2024/2215

9.9.2024

COMMISSION IMPLEMENTING REGULATION (EU) 2024/2215

of 6 September 2024

establishing, pursuant to Regulation (EU) 2024/573 of the European Parliament and of the Council, minimum requirements for the issuance of certificates to natural and legal persons and the conditions for the mutual recognition of such certificates, as regards stationary refrigeration, air conditioning and heat pump equipment, organic Rankine cycles and refrigeration units of refrigerated trucks, refrigerated trailers, refrigerated light-duty vehicles, intermodal containers and train wagons containing fluorinated greenhouse gases or their alternatives, and repealing Commission Implementing Regulation (EU) 2015/2067

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2024/573 of the European Parliament and of the Council of 7 February 2024 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 ([1]), and in particular Article 10(8) thereof,

Whereas:

(1) Regulation (EU) 2024/573 includes obligations concerning the certification of natural and legal persons to carry out certain activities involving fluorinated greenhouse gases or relevant alternatives to fluorinated greenhouse gases, including natural refrigerants.

(2) Regulation (EU) 2024/573 also includes additional obligations with regards to the certification of legal persons for activities concerning refrigeration units of refrigerated trucks and refrigerated trailers, and with regard to the certification of natural and legal persons for activities concerning refrigeration units of refrigerated light-duty vehicles, intermodal containers and train wagons as well as organic Rankine cycles.

(3) Certification obligations under Regulation (EU) 2024/573 cover an extended list of substances contained in the relevant equipment, including alternatives to fluorinated greenhouse gases. Requirements for the content of the certification programmes should ensure safe handling of the equipment containing flammable or toxic gases or operating at high pressures.

(4) Improving the quality of installation, maintenance or servicing of equipment is essential for optimising and maintaining their energy efficiency, which is another objective of the certification obligations.

(5) It is therefore necessary, pursuant to Article 10 of Regulation (EU) 2024/573, to update the minimum requirements for the certification of natural and legal persons in relation to the scope of activities, equipment covered as well as the skills and knowledge to be covered and to specify the rules for the certification and the conditions for mutual recognition of certificates.

(6) Commission Implementing Regulation (EU) 2015/2067 ([2]) should therefore be repealed.

([1]) OJ L, 2024/573, 20.2.2024, ELI: http://data.europa.eu/eli/reg/2024/573/oj.

([2]) Commission Implementing Regulation (EU) 2015/2067 of 17 November 2015 establishing, pursuant to Regulation (EU) No 517/2014 of the European Parliament and of the Council, minimum requirements and the conditions for mutual recognition for the certification of natural persons as regards stationary refrigeration, air conditioning and heat pump equipment, and refrigeration units of refrigerated trucks and trailers, containing fluorinated greenhouse gases and for the certification of companies as regards stationary refrigeration, air conditioning and heat pump equipment, containing fluorinated greenhouse gases (OJ L 301, 18.11.2015, p. 28, ELI: http://data.europa.eu/eli/reg_impl/2015/2067/oj).

(7) The measures provided for in this Regulation are in accordance with the opinion of the Committee on fluorinated greenhouse gases, established by Article 34(1) of Regulation (EU) 2024/573,

HAS ADOPTED THIS REGULATION:

Article 1

Subject-matter

This Regulation establishes minimum requirements for the certification of natural and legal persons carrying out the activities referred to in Article 2, as well as the conditions for mutual recognition of the relevant certificates, in relation to the following equipment:

(a) stationary refrigeration,

(b) stationary air conditioning and heat pump equipment,

(c) stationary organic Rankine cycles,

(d) refrigeration units of refrigerated trucks and refrigerated trailers,

(e) refrigeration units of refrigerated light-duty vehicles, intermodal containers and train wagons.

Article 2

Scope

1. This Regulation shall apply to natural persons carrying out the following activities:

(a) leak checks of the equipment listed in Article 1 containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573;

(b) installation of the equipment listed in Article 1 containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573 or the alternative substances ammonia (NH_3), carbon dioxide (CO_2) or hydrocarbons;

(c) repair, maintenance or servicing as well as decommissioning of the equipment listed in Article 1 containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573, or the alternative substances ammonia (NH_3), carbon dioxide (CO_2) or hydrocarbons;

(d) recovery of fluorinated greenhouse gases from cooling circuits of stationary refrigeration, air conditioning equipment, heat pumps, and of refrigeration units of refrigerated trucks and refrigerated trailers.

