



**SLOVENSKI STANDARD**  
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**01-junij-2009**

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Refrigerating systems and heat pumps - Competence of personnel - Complementary element

Kälteanlagen und Wärmepumpen - Sachkunde von Personal

Systèmes de réfrigération et pompes à chaleur - Compétence du personnel

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**ICS:**

27.080	V[ ] [ [ q ^ Á ! ] æ ^	Heat pumps
27.200	Hladilna tehnologija	Refrigerating technology

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NORME EUROPÉENNE  
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English Version

## Refrigerating systems and heat pumps - Competence of personnel - Complementary element

Systèmes de réfrigération et pompes à chaleur -  
Compétence du personnel

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the 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.

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

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<b>Contents</b>	<b>Page</b>
Foreword .....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Competences .....	7
4.1 General .....	7
4.2 Competence level .....	8
4.3 Requirements for assessment and maintenance of competence .....	8
4.3.1 General requirements .....	8
4.3.2 Competence assessment .....	8
4.3.3 Maintenance of competence .....	8
Annex A (normative) Assessment of competences .....	9
A.1 General .....	9
A.2 Assessment .....	9
A.2.1 General .....	9
A.2.2 Overview .....	9
Annex B (informative) .....	18
Annex C (informative) Electricity .....	19
Bibliography .....	20

## Foreword

This document (prEN 13313:2009) has been prepared by Technical Committee CEN/TC 182 “Refrigerating systems and heat pumps”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13313:2001.

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## Introduction

Refrigerating systems, if not properly constructed, installed, operated and maintained, can be of danger to the health and safety of persons and detrimental to the environment.

It is therefore essential that personnel dealing with such systems are competent to carry out the activity or activities listed in this standard. These activities cover the particular sectors in which they may operate from original design to final dismantling and disposal. As job descriptions can vary from country to country and from company to company this standard specifies the activities to be carried out. Job descriptions should specify these activities.

This standard defines the activities related to the refrigerating circuit.

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## 1 Scope

This European Standard defines the activities related to refrigerating circuits and the associated competence profiles and establishes procedures for assessing the competence of persons who carry out these activities.

NOTE: As a refrigeration circuit is considered not to incorporate electrical and electronical systems activities in this area are not part of this standard. For competences on electrical and electronical systems see EN 50110.

This European Standard does not apply to persons carrying out work on self contained refrigerating systems as defined in EN 378-1 from the initial design of the product to the complete manufacture of the product provided the process is controlled and the methods used are checked by an organisation or individual responsible for the compliance with statutory requirements of health, safety and environment.

## 2 Normative references

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

EN 378-1	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 1: Basic requirements, classification and selection criteria</i>
EN 378-2	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 2: Design, construction, testing, marking and documentation</i>
EN 378-3	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 3: Installation site and personal protection</i>
EN 378-4	<i>Refrigerating systems and heat pumps – Safety and environmental requirements – Part 4: Operation, maintenance, repair and recovery</i>
EN ISO/IEC 17024	<i>Conformity assessment - General requirements for bodies operating certification of persons</i>
EN 50110	<i>Operation of electrical installations (National Annexes)</i>

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **assessment**

process by which the evidence generated, gathered and provided about a person is judged to determine competence

### 3.2

#### **approved organisation (awarding body)**

organisation which is recognised to assess competence and to award certificates (a proof of competence) recognizing the health, safety, environmental and energy conservation competence of persons working on refrigerating systems and heat pumps

**prEN 13313:2009 (E)**

NOTE General criteria for awarding bodies can be found in EN-ISO/IEC 17024.

**3.3****competence**

ability to perform safely and satisfactorily the activities within an occupation

NOTE With reference to this standard to be competent means to have the knowledge and/or skill to perform the task(s) under consideration, so that a level according to this European Standard is achieved and simultaneously to possess the necessary insight into the relevant problems to understand why the task should be carried out in such a way.

