

Agency for Planning and Building Services Skeptical about Gas Extinguishing Systems

In Oslo there is a great deal of disagreement between the Agency for Planning and Building Services and several fire consultants on the use of CO₂-compensated Inergen extinguishing systems in an apartment complex. The case began with the Agency for Planning and Building Services carrying out an inspection of a loft development in Grønland [a district of Oslo]. Here, the loft in two 1890 buildings, were renovated with two new apartments in each building. The new apartments, and the only staircase in each of the buildings, should be protected with an Inergen gas extinguishing system. This in addition to traditional passive fire-resistant measures against the staircases, as well as full automatic fire alarm systems. The Agency for Planning and Building Services expressed great skepticism about the choice of extinguishing system, and pointed out that the separation between the area not protected by the extinguishing system and that protected by the Inergen system was insufficiently sectioned. They engaged Norconsult to conduct a third-party inspection of the design, and warned the fire consultant that their right to accept responsibility [term of the Planning and Building Act] could be withdrawn.

Norconsult agreed with the assessments the Agency for Planning and Building Services had undertaken and pointed out that it was not sufficiently documented that the chosen solution meets the requirements in the [Norwegian] Regulations on Technical Requirements for Building Works (TEK). The main arguments are that the requirements of the standard NS-EN 15004 «Fixed Fire Fighting Systems - Gas Extinguishing Systems» cannot be fulfilled in an apartment complex. The most serious objections are to ensure that doors and windows are kept closed so that the gas does not leak out. In addition, adequate ventilation must be provided so that the overpressure generated by the gas is compensated. Residents must also be instructed in relation to how they should act if the system releases, and Norconsult thinks this becomes too complicated to get into practice. The standard also specifies how long you can stay in environments where the inert gas system has released. Both Norconsult and the Agency for Planning and Building Services opinion is that it will not be possible to install fire fighting systems based on Inergen in residential buildings and comply with the requirements of this standard.

DISAGREE

The fire consultant has delivered answers to the Agency for Planning and Building Services for over a year where they refutes a lot of the argumentation. The main objection is that Inergen systems are allowed to trade in the European market, and that it is distorting competition by the Agency for Planning and Building Services to deny the use of such systems in an apartment complex. The fire consultant also refers to that Inergen has 25 international approvals, is tested and CE marked, and authorized to trade in all CEN member countries. The fire consultant also believes that the human safety is well taken care of and that the documentation presented shows this. Among the fire consultant believes is that the manufacturer (Fire Eater) has coverage for that it is not dangerous even for individuals having heart or lung abnormalities to stay in rooms where an Inergen system has released. Medical personnel doing research in aviation medicine have supported this. They also disagree to that NS-EN 15004 is the only adequate standard for such installations.

Norconsult also refers to SINTEF Design Guide no. 550.363 [“Fire protection solutions for rooms with harmful content”. The SINTEF Building Research Design Guides consists of about 760 design guides]. However, in the feedback from the fire consultant, they argue that the SINTEF Design Guide no. 550.363 from 2009 is not based on current technology of extended discharge, constant flow, Inergen® / IG541 and Inergen Safeair®, or takes into account that the gas is CO2-compensated hypoxia.

The objections also argues that Norconsult's report does not distinguish between constant inert gas with nitrogen, fire extinguishing systems based on inert gas IG-01, IH-100, IG-55 or IG541 / Inergen®, and that they are not comparable to Inergen [This is how it is written in the text. Must be an error writing]. Correct gas concentration in relation to safeguarding the health aspects will also not be a problem because this will be taken care of by new technology and with an own calculation program.

As mentioned, the standard NS-EN 15004 does not have a separate chapter for how gas extinguishing systems should be installed in homes. This claims the fire consultant is because the standard is performance based, and shall not specify applications.

A while back, a work started to get a [Norwegian] standard for the use of fire extinguishing systems based on IG 541 / Inergen in homes. The work terminated since it was not possible to reach agreement on what such a standard should contain.

REJECTS INPUT

The Oslo City Agency for Planning and Building Services has at the time of writing given the participants in the case feedback that their inputs will not be taken into account and that they mainly relate to the assistance from Norconsult. The fire consultant has also been informed by the Agency for Planning and Building Services that their right to accept responsibility in this project is withdrawn. The fire consultant will proceed with the matter to both the County Governor and the Ministry of Local Government and Modernisation.