2. This Regulation shall also apply to legal persons carrying out for third parties the installation, repair, maintenance, servicing or decommissioning of the equipment listed in Article 1 containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573 and the alternative substances ammonia (NH_3), carbon dioxide (CO_2) or hydrocarbons.

3. This Regulation shall not apply to any manufacturing activity, undertaken at the site of the manufacturer of the equipment referred to in Article 1.

Article 3

Certificates for natural persons

1. Natural persons carrying out the activities referred to in Article 2(1) shall hold a certificate of the type set out in paragraph 2 of this Article. Member States may allow for the issuance of separate certificate types or a certificate combining any of the certificate types, identifying the activities it covers.

2. Certificates attesting that the holder fulfils the requirements to undertake the activities referred to in Article 2(1) are of the following types:

(a) Certificate A1 attesting that holders may carry out all the activities provided for in Article 2(1) in relation to fluorinated greenhouse gases and hydrocarbons;

(b) Certificate A2 attesting that holders may carry out all the activities provided for in Article 2(1) in relation to fluorinated greenhouse gases and hydrocarbons, limited to equipment with a charge size of less than 3 kilograms or, if hermetically sealed systems which are labelled as such are concerned, containing less than 6 kilograms;

(c) Certificate B attesting that holders may carry out all the activities provided for in Article 2(1) in relation to carbon dioxide (CO_2);

(d) Certificate C attesting that holders may carry out all the activities provided for in Article 2(1) in relation to ammonia (NH_3);

(e) Certificate D attesting that holders may carry out the activity provided for in Article 2(1)(d) for the equipment containing less than 3 kilograms of fluorinated greenhouse gases or, if hermetically sealed systems which are labelled as such are concerned, containing less than 6 kilograms of fluorinated greenhouse gases;

(f) Certificate E attesting that holders may carry out the activity provided for in Article 2(1)(a), provided that such activity does not entail breaking into the refrigeration circuit containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573.

3. Paragraph 1 shall not apply to natural persons undertaking:

(a) brazing, soldering or welding of parts of a system or piece of equipment in the context of one of the activities referred to in Article 2(1), which hold the qualification required under national legislation to undertake such activities, provided that they are supervised by a person holding a certificate covering the relevant activity who is fully responsible for the correct execution of the activity;

(b) recovery of fluorinated greenhouse gases from equipment covered by Directive 2012/19/EU of the European Parliament and of the Council [3] with a fluorinated greenhouse charge of less than 3 kilograms and less than 5 tonnes of CO_2 equivalent, in premises covered by a permit in accordance with Article 9(1) and (2) of that Directive, provided that they are employed by the company holding the permit and have completed a training course on the minimum skills and knowledge corresponding to Certificate D as set out in Annex I to this Regulation verified by an attestation of competence issued by the permit holder.

4. Natural persons undertaking one of the activities referred to in Article 2(1) shall not be subject to the requirement laid down in paragraph 1 of this Article provided they meet the following conditions:

(a) they are enrolled in a training course for the purpose of obtaining a certificate covering the relevant activity, and

(b) they carry out the activity under the supervision of a person holding a certificate covering that activity who is fully responsible for the correct execution of the activity.

The derogation provided for in the first subparagraph shall apply for the duration of periods spent carrying out the activities referred to in Article 2(1) not exceeding 24 months in total.

Article 4

Certification of natural persons

1. A certification body as referred to in Article 7 shall issue a certificate as referred to in Article 3(2) to natural persons who have passed a theoretical and practical examination organised by an evaluation body as referred to in Article 8, covering the minimum skills and knowledge set out in Annex I for the certificate concerned.

[3] Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (OJ L 197, 24.7.2012, p. 38, ELI: http://data.europa.eu/eli/dir/2012/19/oj).

2. The certificate shall contain at least the following:

(a) the name of the certification body, the full name of its holder, a certificate number and the date of expiry if any;

(b) the type of certificate for natural persons as specified in Article 3(2) and the specification of the activities which the holder of that type of certificate is entitled to carry out, as well as the specification of the type of equipment concerned;

(c) issuing date and issuer's signature.

3. Member States may allow certification bodies to exempt applicants from the requirement of passing the examination referred to in paragraph 1, where the applicants previously acquired qualifications, skills and knowledge equivalent to those listed in Annex I or to require applicants only to pass a supplementary examination, where the applicant's previously acquired qualifications skills and knowledge are partly covered under those listed in Annex I.

Article 5

Certification of legal persons

The legal persons referred to in Article 2(2) shall hold a certificate as referred to in Article 6.

