

Feedback to Implementing Act on training and certification Article 10 F-gas Regulation 2024/573

The Norwegian Heat Pump Association (NOVAP) and VKE – The Norwegian HVAC and Refrigeration Association represent all relevant stakeholders in the heat pump and the refrigeration sector in Norway, from technicians and contractors to consultants and distributors. Both natural and flammable refrigerants have been used extensively for heating, comfort cooling and refrigeration in Norway for years.

NOVAP has the largest exam centre for F-gas in Norway, and a total of six different exam centres use NOVAP's training material. VKE is a member of technical advisory board of Isovalor, which is the certification body for f-gases in Norway. Both organizations have a close dialogue with the Norwegian Environment Agency, which is responsible for the F-gas regulation in Norway.

Norway has the largest share of heat pumps and refrigeration equipment with natural refrigerants in Europe, and we work a lot on safety challenges related to natural and flammable refrigerants. We therefore wholeheartedly support that anyone who performs activities according to 2024/573 article 10 (1), regardless of the refrigerants, must be certified.

We support the proposal to establish five certificates, including separate certificates for CO₂ and ammonium (NH₃) that can be seen in the table below:

New certificate	Activity	Refrigerant	Replaces
A	All	HFO, HFC and hydrocarbons	Category I and II
B	All	CO ₂	New
C	All	NH ₃	New
D	Recovery of refrigerants	< 1 kg HFC and HFO*	Category III
E	Leakage control	HFC and HFO	Category IV

Category A and separate certificates for residential heat pumps and air conditioning

We support that category A includes the former categories 1 and 2. In Norway, most installers of air-to-air-heat pumps hold a category II certificate, while those working with refrigeration and larger heat pumps hold a category I certificate. We see few challenges with all candidates for category A having the same theoretical exam, while candidates should be able to choose whether they want to take a practical exam with a small heat pump or a larger cooling rig.

We have registered that several European players wish to separate category A into two categories or two sub-categories, and this can be resolved with subcategory A₁ for all systems, without charges limitation and A₂ for equipment that contain less than 3 kilogram of fluorinated greenhouse gases or less than 1 kg of hydrocarbons.

While the working force in Norway in general is educated and skilled, there might be challenges in other countries that might be an argument for keeping a subcategory for installers of small residential heat pumps and air-conditioners.

We believe there should not be a lower limit for the refrigerant charge that will require a certificate, since we will probably see more solutions with smaller charge sizes in the years to come.

Category B and C

We believe that CO₂ and NH₃ should have their own certificates, since they must complete a separate practical exam. However, national authorities can arrange for the exams and courses to be fairly similar to course and exams for category A.

Comment on Article 3 (2) (d)*

Regarding regulations for Certificate D as stated in Article 3 (2) (d), we do not think this should be limited to equipment containing less than 1 kilogram of fluorinated greenhouse gases.

The operations needed to recover 1 kilogram and 6 kilograms of fluorinated greenhouse gases require similar competencies.

A 1-kilogram limit would exclude substantial numbers of products from being recovered at recycling facilities, where certificate D would typically be relevant. One example is monobloc heat pumps, that often contain more than 1 kilogram of fluorinated greenhouse gas. Given that the installation of monobloc heat pumps does not require a F-gas certificate, they are likely to be decommissioned by professionals who do not hold a F-gas certificate. Although it may be most sensible to empty old equipment with refrigerants during dismantling and before transport to a recycling facility, it must be ensured that those working at recycling facilities have a certificate to handle fillings larger than 1 kg.

Thus, we suggest the following revised Article 3(2) (d)

(d) Certificate D attesting that holders may carry out the activity provided for in Article 2 (1)(a) 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.

Terms used to describe alternatives to fluorinated greenhouse gases

The terms “flammable” and “hydrocarbons” are both used in the regulation, and although their respective meanings overlap, they are not the same. This should be clarified to ensure a correct implementation of the Regulation. Thus, we would suggest mentioning in the implementing act “Hydrocarbons and other flammables”. This pertains to the following articles:

- Article 2 (1) (b)
- Article 2 (1) (c)
- Article 2 (2)
- Article 3 (2) (a)

This should also be clarified in Annex II.

Similarly, the terms “ammonia” and “toxic refrigerants” are also used inconsistently in Annex II.

Exemption for large heating and cooling systems

Large heating and cooling systems require many operations connected to brazing, soldering, or welding, and this is particularly relevant for systems based on CO₂ or NH₃.

We therefore suggest the following exemption stated as article 3 (3).

3. Paragraph 1 shall not apply to natural persons undertaking 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, if they are supervised by a person holding a certificate covering the relevant activity who is fully responsible for the correct execution of the activity.

Best regards

Rolf Iver Mytting Hagemoen
Secretary General
Norwegian Heat Pump Association
Møllergata 16, 0179 Oslo, Norway
Mobile (+ 47) 971 29 250
www.novap.no

Espen Rønning
Chief adviser
VKE – The Norwegian HVAC and
Refrigeration Association
Middelthuns gate 27, 0305 Oslo
Mobile (+47) 986 85 868
www.vke.no