**3.4****qualification**

evidence of a certain level professional competence see POINT 4.2 and specified in Annex A

**3.5****certification**

procedure used to demonstrate the qualification of personnel at a level and leading to the issue of a certificate

**3.6****certificate**

document issued under the rules of the assessment system defined in this annex indicating that the named person is competent to deal with applicable health, safety, environmental protection and energy conservation requirements for refrigerating systems and heat pumps

**3.7****designing**

collecting all data required for making a appropriate refrigerating circuit. Making the conceptual and detailed plan of the refrigerating circuit (e.g. dimensioning, calculation, component selection, refrigerant piping layout and sizing)

**3.8****pre-assembling**

fabricating parts and sub-assemblies of a refrigeration circuit in a workshop or on site

**3.9****installation**

joining two or more pieces of equipment or circuits designed to contain refrigerant, with a view to assembling a refrigeration, air-conditioning or heat pump system in the location where it will be operated. Installation excludes the action by which a system already assembled is plugged in before being put in operation. It excludes all the operations carried out at the manufacturing site

**3.10****putting into operation**

integrity inspection and bringing into work the refrigeration system for the first time or after significant changes

**3.11****commissioning**

all activities needed for ensuring that the system is performing according the predefined conditions after putting the system into operation

**3.12****operating**

running the refrigerating circuit in a routine manner ensuring that the system works within the conditions required in the user manual



**3.13****in-service inspection**

all activities needed to check if the system complies to predefined requirements (e.g. functionality, temperature or capacity checks, quality checks of joints and welding, existence of corrosion)

**3.14****leakage checking**

identifying if there is a leak of refrigerant from the refrigerating circuit and if yes, identification of the exact location of the leak and report the results

**3.15****general maintenance**

keeping or restoring a system to a state from which the desired operation can be provided without breaking into the refrigerating circuit

**3.16****circuit maintenance**

keeping or restoring a system to a state from which the desired operation can be provided by breaking into the refrigerating circuit

**3.17****decommissioning**

taking a circuit out of operation for a longer period without breaking into the circuit

**3.18****removing of refrigerant**

taking the refrigerant out of a refrigerating circuit

**3.19****dismantling**

breaking the refrigerating circuit down into pieces

**3.20****basic appreciation**

The level of expertise required to discuss main elements of the skill with others.

**3.21****working knowledge**

The level of expertise required for direct involvement in decisions and actions

**3.22****fully operational**

The level of expertise required to perform personally the majority of the activities

**3.23****leading edge**

The level of expertise required for significant development

## 4 Competences

### 4.1 General

A person shall be deemed competent if it can be demonstrated that they are capable of carrying out the activities.

**prEN 13313:2009 (E)****4.2 Competence level**

The person shall demonstrate a level of predefined competence as defined in 3.20, 3.21, 3.22, 3.23 of theoretical and/or practical ability as necessary for the activity in question as set out in annex A.

**4.3 Requirements for assessment and maintenance of competence****4.3.1 General requirements**

The competence of persons who work on refrigerating systems shall be checked by an independent certification body according to the EN ISO/IEC 17024 and the documents as connected to these competence profiles.

**4.3.2 Competence assessment**

The competence of a person shall be assessed preferably by an approved organisation.

The certification of competence shall be as required by national regulations. If no national regulations or procedures exist, the overview of assessment set out in annex A can be used.

NOTE Some aspects of a person's competence may need to be reassessed on a regular basis.

**4.3.3 Maintenance of competence**

Persons shall maintain that their competence, as appropriate by declaration with approved evidence, is according the overview set out in annex A.

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## Annex A

### (normative)

## Assessment of competences

### A.1 General

If required by legislation or because industry considers it desirable a certification scheme may be implemented. Should such a scheme be needed this annex suggests methods by which a certification scheme may be achieved. These may be used if there are no other legislation or industry requirements.

### A.2 Assessment

#### A.2.1 General

All persons who demonstrate their practical and theoretical competence by being successfully assessed by an approved organisation should receive a certificate of competence.

#### A.2.2 Overview

Explanation for the following tables:

- the row on the top of each table gives the activities which are defined in chapter 3;
- the column on the left side of each table is a description that must be assessed;
- in the cells of the table is mentioned the level of expertise;

this 4 levels are defined in chapter 3 and below you can find detailed information:



Key

1 Theoretical Assessment

2 Practical Assessment

**Figure 1 - Theoretical and practical assessment**

#### a) Basic Appreciation (BA)

- Recognises the importance of the Skill to business and society, and its relevance to own job;
- Interprets information on the Skill for own tasks;
- Knows where to obtain professional help in the skill.