Article 6

Certificates for legal persons

1. A certification body as referred to in Article 7 shall issue a certificate to a legal person for one or more of the activities referred to in Article 2(2), provided that it fulfils the following requirements:

(a) employment of natural persons certified in accordance with Article 3, for the activities requiring certification, in a sufficient number to cover the expected volume of activities;

(b) proof that the necessary tools and procedures are available to the natural persons engaged in activities for which certification is required.

2. The certificate shall contain at least the following:

(a) the name of the certification body, the full name of its holder, a certificate number and the date of expiry, if any;

(b) the activities which the holder of the certificate is entitled to carry out and the specification of the charge size limit, expressed in kilograms, of the equipment concerned, where relevant;

(c) issuing date and issuer's signature.

Article 7

Certification body

1. Member States shall specify in national law or designate the authority or authorities competent to designate, a certification body authorised to issue certificates to natural or legal persons involved in one or more of the activities referred to in Article 2 of this Regulation.

The certification body shall be independent and impartial in carrying out its activities.

2. The certification body shall establish and apply procedures for the issuance, suspending and withdrawing of certificates.

3. The certification body shall maintain records that allow verifying the status of a certified natural or legal person. The records shall demonstrate that the certification process has been effectively fulfilled. Records shall be kept for a minimum period of 5 years.

Article 8

Evaluation body

1. An evaluation body designated in each Member State shall organise examinations for the natural persons referred to in Article 2(1). A certification body as referred to in Article 7 may also qualify as an evaluation body. The evaluation body shall be independent and impartial in carrying out its activities.

2. Examinations shall be planned and structured in a manner which ensures that the minimum skills and knowledge set out in Annex I are covered. Evaluation body shall provide the place for examinations that ensures safety of the applicants when they will conduct activities involving refrigerants which are toxic or flammable or are working at high pressure.

3. The evaluation body shall adopt reporting procedures and keep records to enable the documentation of the individual and overall results of the evaluation.

4. The evaluation body shall ensure that examiners assigned to an examination have due knowledge of the relevant examination methods and examination documents as well as an appropriate competence in the field to be examined. It shall also ensure that the necessary equipment, tools and materials are available for the practical examinations.

Article 9

Conditions for mutual recognition

1. Mutual recognition of certificates between Member States shall only apply to certificates issued in accordance with Article 4 for natural persons and Article 6 for legal persons, for the activities specified in these certificates.

2. Member States shall not impose any evaluation or other type of assessment procedures or disproportionate administrative requirements on holders of certificates issued in another Member State for the purpose of the recognition of those certificates or for allowing access to employment to the holders of those certificates for the activities specified therein.

3. Member States may require holders of certificates issued in another Member State to provide a translation of the certificate into another official language of the Union.

Article 10

Existing certificates, refreshment courses or evaluation processes

Member States shall ensure that the refresher training courses or evaluation processes as required under Article 10(9) of Regulation (EU) 2024/573 provide proof of the certified natural persons' practical skills and theoretical knowledge as specified in Annex I of this Regulation. For that purpose, they shall ensure that:

(a) Holders of Categories I and II certificates under Article 3(2) of Implementing Regulation (EU) 2015/2067 are only allowed to continue using those certificates if they update their knowledge and skills to the level of the knowledge and skills required for Certificate A1 and A2 respectively, as referred to in Article 3(2), points (a) and (b), of this Regulation and specified in Annex I thereto.

(b) Holders of certificates of Category III under Article 3(2) of Implementing Regulation (EU) 2015/2067 are only allowed to continue using those certificates if they update their knowledge and skills to the level of the knowledge and skills required for D certificates, as referred to in Article 3(2), point (e), of this Regulation and specified in Annex I thereto.

(c) Holders of certificates of Category IV under Article 3(2) of Implementing Regulation (EU) 2015/2067 are only allowed to continue using those certificates if they update their knowledge and skills to the level of the knowledge and skills required for E certificates, as referred to in Article 3(2), point (f), of this Regulation and specified in Annex I thereto.

Article 11

Implementing Regulation (EU) 2015/2067 is repealed.

References to the repealed Regulation shall be construed as references to this Regulation and read in accordance with the correlation table in Annex II.

Article 12

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 6 September 2024.

For the Commission
The President
Ursula VON DER LEYEN

ANNEX I

Minimum requirements as to the skills and knowledge to be covered by the evaluation bodies

(1) The examination for each of the Certificates referred to in Article 3(2) shall comprise of the following:

(a) a theoretical test with one or more questions testing that skill or knowledge, as indicated in the category columns by T. In relation to Certificates A1 and A2, at least one of the questions shall relate to the specifics of CO_2 and ammonia and at least one question shall relate to energy efficiency of equipment; In relation to Certificates B and C at least one of the questions shall relate to the specifics of hydrocarbons;

(b) a practical test where the applicant shall perform the corresponding task with the relevant material, tools and equipment, as indicated in the Category columns by P.

