

Refrigerant Standards

Standards are documents that specify characteristics and technical details that must be met by the products, systems and processes. It promotes safety, reliability, productivity, and efficiency in almost every industry.

A standard (sometimes called a 'norm'), is a formal document developed by experts to ensure a certain uniform level of products and services. International standards adapted by countries to suit the national situation, or directly adopted into national legislation, bring with them the great advantage of a tool which is agreed by the consensus of participants of national committees, with the aim of achieving high quality and safety. Such standards can be useful tools for the introduction of alternatives and technologies for ozone depleting substances (ODS) especially through specifying safe handling practices and provision of measures for minimising risks. 'Standards' can assist with process of application of these alternative refrigerants particularly in developing countries for enterprises that are not necessarily familiar with them and can be very useful tools to assist countries with the introduction of alternatives to ozone depleting substances and related technologies, especially from the point of view of their safe handling and preventing hazards. [1]

Many industries, trade associations and governments require products and services to conform to a standard or a regulation prior to being placed on the market to ensure a certain level of quality and safety. An international standard does not have any legal force and it cannot supersede national regulations and it is not a mandatory regulation. While a national regulation may refer to a standard or a part of a standard. Standards can be used as a technical reference when developing regulations.

The international, regional and national standardization organisations are the following: [1]

[Edit](#)

ANSI	American National Standards Institute
AREA	Air Conditioning and Refrigeration European Association
AHRI	Air-Conditioning, Heating, and Refrigeration Institute
AS	Australian Standard
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
BS	British Standard
BSI	British Standards Institution
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
FDIS	Final Draft International Standard
IAF	International Accreditation Forum
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
JSA	Japanese Standards Association
NOU	National Ozone Unit

NSB	National standardisation body
NZS	New Zealand Standard
UL	Underwriters Laboratories
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WSC	World Standards Cooperation

The main international and regional standardization organisations are the following:

- > **ISO – International Organization for Standardization**
- > CENELEC – European Committee for Electrotechnical Standardization
- > IEC – International Electrotechnical Commission
- > CEN – European Committee for Standardization

Some national standardization organisations have a reach and influence which can be considered as regional or international in operation, for example:

- > **ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers**
- > ANSI – American National Standards Institute

[1]

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- Flammability/toxicity requirements covered by ASHRAE safety standards 15 and 34 and their international equivalents (ISO 5149, ISO 817)
- Other organizations adopt ASHRAE technical requirements into codes and regulations
- Major ASHRAE standards dealing with refrigerants are:
 - > Standard 34, Designation and Safety Classification of Refrigerants
 - > Standard 15, Safety Standard for Refrigeration Systems
 - > Standard 147, Reducing the Release of Halogenated Refrigerants from Refrigerating and Air-Conditioning Equipment.

[2]

Sources:

- [1] “International Standards in Refrigeration and Air-Conditioning”; (http://www.unep.fr/ozonaction/information/mmcfiles/7679-e-International_Standards_in_RAC.pdf)
- [2] “International Refrigerant Standards and their Influence on the Global HVAC Industry and Refrigerant Replacement”; ([http://www.unep.org/ozonaction/Portals/105/documents/virtualexpo/crh2013-WatsonTom%20\(ASHRAE\).pdf](http://www.unep.org/ozonaction/Portals/105/documents/virtualexpo/crh2013-WatsonTom%20(ASHRAE).pdf))