



Brussels, 14.11.2017
C(2017) 7284 final

ANNEXES 1 to 2

ANNEXES

to the

COMMISSION IMPLEMENTING DECISION

on a standardisation request to the European Committee for Standardisation and to the European Committee for Electrotechnical Standardisation as regards use of flammable refrigerants in refrigeration, air conditioning and heat pump equipment

ANNEXES

Annex I:

Requirements for the European standardisation deliverable

1. GENERAL REQUIREMENTS

The European standardisation deliverable should contain technical specifications for the installation and operation of refrigeration, air conditioning and heat pump equipment containing flammable refrigerants, complementing existing harmonised standards. It should be developed on the basis of a comprehensive assessment of existing standards with regard to flammable refrigerants to avoid conflicts and overlaps with harmonised standards. The assessment should include a review of relevant existing and technologies under development and evaluation, and the status of the related standardisation catalogue for the safety of refrigeration, air-conditioning and heat pump equipment.

The technical specifications shall provide for risk mitigation measures not yet addressed in existing standards for specific refrigerant classes, or not fully reflecting the state of the art, and establish complementary specifications for the installation of equipment in order to enable a wider use of flammable refrigerants without compromising safety.

2. SPECIFIC REQUIREMENTS

(a) As basis for the development of the technical specifications an assessment shall be carried out and the outcome shall be included in the second annual report submitted pursuant to Article 4. The assessment shall include the following elements:

- A thorough segmentation of the refrigeration, air-conditioning and heat pump market, making use of existing studies and research, including an assessment of safety-related barriers to the uptake of refrigerants with lower global warming potential across all relevant applications;
- An assessment of the way risk analysis is used in existing standards for refrigeration, air-conditioning and heat pump equipment and in other standards and a review of available risk assessment research to be taken into account and identification of potential needs for additional research;
- Analysis of:
 - the relationship between risk and increased charge;
 - the acceptability of increased risk compared to the risk presented by other technologies;
 - the options for additional mitigation requirements if the risk increase is unacceptable;
- Review the existing standards and work programmes and identify standards that should be further updated under existing or future standardisation requests based on relevant product safety legislation, in particular with regard to allowable charge sizes of flammable refrigerants, taking into account available technology as well as emerging R&D;
- Identification of options for performance based requirements that result from risk assessments to enable the use of all flammable substances;

- Identification of options for risk minimisation and for offering flexibility in application of mitigation measures.
- (b) Draft technical specifications for the installation of equipment operating with flammable refrigerants, in particular those with the flammability classification A3, in view of ensuring safety during this process as well as during the operation, servicing and decommissioning of the equipment. In particular specifications for the following shall be considered:
- Extended charge size limits and associated risk mitigation requirements;
 - Design and structural requirements for rooms in which such equipment is used, including room volume, location of installation and ventilation;
 - Marking of installations containing flammable refrigerants and additional measures to prevent alterations to risk mitigation measures after installation.

3. KEY OUTPUT

Technical specifications for the installation of equipment operating with flammable refrigerants, in particular those with the flammability classification A3, developed on the basis of an assessment of the evolving standardisation of the refrigeration, air-conditioning and heat pump sector.

Annex II

European standardisation deliverables and deadline for adoption

Reference information	Deadline for adoption ¹
European standardisation deliverable on the use of flammable refrigerants, in particular those classified as A3, in refrigeration, air conditioning and heat pump equipment	<i>15 November 2020</i>

¹ 'Adoption' refers to the relevant European standardisation organisation making a standard available to its members or the public.