(2) The examination shall cover each of the skills and knowledge groups specified under headings 1, 2, 3, 4, 5, 10 and 11 of the table below. In addition, for Certificates A1 and A2, it shall cover the skills and knowledge group specified under heading 12 of that table, for Certificate B the skills and knowledge group specified under heading 13 of that table and for Certificate C the skills and knowledge group specified under heading 14 of that table.

(3) The examination shall cover at least one of the skills and knowledge groups specified under heading 6, 7, 8 or 9 of the table below. The candidate shall not know in advance of the examination which of these four components will be examined.

(4) Member States shall ensure that their certification and training programmes are in line with the applicable standards.

		Certificate					
SKILLS AND KNOWLEDGE		A1	A2	B	C	D	E
1	**Legislation and basic thermodynamics**						
1.00	Basic understanding of the applicable EU and national legislation, in particular F-gas, WEEE and Ecodesign	T	T	T	T	T	T
1.01	Knowledge of the basic ISO standard units for temperature, pressure, mass, density and energy	T	T	T	T	T	T
1.02	Understanding of basic theory of refrigeration systems: basic thermodynamics (key terms, parameters and processes such as Superheat, High Side, Heat of Compression, Enthalpy, Refrigeration Effect, Low Side, Subcooling), properties and thermodynamic transformations of refrigerants, including identification of zeotropic blends and fluid states	T	T	T	T	T	—

1.03	Use of relevant tables and diagrams and their interpretation in the context of indirect leak checks (including checking of the good operation of the system): log (p),h diagram, saturation tables of a refrigerant, diagram of a single compression refrigeration cycle	T	T	T	T	—	T
1.04	Description of the function of the main components in the system (compressor, evaporator, condenser, thermostatic expansion valves) and the thermodynamic transformations of the refrigerant	T	T	T	T	T	—
1.05	Knowledge of the basic operation of the following components used in a refrigeration system and their role and importance for refrigerant leakage prevention and identification: (a) valves (ball valves, diaphragms, globe valves, relief valves), (b) temperature and pressure controls, (c) sight glasses and moisture indicators, (d) defrost controls, (e) system protectors, (f) measuring devices as manifold thermometer, (g) oil control systems, (h) receivers, (i) liquid and oil separators, taking into account specifics of operation involving highly flammable or toxic refrigerants (hydrocarbons or NH_3) and refrigerants operating at high pressure (CO_2)	T	T	T	T	—	—
1.06	Knowledge about the specific behaviour, physical parameters, solutions, systems, deviances of all alternative refrigerants in the refrigeration cycle and components for their use	T	T	T	T	T	T
1.07	Knowledge of the characteristics of hydrocarbons, CO_2, and NH_3 and other non-fluorinated refrigerants in contrast to F-gas refrigerants	T	T	T	T	T	T
1.08	Knowledge about flammability, flame propagation, charge size restrictions, occupancy limits for HFCs, H(C)FOs and hydrocarbons	T	T	T	T	T	T
1.09	Knowledge about pressure of CO_2, transcritical and subcritical process, log (p),h diagram, saturation tables of CO_2, aggregate status of CO_2 (formation of dry ice)	—	—	T	—	—	—
1.10	Knowledge about toxicity of NH_3, differences between dry expansion and flooded systems, negative pressure in deep-freeze systems	—	—	—	T	—	—
2	**Environmental impact of refrigerants and relevant environmental regulations**						
2.01	Basic knowledge of the EU and international climate change policy, including the United Nations Framework Convention on Climate Change (UNFCCC) and the Montreal Protocol on Substances that Deplete the Ozone Layer	T	T	T	T	T	T

