

Note: This is a heavily truncated version of a technical presentation delivered at FETA's offices on 16th July 2025 by Stephen Benton

Please refer to the full prEN 378 Parts 1, 2, 3, and 5. The changes highlighted in this summary are based on interpretations of the draft (preliminary) version and may be subject to change

BS EN 378 Revision

BS EN 378-1:2016+A1:2020



BSI Standards Publication

**Refrigerating systems and heat pumps —
Safety and environmental requirements**

Part 1: Basic requirements, definitions, classification and selection criteria

BS EN 378-2:2016



BSI Standards Publication

**Refrigerating systems and
heat pumps — Safety and
environmental requirements**

Part 2: Design, construction, testing,
marking and documentation

BS EN 378-3:2016+A1:2020



BSI Standards Publication

**Refrigerating systems and heat pumps —
Safety and environmental requirements**

Part 3: Installation site and personal protection

BS EN 378-4:2016+A1:2019



BSI Standards Publication

**Refrigerating systems and heat pumps -
Safety and environmental requirements**

Part 4: Operation, maintenance, repair and recovery

Overview of prEN 378

Revision Process

- 5+ year process (10+ years by the end of this revision)
- EU wide committee of volunteer industry experts
 - CEN/TC 182 WG 6
- 3 UK representatives on WG6
- BSI RHE/18 responsible for BS EN 378 in UK
- Now at 'Enquiry' (Public Enquiry) stage
 - comments from industry (using the online BSi portal)
 - a comment needs a proposal with it!
 - all comments reviewed by BSI and RHE/18

Revision Process - Proposed Dates

- Enquiry opened – 3rd July 2025
- **UK comments window closes – 26th August 2025**
- **RHE/18 to meet - 4th September 2025**
- RHE/18 submit consolidated comments to CEN
 - technical
 - editorial
 - general
- With UK position
 - approve (with or without comments)
 - disapprove (with technical objections)
 - abstain
- Enquiry closes – 25th September 2025

Revision Process - Proposed Dates

Dates (depending on progress):

- Draft for Formal Vote (FprEN) – 17th July 2026
- Close of Formal Vote – 11th September 2026
- Publication – 28th February 2027

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BS EN 378-1 EN 378-1 Refrigerating systems and heat pumps. Safety and environmental requirements. Part 1: Basic requirements, definitions, classification and selection criteria

Source: CEN

Committee: RHE/18 - Refrigeration safety

Categories:
Energy and heat transfer engineering | Heat pumps | Refrigerating technology

Comment period start date: 03/07/2025

Comment period end date: 26/08/2025

Number of comments: 2

Scope

Read draft and comment

Comment by:
26th Aug

Standard timeline

- > 1. Proposal (Complete)
- > 2. Draft (Complete)
- √ 3. Public Comments

Public Comments start date:
03/07/2025

Public Comments end date:
26/08/2025

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BS EN 378-1 EN 378-1 Refrigerating systems and heat pumps. Safety and environmental requirements. Part 1: Basic requirements, definitions, classification and selection criteria

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Refrigerating systems and heat pumps - Safety and environmental requirements - Part 1: Basic requirements, definitions, classification and selection criteria

Systèmes frigorifiques et pompes à chaleur - Exigences de sécurité et d'environnement - Partie 1 : Exigences de base, définitions, classification et critères de choix

Date: 2015-03

prEN 378-1

Secretariat: CEN/TC 182

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European foreword

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This document (prEN 378-1:2025) 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.

This document will supersede [1].

prEN 378-1:2025 includes the following significant technical changes with respect to [1]:

- [Clause 5](#) was restructured.
- The examples of systems were removed from [Clause 5](#).
- Clause 6 and Clause 7 were combined to a new [Clause 6](#).
- Annex C (Location and refrigerant charge limitations) was converted into a new [Clause 7](#) of the main body of the standard (Determining the releasable quantity of refrigerant and the refrigerant quantity safety limit).
- The concept of releasable quantity of refrigerant was introduced in a new subclause [7.2](#).
- Options for calculation of refrigerant quantity safety limits were introduced in a new subclause [7.5](#).
- Additional requirements for spaces below ground are introduced in new subclause [7.6](#).
- Annex E was converted into a new [\[2\]](#).
- Annex H with examples related to Annex C were converted to and informative [Annex F](#) with examples related to [7.5](#).
- Examples related to Clause 5 were given in a new [Annex G](#).
- Annex F and Annex G were named [Annex D](#) and [Annex E](#).

Add comments

Add a new comment to [European foreword](#)

Required form fields are indicated by an asterisk (*) character

Comment on this section *

B I U S x² x₂ I_x ☰ ☷

Proposed changes *

B I U S x² x₂ I_x ☰ ☷

Comment type*

---Please select---

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Suggest...

- Read the standard (OD Portal) and comment
- You will likely go to the clauses you are familiar with.....
- In Part 1 they will probably have moved or changed
- You will need to read the whole standard in most cases and assume clause details might have changed

‘Who Moved My Cheese’ 😊



How the Standard is Structured

Each Part includes:

- European Foreword – this lists main changes in prEN 378
- Clause 1 - Scope
- Clause 2 - Normative references
- Clause 3 - Terms, definitions, symbols and abbreviated terms

Refrigerating systems and heat pumps. Safety and environmental requirements.

- Part 1 - Basic requirements, definitions, classification and selection criteria
- Part 2 - Design, construction, testing, marking and documentation
- Part 3 - Installation site and personal protection
- Part 4 -
- Part 5 - Safety classification and information about refrigerants
- Annexes which are either:
 - Normative – these must be followed
 - or
 - Informative – supplementary information

Current

- Part 1
- Part 2
- Part 3
- Part 4

Proposed

- Part 1, major changes
- Part 2, minor changes
- Part 3, some major changes
- Replaced with ISO 5149-4 (maybe not permanent?)
- Part 5 Refrigerant tables from current part 1, updated, separated and able to be more speedily revised / maintained

Note – Errors

- Parts have errors:
 - text / sentence structure
 - cross references to other clauses or parts incorrect
 - some technical errors
- These will be corrected at the next stage (post enquiry)
 - but they do make it more difficult to read the draft standard
 - likely clause number will be one out e.g. 7.5.4 should be 7.5.5
 - it is important that editorial errors are reported in the commenting process as well 😊

Part 1

Basic requirements, definitions, classification and
selection criteria

Overview of Proposed Revision

- Part 1 changes mainly concern charge size calculations
- More experience (and use) of flammable refrigerants has allowed charge limits to be increased
- Charge size calculations can be more complex
- The designer must take account of the surrounding environment the refrigeration system will be installed and operate in – especially extrinsic design
- Nothing you are currently doing has been undone 😊

Part 2

Design, construction, testing, marking and
documentation

- Clause 6 is the most substantial part of the standard, much of which is harmonised with PED
- Mostly unchanged

Part 3

Installation site and personal protection

Overview of Changes

- Primarily to clause 6 which includes the mitigation methods for design for flammable systems
 - these are much simpler than in the current standard – no construction requirements, no QLMV and QLAV
 - but they might seem less prescribed
- Clause 4.1 states that EN IEC 60079-10-1 must be used to assess the location of systems using flammable refrigerants with regards zoning (this has not changed)

Part 5

Safety classification and information about refrigerants

- Replaces Annex E in existing standard – allows for more rapid updates / maintenance

Summary

- I have highlighted the most important changes, there are lots of others that might affect your application!
- Not all changes are covered – look at what you use now, see how it affects you?
- There are language and grammatical errors, these are unfortunate, try to read through them 😞
- There will be a lot of corrections after the enquiry stage 😊