROPÉENNE

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English Version

Refrigerating systems and heat pumps - Safety and environmental requirements - Part 3: Installation site and personal protection

Systèmes frigorifiques et pompes à chaleur - Exigences de sécurité et d'environnement - Partie 3: Installation in situ et protection des personnes

Kälteanlagen und Wärmepumpen - Sicherheitstechnische und umweltrelevante Anforderungen - Teil 3: Aufstellungsort und Schutz von Personen

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 182.

This draft amendment A1, if approved, will modify the European Standard EN 378-3:2016. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 378-3:2016/prA1:2019) has been prepared by Technical Committee CEN/TC 182 “Refrigerating systems, safety and environmental requirements”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

1 Modification to Subclause 4.1

Replace subclause 4.1 with the following:

"4.1General

Refrigerating equipment may be sited outside the building in the open air or in a machinery room or in occupied areas or in unoccupied areas not designated as a machinery room.

NOTE 1 The refrigerating equipment can be contained in a ventilated enclosure provided by the manufacturer. Requirements for this enclosure are given in EN 378-2:2016, 6.2.14.

The location of refrigeration systems with group A2L, A2, B2L, B2, A3, B3 refrigerants shall be assessed with regard to flammability and classified according to the requirements of EN 60079-10-1 for the hazardous zone.

NOTE 2 The assessment according to EN 60079-10-1 considering the LFL and type of release can conclude that the hazardous area is of negligible extent."

2 Modification to Subclause 4.4

Replace subclause 4.4 with the following:

"4.4Refrigerating equipment located in the occupied space

The refrigerant charge shall be as specified in EN 378-1:2016 Annex C for the access category and location class of the equipment. Where the charge calculation is according to EN 378-1:2016, C.3. then the alternative provisions listed in Clause 6 of this standard shall apply. Where appropriate the installation in the occupied space shall comply with Clause 8 and Clause 9 of this standard."

3 Modification to Subclause 5.14

Replace subclause 5.14.3.3 with the following:

"5.14.3.3 Fire sprinkler systems

If fire suppression systems of the water sprinkler type are installed in machinery rooms with R-717 refrigerating systems then the following conditions shall be fulfilled:

— The sprinkler heads are individually actuated at 141 °C or higher (high temperature according to EN 12845);

— There is no manual override of the activation of the sprinkler system;

— The sprinkler installation conforms to the requirements of EN 12845.

NOTE 1 The addition of water to a pool of ammonia liquid can cause the rapid evolution of large amounts of ammonia gas in the atmosphere resulting in increased risk of injury to persons in the vicinity.

NOTE 2 A pre-action system where an actuated water valve in the sprinkler supply is controlled by a fire detection system can be used to reduce the probability of accidental discharge of any of the sprinkler heads.

NOTE 3 The provision for a remote sump in the drainage system from the machinery room will reduce the risk of environmental pollution from the run-off water. "

Add a new subclause 5.14.3.4:

"5.14.3.4 Doors and openings

Machinery rooms where the refrigerant charge is above the practical limit for the volume of the room shall have a door that either opens directly to the outside air or through a dedicated anteroom equipped with self-closing, tight-fitting doors to an emergency exit passageway."

Delete subclause 5.14.5.

4 Modification to Subclause 9.3.1

Replace subclause 9.3.1 with the following:

"9.3.1 General

Any suitable detector may be used and shall give an electrical signal at the pre-set value of the refrigerant or oxygen concentration (the pre-set value) that activates the shut-off valves, the alarm system, the mechanical ventilation or other emergency controls.

Detectors shall be continuously monitored for functioning. In the case of a detector failure, the emergency sequence should be activated as if refrigerant had been detected.

The pre-set value for the refrigerant detector at 30 °C or 0 °C, whichever is more critical, shall be set at not more than 25 % of the LFL or 50 % of the ATEL/ODL, whichever is the lower value, as given in EN 378-1:2016, Annex E. The pre-set value for the oxygen deprivation detector shall be 18 % or higher.

To ensure that the output signal is triggered at the pre-set value, the sensitivity tolerance of the detector, as declared by the detector manufacturer, shall be considered. The sensitivity of the detector shall consider voltage fluctuation of ± 10 % of power line voltage.

An appropriate maintenance period shall be established for each type of detector used.

Oxygen deprivation sensors shall not be used for indicating refrigerant leaks.

The detectors for monitoring halogenated refrigerants shall comply with EN 14624. In addition, for all detectors the response time of the detector shall be 30 s or less at a concentration of 1,6 times the pre-set value.

NOTE 1 Sensors can be affected by the presence of gas or vapour other than that the equipment is intended to detect. Ensure that if sensors are used, this will not compromise the safety or integrity of the installation.

NOTE 2 EN 60079-29-2 specifies requirements for selection, installation, use and maintenance of detectors of flammable gases. "