2.02	Basic knowledge of the concept of Global Warming Potential (GWP), the use of fluorinated greenhouse gases and other substances as refrigerants, the impact of the emissions of fluorinated greenhouse gases on the climate (order of magnitude of their GWP) and relevant provisions of Regulation (EU) 2024/573 and of the relevant implementing acts and a basic knowledge of possible threats to the environment, including from decomposition products of certain fluorinated substances (PFAS) such as HFCs, HFOs and HCFOs.	T	T	T	T	T	T
3	**Checks before activating equipment, after a long period of non-use, after maintenance or repair intervention, or checks during operation**						
3.01	Carrying out a pressure test to check the strength of the system	P	P	P	P	—	—
3.02	Carrying out a pressure test to check the tightness of the system	P	P	P	P	—	—
3.03	Using a vacuum pump	P	P	P	P	P	—
3.04	Evacuation of the system to remove air and moisture according to standard practice	P	P	P	P	—	—
3.05	Filling in of the data in the equipment records and filling in of a report about one or more tests and checks carried out during the examination	T	T	T	T	—	—
4	**Checks for leakage**						
4.01	Knowledge of potential leakage points of refrigeration, air conditioning and heat pump equipment	T	T	T	T	—	T
4.02	Check of equipment records prior to a check for leakage and identification of the relevant information on any repeating issues or problem areas to pay special attention to	T	T	T	T	—	T
4.03	Carrying out a visual and manual inspection of the whole system in accordance with Commission Regulation (EC) No 1516/2007 ([1])	P	P	P	P	—	P
4.04	Carrying out a check for leakage of the system using an indirect method in accordance with Regulation (EC) No 1516/2007 and the instruction manual of the system	P	P	P	P	—	P
4.05	Using portable measuring devices such as manometer sets, thermometers and multimeters for measuring Volt/Amp/Ohm in the context of indirect methods for leakage checking, and interpret the measured parameters	P	P	P	P	—	P
4.06	Carrying out a check for leakage of the system using one of the direct methods referred to in Regulation (EC) No 1516/2007	P	P	—	—	—	—

4.07	Carrying out a check for leakage of the system using one of the direct methods which does not entail breaking into the refrigeration circuit, referred to in Regulation (EC) No 1516/2007	P	P	P	P	—	P
4.08	Use of an appropriate electronic leak detection device	P	P	P	P	—	P
4.09	Filling in of the data in the equipment records	T	T	T	T	—	T
5	**Environment-friendly handling of the system and refrigerant during installation, maintenance, servicing or recovery**						
5.01	Connection and disconnection of gauges and lines with minimal emissions	P	P	P	P	P	—
5.02	Emptying and filling a refrigerant cylinder in both liquid and vapour state	P	P	P	P	P	—
5.03	Use of a recovery set to recover refrigerant and connect and disconnect recovery set with minimal emissions	P	P	—	P	P	—
5.04	Drainage of refrigerant contaminated oil out of a system	P	P	—	—	P	—
5.05	Identification of refrigerant state (liquid, vapour) and condition (subcooled, saturated or superheated) prior to charging, to ensure correct method and volume of charge. Filling the system with refrigerant (both in the liquid and vapour phase) without loss of refrigerant	P	P	P	P	P	—
5.06	Choice of the correct type of scales and use of them to weigh the refrigerant	P	P	P	P	P	—
5.07	Filling in the equipment records with all relevant information concerning the refrigerant recovered or added	T	T	T	T	T	—
5.08	Knowledge of requirements and procedures for handling, reusing, reclaiming, storage and transportation of fluorinated refrigerant and oils, including when contaminated	T	T			T	—
5.09	Knowledge of requirements and procedures for handling, filling, recovering, storage and transportation of hydrocarbons and oils, including when contaminated, and installation of equipment and systems relying on hydrocarbons	T	T	—	—	T	—
5.10	Knowledge of requirements and procedures for handling, filling, , storage and transportation of R744 (CO_2), and oils, including when contaminated, and installation of equipment and systems relying on R744	—	—	T	—	—	—

5.11	Knowledge of requirements and procedures for handling, filling, recovering, , storage and transportation of R717 (NH_3) and oils, including when contaminated, and installation of equipment and systems relying on R717. Knowledge of the effects of the release of R717 during installation or maintenance work, through leaks or accidents and of how to reduce these effects (for example using scrubbers) with proper planning	—	—	—	T	—	—
6	**Component: installation, putting into operation and maintenance of reciprocating, screw and scroll compressors, single and two-stage**						
6.01	Explanation of the basic functioning of a compressor (including capacity control and lubricating system) and risks of refrigerant leakage or release associated to it	T	T	T	T	—	—
6.02	Proper installation of a compressor, including control and safety equipment, so that no leak or major release occurs once the system is put into operation	P	P	P	P	—	—
6.03	Adjustment of the safety and control switches	P	P	P	P	—	—
6.04	Adjustment of the suction and discharge valves	P	—	—	P	—	—
6.05	Check of the oil return system	P	P	P	P	—	—
6.06	Starting up and shutting down a compressor and checking the good working conditions of the compressor, including by making measurements during operation of compressor	P	P	P	P	—	—
6.07	Writing of a report about the condition of the compressor, which identifies any problems in the functioning of the compressor that could damage the system and eventually lead to refrigerant leakage or release should no action be taken	T	T	T	T	—	—
6.08	Knowledge of measures improving or maintaining the energy efficiency of equipment during installation or maintenance of compressors	T	T	T	T	—	—
7	**Component: installation, putting into operation and maintenance of air cooled and water-cooled condensers**						
7.01	Explanation of the basic functioning of a condenser and risks of leakage associated to it	T	T	T	T	—	—
7.02	Adjustment of a discharge pressure control of the condenser	P	P	P	P	—	—
7.03	Proper installation of a condenser/outdoor unit, including control and safety equipment, so that no leak or major release occurs when the system has been put into operation	P	P	P	P	—	—
7.04	Adjusting the safety and control switches	P	P	P	P	—	—
7.05	Checking the discharge and liquid lines	P	P	P	P	—	

