

**Koelsystemen en warmtepompen.  
Veiligheids- en milieu-eisen. Deel 7:  
Beproeving, in bedrijfname en  
controle ter plaatse**

Publikatie uitsluitend voor commentaar

Refrigerating systems and heat pumps. Safety and environmental requirements. Part 7: Testing, commissioning and site inspection

november 1993  
UDC 621.57:614.8

Commentaar vóór 1 maart 1994

De European Committee for Standardization (CEN), waarin de nationale normalisatie-instituten van 18 Europese landen samenwerken, heeft gepubliceerd het Europese normontwerp:

prEN 378-7 Refrigerating systems and heat pumps. Safety and environmental requirements. Part 7: Testing, commissioning and site inspection

Definitief vastgestelde Europese normen zullen als Nederlandse norm gelden (onder normnummer NEN-EN . . . . .). Daarom wordt dit normontwerp in Nederland voor commentaar gepubliceerd. Op het ontwerp ingebracht commentaar zal aan de bevoegde normcommissie worden voorgelegd die hiermee rekening zal houden bij de bepaling van de Nederlandse stem. Als er geen bezwaren bij het NNI worden ingebracht, kan dat leiden tot ongewijzigde definitieve vaststelling van het ontwerp als norm.

Van Europese normen bestaan drie officiële versies: Engels, Frans, Duits. Voor Nederland zal de Engelse versie gelden, tenzij voor een geautoriseerde versie in het Nederlands wordt gekozen.

Normcommissie 343 094 "Koelinstallaties"

Prijsklasse 24

Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Nederlands Normalisatie-instituut niets uit deze uitgave worden veeleenvoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor veeleenvoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdende met toepassing van door het Nederlands Normalisatie-instituut gepubliceerde uitgaven.

Voorbeeld  
Preview

UDC

Descriptors :

English version

Refrigerating systems and heat pumps - Safety and environmental requirements - Part 7: Testing, commissioning and site inspection

Systèmes de réfrigération et pompes à chaleur - Exigences de sécurité et d'environnement - Partie 7: Essais, réception et inspection in situ

Kälteanlagen und Wärmepumpen - Sicherheitstechnische und umweltrelevante Anforderungen - Teil 7: Prüfung, Inbetriebnahme und Überwachung am Aufstellungsort

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

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

© CEN 1993 Copyright reserved to all CEN members

Ref. No. prEN 378-7:1993 E

## Contents list

Foreword	2
0 Introduction	2
1 Scope	3
2 Normative references	3
3 Definitions	4
4 General	4
5 Strength pressure test for components	4
6 Pressure test for systems	5
7 Leakage test	5
8 Conformity Test of the complete installation	6
9 In-service inspection	7
Annex A (normative) Check list for external visual inspection installation	7
Annex B (normative) Check list for external visual inspection	9
Annex C (normative) Corrosion inspection	10
Annex D (informative) Bibliography	11
	12

### Foreword

This draft European standard was prepared by the CEN Technical Committee CEN/TC 182 "Refrigerating systems, safety and environmental requirements", the secretariat of which is held by DIN.

The Technical Committee CEN/TC 182 has decided to submit this draft European Standard to the CEN Public Enquiry.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

### 0 Introduction

The introduction of EN 378-1 is applicable.

## 1 Scope

1.1 The scope of EN 378-1 is applicable.

1.2 This Part 7 of the European Standard is applicable to the testing, commissioning and site inspection of refrigerating systems.

1.3 Certain clauses and subclauses of this Part 7 are not applicable to unit systems and self-contained systems which operate in a static position with charges of refrigerant up to

10,0 kg of group L1 refrigerant,

2,5 kg of group L2 refrigerant and

1,0 kg of group L3 refrigerant.

The clauses and subclauses which are not applicable are:

4.1 (Provided components are type tested and provided tests b) and d) are still applied to the system);

4.2;

5 (Provided components are type tested and a leakage test according to 7 is carried out);

6.1;

7.3;

8.1; 8.2; 8.3; 8.6;

9.1;

Annex A; Annex B; Annex C.

1.4 Some unit systems and self-contained systems have maximum working pressures separately specified for the high and low pressure sides. In such cases, if it is not possible to separate the high and low pressure sides after the unit has been assembled, any further testing of the system may be carried out at pressures not more than the maximum working pressure of the low pressure side. For particular classes or types of appliances in quantity production certain tests included in this Part 7 of the European Standard may be specified as type tests only.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard, only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- |           |  |
|-----------|--|
| EN 378-1  | Refrigerating systems and heat pumps; Safety and environmental requirements; Part 1: Basic requirements                        |
| EN 378-2  | Refrigerating systems and heat pumps; Safety and environmental requirements; Part 2: General definitions                       |
| EN 378-5  | Refrigerating systems and heat pumps; Safety and environmental requirements; Part 5: Design, construction and materials        |
| EN 378-10 | Refrigerating systems and heat pumps; Safety and environmental requirements; Part 10: Operation, documentation and instruction |
| prEN ...  | Non destructive testing of welds   |

NOTE: The number of the EN Standard in preparation will be added at a later stage.

### 3 Definitions

For the purposes of this European Standard the definitions given in EN 378-2 and the following apply.

3.1 vacuum procedure: A procedure to check the gas tightness of an uncharged system by drawing a vacuum.

### 4 General

#### 4.1 Tests

Before putting into service any refrigerating system, all the components or the whole refrigerating system shall undergo the following tests:

- a) strength pressure test;
- b) leakage test;
- c) functional test of safety devices;
- d) conformity test of the complete installation.

All refrigeration components and refrigerating systems shall be subjected, before painting and insulating, to a strength pressure test followed by a leakage test (see clauses 5, 6 and 7).

NOTE: Joints should be accessible for inspection while testing is in progress.

After strength pressure testing and leakage testing and before the system is started up for the first time, functional testing of all the safety circuits shall be carried out.

#### 4.2 Test results

The results of these tests shall be recorded.

### 5 Strength pressure test for components

#### 5.1 General

All components shall be strength pressure tested and certified individually or in groups depending on their location in the system and the requirements of table 1 of EN 378-5 either before leaving the factory or on site, if not previously tested.

NOTE: For pressure gauges and control devices lower test pressures may be used but not less than the maximum working pressure.

# ALTIJD DE ACTUELE NORM IN UW BEZIT HEBBEN?

Nooit meer zoeken in de systemen en uzelf de vraag stellen:  
“Is NEN-EN 378-7:1993 Ontw. en de laatste versie?”™

Via het digitale platform NEN Connect heeft u altijd toegang tot de meest actuele versie van deze norm. Vervallen versies blijven ook beschikbaar. **U en uw collega's** kunnen de norm via NEN Connect makkelijk raadplagen, online en offline.

Kies voor slimmer werken en bekijk onze mogelijkheden op [www.nenconnect.nl](http://www.nenconnect.nl).

## Heeft u vragen?

Onze Klantenservice is bereikbaar maandag tot en met vrijdag, van 8.30 tot 17.00 uur.

Telefoon: 015 2 690 391

E-mail: [klantenservice@nen.nl](mailto:klantenservice@nen.nl)