7.06	Removing non-condensable gases out of the condenser using a refrigeration purging device	P	P	P	P	—	—
7.07	Starting up and shutting down a condenser and check of the good working condition of the condenser, including by making measurements during operation	P	P	P	P	—	—
7.08	Checking the surface of the condenser	P	P	P	P	—	—
7.09	Writing of a report about the condition of the condenser, which identifies any problems in the functioning that could damage the system and eventually lead to refrigerant leakage or release should no action be taken	T	T	T	T	—	—
7.10	Knowledge of measures of improving or maintaining the energy efficiency of equipment during installation or maintenance of condensers	T	T	T	T	—	—
8	**Component: installation, putting into operation and maintenance of air cooled and liquid cooled evaporators**						
8.01	Explanation of the basic functioning of an evaporator (including defrosting system) and risks of leakage associated to it	T	T	T	T	—	—
8.02	Adjustment of an evaporating pressure control of the evaporator	P	P	P	P	—	—
8.03	Installation of an evaporator including control and safety equipment, so that no leak or major release occurs when the system has been put into operation	P	P	P	P	—	—
8.04	Adjustment of the safety and control switches	P	P	P	P	—	—
8.05	Checking the liquid and suction pipelines in the correct position	P	P	P	P	—	—
8.06	Checking the hot gas defrost pipeline	P	P	P	P	—	—
8.07	Adjustment of evaporation pressure regulation valve	P	P	P	P	—	—
8.08	Starting up and shutting down an evaporator and check of the good working condition of the evaporator, including by making measurement during operation	P	P	P	P	—	—
8.09	Checking the surface of the evaporator	P	P	P	P	—	—
8.10	Writing of a report about the condition of the evaporator, which identifies any problems in the functioning that could damage the system and eventually lead to refrigerant leakage or release should no action be taken	T	T	T	T	—	—

8.11	Knowledge of measures of improving or maintaining the energy efficiency of equipment during installation or maintenance of evaporators	T	T	T	T	—	—
9	**Component: installation, putting into operation and servicing of Thermostatic Expansion Valves (TEV) and other componentsx**						
9.01	Explanation of the basic functioning of different kinds of expansion regulators (thermostatic expansion valves, capillary tubes) and risks of leakage associated to it	T	T	T	T	—	—
9.02	Installation of valves in the correct position	P	P	P	P	—	—
9.03	Adjustment of a mechanical/electronic EV	P	P	P	P	—	—
9.04	Adjustment of mechanical and electronic thermostats	P	P	P	P	—	—
9.05	Adjustment of a pressure-regulated valve	P	P	P	P	—	—
9.06	Adjustment of mechanical and electronic pressure limiters	P	P	P	P	—	—
9.07	Checking the functioning of an oil separator	P	P	P	P	—	—
9.08	Checking the condition of a filter dryer	P	P	P	P	—	—
9.09	Writing of a report about the condition of these components, which identifies any problems in the functioning that could damage the system and eventually lead to refrigerant leakage or release should no action be taken	T	T	T	T	—	—
9.10	Knowledge of measures of improving or maintaining the energy efficiency of equipment during installation or maintenance of TEV and other components	T	T	T	T	—	—
10	**Piping: building a leak-tight piping system in a refrigeration installation**						
10.01	Welding, brazing and/or soldering of leak-free joints on metallic tubes, pipes and components that can be used in refrigeration, air conditioning or heat pump systems	P	P	P	P	—	—
10.02	Making/checking of pipe and component supports	P	P	P	P	—	—

11	**Information on relevant technologies to replace or to reduce the use of fluorinated greenhouse gases and their safe handling**						
11.01	Knowledge of the relevant alternative technologies to replace or to reduce the use of fluorinated greenhouse gases and of their safe handling	T	T	T	T	T	T
11.02	Knowledge of relevant system designs to reduce the charge size of fluorinated greenhouse gases and to increase energy efficiency	T	T	—	—	—	—
11.03	Knowledge of relevant safety regulations and standards for the use, storage and transportation of flammable or toxic refrigerants or refrigerants requiring higher operating pressure. Understanding of the site-specific conditions under which it is allowed to use equipment not fulfilling the requirements set out in Annex IV to Regulation (EU) 2024/573 due to safety requirements	T	T	T	T	—	—
11.04	Understanding of the respective advantages and disadvantages, notably in relation to energy efficiency, of alternative refrigerants according to the intended application and to the climate conditions of the different regions	T	T	T	T	—	—
11.05	Knowledge of differences in components and system design for equipment and systems relying on hydrocarbons	T	T	—	—	T	—
11.06	Knowledge of differences in components and system design for equipment and systems relying on R744 (CO_2), such as requirements for pipework materials, the function of booster-systems, medium-pressure and high-pressure control valves, system and process optimisation of R744 (CO_2) refrigeration systems to increase the system efficiency such as parallel compressors, ejector technology (liquid and gas ejector) and systems with partial flooding, Know safety concepts for limiting standstill pressure and of the use of stagnation cooling systems	—	—	T	—	—	—
11.07	Knowledge of differences in components and system design for equipment and systems relying on R717 (NH_3), such as compressor designs, compressors with separate motors, capacity control of reciprocating and screw compressors, compressor circuits, single and two-stage compression, Evaporative condensers, separator operation and level control, float switches, thermosyphon, difference in oil management (use of non-mixable oils), oil regulation, basic knowledge of direct systems (DX, flooded, recirculation operation and LCA) and indirect systems,	—	—	—	T	—	—

12	**Installation and good practice of servicing for equipment and systems relying on hydrocarbons**						
12.01	Knowledge of the labelling requirements and special requirements for flammable refrigerants in equipment, systems and refrigerant cylinders and special requirements on bottle connections	T	T	—	—	—	—
12.02	Knowledge of the safety requirements for service tools and equipment such as gas detection, leak detection, ventilation, personal protective equipment, vacuum pumps, recovery units; requirements for disposal of recovered gases.	T	T	—	—	—	—
12.03	Calculation of the charge of flammable refrigerant in a system according to applicable safety standards.	P	P	—	—	—	—
12.04	Performance of a risk analysis before starting the work and elimination or, if elimination is not possible, identification of sources of danger.	P	P	—	—	—	—
12.05	Preparation of the work area and selection of appropriate tools, equipment and protective equipment for working on systems relying on flammable refrigerants	P	P	—	—	—	—
12.06	Recovery of flammable refrigerants safely from the system and filling of the system with nitrogen	P	P	—	—	—	—
12.07	Opening of the system, removal and exchange of a component, closing of the system	P	P	—	—	—	—
12.08	Performance of a pressure test to check the tightness of the system	P	P	—	—	—	—
12.09	Performance of a vacuum test to remove the moisture and check the tightness of the system	P	P	—	—	—	—
12.10	Charge of the system with the appropriate volume of hydrocarbon refrigerant	P	P	—	—	—	—
12.11	Performance of a leakage check at the system with a direct method	P	P	—	—	—	—
12.12	Writing of a report about the performed service work	P	P	—	—	—	—
12.13	Checking that health and safety measures according to applicable rules are in place at the location of the system (e.g. signs, emergency exits, gas sensors, gas alarms etc.)	T	T	—	—	—	—
12.14	Knowledge of measures of improving or maintaining the energy efficiency of equipment during installation or maintenance with flammable refrigerants	T	T	—	—	—	—

13	Installation and good practice of servicing for equipment and systems relying on R744 (CO_2)						
13.01	Knowledge of the requirements for labelling of R744 in systems and in pressure vessels	—	—	T	—	—	—
13.02	Reading and understanding of piping and instrumentation diagrams of refrigeration systems with R744	—	—	T	—	—	—
13.03	Knowledge of the special requirements for refrigerant cylinders and double valves and for gas extraction	—	—	T	—	—	—
13.04	Knowledge of the safety requirements for service tools and equipment such as gas detection, leak detection, personal protective equipment	—	—	T	—	—	—
13.05	Calculation of the charge of R744 in a system according to applicable safety standards	—	—	T	—	—	—
13.06	Performance of a risk analysis before starting the work and elimination or, if elimination is not possible, identification of sources of danger.	—	—	P	—	—	—
13.07	Preparation of the work area and selection of appropriate tools, equipment and protective equipment for working on systems relying on R744	—	—	P	—	—	—
13.08	Performance of a pressure test to check the pressure resistance and tightness of the system	—	—	P	—	—	—
13.09	Performance of a vacuum test to remove the moisture and check the tightness of the system	—	—	P	—	—	—
13.10	Safe removal of R744 refrigerant from the system	—	—	P	—	—	—
13.11	Charge of the system with the appropriate volume of R744 in gaseous	—	—	P	—	—	—
13.12	Performance of a leakage check at the system with a direct method	—	—	P	—	—	—
13.13	Writing a report about the performed service work	—	—	P	—	—	—
13.14	Checking that health and safety measures according to applicable rules are in place at the location of the system (for example signs, emergency exits, gas sensors, gas alarms etc.)	—	—	P	—	—	—
13.15	Knowledge of the significance of high pressure at the triple point and the formation of dry ice	—	—	T	—	—	—
13.16	Knowledge of the safety requirements for operating a system with R744 refrigerant	—	—	T	—	—	—
13.17	Knowledge of measures of improving or maintaining the energy efficiency of equipment during installation or maintenance with higher-pressure refrigerants	—	—	T	—	—	—

14	**Installation and good practice of servicing for equipment and systems relying on R717 (NH_3)**						
14.01	Reading and understanding of piping and instrumentation diagrams of refrigeration systems with R717 (NH_3)	—	—	—	T	—	—
14.02	Knowledge of the special requirements for refrigerant cylinders and gas extraction	—	—	—	T	—	—
14.03	Knowledge of the requirements for labelling of toxic refrigerants in systems and in pressure vessel	—	—	—	T	—	—
14.04	Knowledge of the safety requirements for service tools and equipment (recovery stations, vacuum pumps, electronic leak detectors) including gas detection, leak detection, personal protective equipment especially gas masks	—	—	—	T	—	—
14.05	Knowledge of the rules of safe operation, including precautions against fires and explosions as well as injuries due to toxicity	—	—	—	T	—	—
14.06	Knowledge of the materials compatible with R717 (NH_3)	—	—	—	T	—	—
14.07	Preparation of the work area and selection of appropriate tools, equipment and protective equipment for working on systems relying on R717 (NH_3)	—	—	—	P	—	—
14.08	Performance of a risk analysis before starting the work and elimination or, if elimination is not possible, identification of sources of danger.	—	—	—	P	—	—
14.09	Basic knowledge of the correct construction and installation or service activities of systems	—	—	—	P	—	—
14.10	Carrying out a pressure test to check the tightness of the system	—	—	—	P	—	—
14.11	Carrying out a vacuum test to remove moisture and check the tightness of the system	—	—	—	P	—	—
14.12	Charge of the system with designed charge of toxic refrigerant	—	—	—	P	—	—
14.13	Carrying out a check for leakage of the system using one of the direct methods	—	—	—	P	—	—
14.14	Safe recovery of toxic refrigerant from the system and filling the system with nitrogen	—	—	—	P		—
14.15	Writing of a report about the performed service work	—	—	—	P	—	—
14.16	Visual inspection of the tightness of system components such as safety valves and their inspection interval	—	—	—	P	—	—
14.17	Checking that health and safety measures according to applicable rules are in place at the location of the system (for example signs, emergency exits, gas sensors, gas alarms etc.)	—	—	—	P	—	—

14.18	Calculation of allowed toxic refrigerant charge in a system according to applicable safety standards	—	—	—	T	—	—
14.19	Knowledge ofmeasures of improving or maintaining the energy efficiency of equipment during installation or maintenance with toxic refrigerants	—	—	—	T	—	—

([1]) Commission Regulation (EC) No 1516/2007 of 19 December 2007 establishing, pursuant to Regulation (EC) No 842/2006 of the European Parliament and of the Council, standard leakage checking requirements for stationary refrigeration, air conditioning and heat pump equipment containing certain fluorinated greenhouse gases (OJ L 335, 20.12.2007, p. 10, ELI: http://data.europa.eu/eli/reg/2007/1516/oj).

ANNEX II

Correlation table

Implementing Regulation (EU) 2015/2067	This Regulation
Article 1	Article 1
Article 2	Article 2
Article 3	Article 3
Article 4	Article 4
Article 5	Article 5
Article 6	Article 6
Article 7	Article 7
Article 8	Article 8
Article 9	—
Article 10	Article 9
—	Article 10
Article 11	Article 11
Article 12	Article 12
Annex I	Annex I
Annex II	Annex II